IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA

UNITED STATES OF AMERICA,	)	
and	)	
THE STATE OF INDIANA,	)	Civil Action No.
Plaintiffs,	)	
v.	)	
THE CITY OF FORT WAYNE, INDIANA,	)	
Defendant.	)	

CONSENT DECREE

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WHEREAS, concurrent with the lodging of this Consent Decree, Plaintiffs, the United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), and the State of Indiana (the "State"), on behalf of the Indiana Department of Environmental Management ("IDEM"), have filed a complaint (the "Complaint") in this civil action against Defendant, the City of Fort Wayne, Indiana (the "City" or "Fort Wayne");

WHEREAS, the Complaint alleges that Fort Wayne violated and continues to violate the Clean Water Act, 33 U.S.C. §1251 et seq. (the "Act"), Title 13 of the Indiana Code, Title 327 of the Indiana Administrative Code, and Fort Wayne's National Pollutant Discharge Elimination System ("NPDES") permit, in connection with the City's operation of its municipal sewer system and wastewater treatment plant known as the Paul L. Brunner Water Pollution Control Plant, located at 2601 Dwenger Avenue in Allen County, Indiana (the "WWTP");

WHEREAS, Fort Wayne's sewer system includes both combined and sanitary sewers which are designed to discharge, respectively, through Combined Sewer Overflow ("CSO") and Sanitary Sewer Overflow ("SSO") points into receiving waters including the Maumee River, the St. Mary's River, and the St. Joseph River;

WHEREAS, discharges from combined and sanitary sewers can be a major source of water pollution in communities served by such sewers;

WHEREAS, Fort Wayne does not admit any liability to the United States or the State arising out of the transaction or occurrences alleged in the Complaint, but has nevertheless undertaken good-faith efforts to prevent and minimize CSOs and SSOs;

WHEREAS, Fort Wayne has developed a Combined Sewer System Operational Plan ("CSSOP") and a Long-Term Control Plan ("LTCP") to minimize CSOs;

WHEREAS, Fort Wayne has also developed a Capacity, Management, Operations, and Maintenance Program ("CMOM Program") to prevent and respond to Sanitary Sewer Discharges ("SSDs") and other releases from the sanitary sewer system, should they occur;

WHEREAS, the level of CSO control to be achieved following implementation of the CSO control measures set forth in Appendix 3 to this Consent Decree is designed to address compliance with Fort Wayne's Current Permit and applicable state water quality standards if those standards are revised in accordance with a pending request by Fort Wayne;

WHEREAS, this Consent Decree sets forth a process for revising Fort Wayne's CSO control measures to address compliance with existing state water quality standards, in the event Fort Wayne's request for a revision of those standards is not granted;

WHEREAS, the Parties agree, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and that this Consent Decree is fair, reasonable, and in the public interest;

NOW, THEREFORE, with the consent of the Parties, it is hereby ORDERED, ADJUDGED, AND DECREED:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the Parties and over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367, and Section 309(b) of the Clean Water Act, 33 U.S.C. § 1319(b). Venue is proper in this District pursuant to Section 309(b) of the Act, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1391(b) and 1395(a).

2. For purposes of this Consent Decree, Fort Wayne consents to this Court's jurisdiction over it and the Decree, and agrees that the Complaint states claims upon which relief may be granted under Section 309 of the Clean Water Act, 33 U.S.C. § 1319, and Title 327 of the Indiana Administrative Code.

II. APPLICABILITY

3. The provisions of this Consent Decree apply to and are binding upon the United States and the State, and upon Fort Wayne and any successors, assigns, or other entities, or persons

otherwise bound by law.

4. Any transfer of Fort Wayne's interests in or operating role with respect to its WWTP, or the Sewer System feeding the WWTP, shall not in any manner relieve Fort Wayne of its responsibilities for meeting the terms and conditions of this Consent Decree. At least 30 Days prior to such transfer, Fort Wayne shall provide a copy of this Consent Decree to the proposed transferee, and simultaneously shall provide the United States and the State with notice of the prospective transfer, together with a copy of the proposed transfer agreement and confirmation that a copy of this Consent Decree has been given to the proposed transferee.

5. Fort Wayne shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Decree. Fort Wayne shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

6. In any action to enforce this Consent Decree, Fort Wayne shall not raise as a defense the failure by any of its officers, directors, agents, employees, successors, assigns, or contractors to take any action necessary to comply with the provisions of this Consent Decree.

III. <u>OBJECTIVE</u>

7. All plans, measures, and reports; all construction, maintenance, and operational requirements; and all other obligations under this Consent Decree or resulting from the activities required by this Consent Decree shall have the objective of causing Fort Wayne to achieve and maintain full compliance with the Clean Water Act, applicable state law, and Fort Wayne's Current Permit.

IV. <u>DEFINITIONS</u>

8. Terms used in this Consent Decree that are defined in the Clean Water Act or the

regulations promulgated thereunder, or in Fort Wayne' s Current Permit, shall have the meaning ascribed to them therein, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Decree, the following definitions shall apply:

(a) "Achievement of Full Operation" shall mean completion of construction and installation of equipment or infrastructure such that the equipment or infrastructure has been placed in full operation, and is expected to both function and perform as designed, plus completion of shakedown and related activities, as well as completion of in-situ modified operations and maintenance manuals. This specifically includes all control systems and instrumentation necessary for normal operations and all residual handling systems. Certain specified CSO Control Measures set forth in Appendix 3 consist of separate components. For those specified CSO Control Measures, "Achievement of Full Operation" shall not be achieved until the last component is completed.

(b) "Act" or "Clean Water Act" shall mean the Clean Water Act, 33 U.S.C. § 1251 *et seq*.

(c) "Approved Extension of Deadline" shall mean any deadline extension approved in accordance with Sections XXI.B or XXI.D, or established through dispute resolution pursuant to Section XXII.

(d) "Approved Report on Revising CSO Control Measures" shall mean any Report on Revising CSO Control Measures approved in accordance with Section XXI.A, or established through dispute resolution pursuant to Section XXII.

(e) "Approved Revised CSO Control Measures Plan" shall mean any Revised CSO Control Measures Plan included in any Approved Report on Revising CSO Controls approved in accordance with Section XXI.A, or established through dispute resolution pursuant to Section XXII.

(f) "Approved Supplemental Remedial Measures Plan" shall mean any Supplemental Remedial Measures Plan approved in accordance with Section XXI.D, or established through dispute resolution pursuant to Section XXII.

(g) "Approved Workplan for Revising CSO Control Measures" shall mean any Workplan for Revising CSO Control Measures approved in accordance with Section XXI.A, or established through dispute resolution pursuant to Section XXII.

(h) "City" or "Fort Wayne" shall mean the City of Fort Wayne, Indiana.

(i) "CMOM Program" shall mean the "Capacity, Management, Operations, and Maintenance Program" that was prepared by Fort Wayne and approved by IDEM on December 12, 2007. A copy of the CMOM Program is attached to this Consent Decree as Appendix 2.

(j) "Combined Sewer Overflow" or "CSO" shall mean (i) any discharge from any outfall identified as a "Combined Sewer Overflow" or "CSO" in Attachment A to NPDES Permit No. IN0032191, which was signed by the IDEM Deputy Commissioner on October 28, 2004, or (ii) any discharge from any outfall that is added to Fort Wayne's Current Permit as a listed combined sewer overflow within five years of the date of the discovery of the outfall.

(k) "Combined Sewer System" shall mean the portion of the Sewer System originally designed and constructed to collect and convey municipal sewage (domestic, commercial, and industrial wastewaters) and stormwater through a single pipe-system to the WWTP or combined sewer overflow structures. The term "Combined Sewer System" also includes facilities constructed in accordance with Appendix 3 or any Approved Revised CSO Control Measures Plan.

(l) "Complaint" shall mean the complaint filed by the United States and the State in this action.

(m) "Completion of the Bidding Process" shall mean (i) Fort Wayne has appropriately allocated funds for a specific CSO Control Measure (or portion thereof) or for a project specified in Appendix 5 (or portion thereof); (ii) the bid for construction of the specific CSO Control Measure or project specified in Appendix 5 has been accepted and awarded by Fort

Wayne; and (iii) a notice to proceed with construction has been issued and remains in effect for the CSO Control Measure or project specified in Appendix 5.

(n) “Consent Decree” or “Decree” shall mean this Consent Decree.

(o) “CSO Control Measures” shall mean the construction, control measures, actions, and other activities set forth in Appendix 3 or any Approved Revised CSO Control Measures Plan.

(p) “CSSOP” shall mean the City’s approved “Combined Sewer System Operational Plan.” A copy of the CSSOP is attached to this Consent Decree as Appendix 1.

(q) “Current Permit” or “Fort Wayne’s Current Permit” shall mean (i) Fort Wayne’s NPDES Permit No. IN0032191, which was signed by the IDEM Deputy Commissioner on October 28, 2004, and (ii) any such permits that succeed that permit and are in effect at a particular time in question, including any modified permits. A permit or any provision therein shall not be considered to be “Current” to the extent such permit or provision is stayed in accordance with applicable state law.

(r) “Day” shall mean a calendar day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.

(s) “Design Criteria” shall mean the Design Criteria specified in Appendix 3 or any Approved Revised CSO Control Measures Plan.

(t) “Effective Date” shall have the definition provided in Section XIX.

(u) “EPA” shall mean the United States Environmental Protection Agency and any successor departments, agencies, or instrumentalities of the United States.

(v) “EPA’s CSO Control Policy” shall mean EPA’s “Combined Sewer Overflow (CSO) Control Policy,” which was published in the *Federal Register* on April 19, 1994 (59 Fed. Reg.18688).

(w) "IDEM" shall mean the Indiana Department of Environmental Management and any successor departments, agencies, or instrumentalities of the State.

(x) "Long-Term Control Plan" or "LTCP" shall mean the "Long-Term Control Plan" prepared by Fort Wayne and approved by IDEM on December 19, 2007.

(y) "Monthly Monitoring Report" shall mean any discharge monitoring report or monthly report of operations that Fort Wayne is required to submit to IDEM on a monthly basis pursuant to Fort Wayne's Current Permit or applicable state law.

(z) "NMC, O&M, and Mitigation Requirements of Fort Wayne's Current Permit" shall mean the provisions in Fort Wayne's Current Permit pertaining to: (i) the "Nine Minimum Controls" set forth in EPA's CSO Control Policy; (ii) operation and maintenance of Fort Wayne's Sewer System and WWTP; and (iii) mitigation of the adverse impacts of discharges in violation of Fort Wayne's Current Permit. As of December 1, 2007, those provisions include, but are not limited to, (i) the provisions in Parts II.A.2 and II.B of NPDES Permit No. IN0032191, which was signed by the IDEM Deputy Commissioner on October 28, 2004, and (ii) Sections III and IV of Attachment A to that permit, which provisions in turn include, but are not limited to, provisions pertaining to implementation of CSO Operational Plans and revisions thereto.

(aa) "Paragraph" shall mean a portion of this Consent Decree identified by an Arabic numeral.

(bb) "Parties" shall mean the United States, the State, and Fort Wayne.

(cc) "Performance Criteria" shall mean the Performance Criteria specified in Appendix 3 or any Approved Revised CSO Control Measures Plan.

(dd) "Plaintiffs" shall mean the United States and the State, except as provided in Paragraph 112.

(ee) "Post-Construction Monitoring Program" shall mean the Post-Construction

Monitoring Program set forth in Appendix 4, as well as any additional post-construction monitoring or modeling activities included in any Approved Revised CSO Control Measures Plan or Approved Supplemental Remedial Measures Plan.

(ff) "Sanitary Sewer Discharge" or "SSD" shall mean any discharge to waters of the State as defined by applicable state law, or to navigable waters of the United States as defined by Section 502(7) of the Clean Water Act, 33 U.S.C. § 1362(7), from Fort Wayne's Sanitary Sewer System.

(gg) "Sanitary Sewer Overflow" or "SSO" shall mean an overflow, spill, diversion, or release of wastewater from Fort Wayne's Sanitary Sewer System. This term shall include (i) discharges to waters of the State or United States from the City's Sanitary Sewer System, and (ii) any release of wastewater from the City's Sanitary Sewer System to public or private property that does not reach waters of the United States or the State.

(hh) "Sanitary Sewer System" or "Fort Wayne's Sanitary Sewer System" shall mean all portions of the Sewer System that are not part of the Combined Sewer System.

(ii) "Section" shall mean a portion of this Consent Decree identified by a Roman numeral, unless the Consent Decree states that the "Section" referred to is a Section of the Clean Water Act or LTCP.

(jj) "Sewer System" shall mean the wastewater collection and conveyance system owned or operated by Fort Wayne that is designed to collect and convey municipal sewage (domestic, commercial, or industrial) to the WWTP or to a combined sewer overflow structure. "Sewer System" excludes: (i) the privately-owned sewer lateral pipe that connects a wastewater sewer main to a single-family, multi-family, apartment, or other dwelling unit or commercial or industrial structure to which wastewater service is or has been provided; (ii) all wastewater collection and treatment systems connected to the Deer Track wastewater treatment facility (for which the State has issued NPDES Permit No. IN0059749) and not connected to the WWTP; (iii) all wastewater collection and treatment systems connected to the Main Aboite and Midwest wastewater treatment facilities (for which the State has issued NPDES Permit Nos. IN0035378 and IN0042391), which facilities are not connected to the WWTP and which facilities are currently or were formerly owned or operated by Utility Center, Inc. (a/k/a AquaSource or Aqua Indiana, Inc.); (iv) all wastewater collection and treatment systems within the three service areas for which Utility Center, Inc. (a/k/a AquaSource or Aqua Indiana, Inc.) holds a Certificate of Territorial Authority issued by the Indiana Utility Regulatory Commission as of December 1, 2007, and which areas convey municipal sewage to the WWTP (except that clause (iv) does not exclude, from the definition of "Sewer System," the municipal sewage conveyed to and present in the Sewer System); and (v) all wastewater collection and conveyance facilities which are owned by third parties and which convey municipal sewage to the WWTP or a combined sewer overflow structure pursuant to a contract with Fort Wayne (except that clause (v) does not exclude, from the definition of "Sewer System," the municipal sewage conveyed to and present in the Sewer System).

(kk) "State" shall mean the State of Indiana, acting on behalf of IDEM.

(ll) "United States" shall mean the United States of America, acting on behalf of EPA.

(mm) "Unlisted Combined Sewer Overflow" or "Unlisted CSO" shall mean any discharge to waters of the State or waters of the United States from Fort Wayne's Combined Sewer System through any point source that is not a Combined Sewer Overflow.

(nn) "Wastewater Treatment Plant" or "WWTP" shall mean the wastewater treatment plant identified in Fort Wayne's Current Permit as the Paul L. Brunner Water Pollution Control Plant, located at 2601 Dwenger Avenue in Fort Wayne, Indiana. The term "Wastewater Treatment Plant" or "WWTP" excludes the Deer Track wastewater treatment facility (for which the State has issued NPDES Permit No. IN0059749).

V. COMPLIANCE WITH THE CLEAN WATER ACT AND NPDES PERMIT LIMITATIONS

9. Fort Wayne shall comply with all terms and conditions of the Clean Water Act and its Current Permit pertaining to Outfall 001, and Fort Wayne shall, in accordance with the compliance program and schedules established by or approved under this Consent Decree, achieve and maintain compliance with all other terms and conditions of the Clean Water Act and its Current Permit pertaining to the WWTP and Sewer System.

VI. NINE MINIMUM CONTROLS, OPERATION AND MAINTENANCE, AND MITIGATION REQUIREMENTS

10. Fort Wayne shall comply with its CSSOP, its CMOM Program, and the NMC, O&M, and Mitigation Requirements of its Current Permit.

11. Provided that any CSSOP updates have first been submitted to EPA and IDEM for review and comment, and are consistent with any EPA and IDEM comments and with accepted industry practices to properly manage, operate, and maintain sewer systems and wastewater treatment plants, Fort Wayne shall update its CSSOP:

(a) to address matters for which updates are required in its Current Permit, in accordance with the schedule included in its Current Permit;

(b) to address, within three years after the Effective Date of this Consent Decree, the facilities referenced in clauses (iv) and (v) of this Decree's definition of "Sewer System," and

(c) to address any facility referenced in clause (i), (ii), or (iii) of this Decree's definition of "Sewer System" within three years after the date that any such facility becomes connected to the Sewer System.

12. Provided that any CMOM Program updates have first been submitted to EPA and IDEM for review and comment, and are consistent with any EPA and IDEM comments and with

accepted industry practices to (i) properly manage, operate, and maintain sewer systems; (ii) identify and inventory areas in sewer systems with capacity constraints; (iii) implement measures to ensure adequate capacity throughout the sewer system; and (iv) respond to SSO events, Fort Wayne shall update its CMOM Program:

(a) to address, within three years after the Effective Date of this Consent Decree, the facilities referenced in clauses (iv) and (v) of this Decree's definition of "Sewer System," and

(b) to address any facility referenced in clause (i), (ii), or (iii) of this Decree's definition of "Sewer System" within three years after the date that any such facility becomes connected to the Sewer System.

13. EPA's January 2005 "Guide For Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems" (EPA 305-B-05-002) ("EPA 's January 2005 CMOM Guide") shall be considered in determining what constitutes "accepted industry practices" for purposes of Paragraph 12. To the extent Fort Wayne drafts its CMOM Program, or any update thereof, in a manner that is materially inconsistent with EPA's January 2005 CMOM Guide, Fort Wayne shall identify the material inconsistency in its submission to EPA and IDEM, and explain the basis for its belief that the CMOM Program is nevertheless consistent with accepted industry practices, notwithstanding the material inconsistency.

VII. IMPLEMENTATION OF CSO CONTROL MEASURES, POST-CONSTRUCTION MONITORING, AND OTHER COMPLIANCE REQUIREMENTS

A. Implementation of CSO Control Measures

14. Fort Wayne shall perform the activities and construct the CSO Control Measures in accordance with the descriptions, Design Criteria, and dates for Completion of the Bidding Process and Achievement of Full Operation for each CSO Control Measure set forth in Appendix 3, any Approved Revised CSO Control Measures Plan, any Approved Supplemental Remedial Measures

Plan, or any Approved Extension of Deadlines.

B. <u>Post-Construction Monitoring</u>

15. Fort Wayne shall perform the Post-Construction Monitoring Program set forth in Appendix 4, any Approved Revised CSO Control Measures Plan, or any Approved Supplemental Remedial Measures Plan in accordance with the provisions and schedule set forth therein.

C. <u>Achievement of Performance Criteria</u>

16. Fort Wayne shall ensure that all facilities are designed in accordance with good engineering practices to ensure that corresponding facility-specific, watershed-wide, and system-wide Performance Criteria will be achieved. Fort Wayne shall achieve the Performance Criteria for each CSO Control Measure by the date for Achievement of Full Operation for the CSO Control Measure, as set forth in Appendix 3, any Approved Revised CSO Control Measures Plan, or any Approved Extension of Deadline. The procedure set forth in Appendix 4 shall be used to determine whether Fort Wayne has achieved the Performance Criteria.

D. <u>Compliance Following Implementation</u>

17. By the date specified for Achievement of Full Operation of all CSO Control Measures as set forth in Appendix 3, any Approved Revised CSO Control Measures Plan, or any Approved Extension of Deadline, (i) Fort Wayne shall have no Unlisted CSOs (either because Fort Wayne has eliminated discharges from Unlisted CSOs and/or because Fort Wayne has turned Unlisted CSOs into "CSOs" by having them included as Combined Sewer Overflows in Fort Wayne's Current Permit); (ii) Fort Wayne's remaining CSOs, if any, shall comply with Fort Wayne's Current Permit; and (iii) Fort Wayne shall have eliminated bypasses at the WWTP or any remaining bypasses shall comply with Fort Wayne's Current Permit.

18. Fort Wayne may utilize the information contained in the LTCP, as well as any subsequently developed information, in attempting to establish compliance with its Current Permit.

However, the preceding sentence shall not be construed to waive or preclude any objections by the United States or the State to the admissibility of information under the Federal Rules of Evidence in any judicial action in which Fort Wayne's compliance with its Current Permit is at issue.

VIII. ELIMINATION OF SANITARY SEWER DISCHARGES

19. Fort Wayne shall eliminate the Sanitary Sewer Discharges ("SSDs") identified in Appendix 5 in accordance with the dates for Achievement of Full Operation for each project set forth in Appendix 5.

20. SSDs from locations other than those specified in Appendix 5 are prohibited, and, for each SSD location specified in Appendix 5, Fort Wayne shall not have any SSDs from that location following the date for Achievement of Full Operation specified in Appendix 5 for that location.

IX. FEDERAL SUPPLEMENTAL ENVIRONMENTAL PROJECT

21. Fort Wayne shall complete a Federal Supplemental Environmental Project ("Federal SEP") in accordance with the Federal Supplemental Environmental Project Plan ("Federal SEP Plan") attached to this Consent Decree as Appendix 6, which the United States and Fort Wayne agree is intended to secure significant environmental protection and improvements that are not otherwise required by law. Fort Wayne shall complete the Federal SEP pursuant to the plans and time schedules set forth in the Federal SEP Plan. The Federal SEP shall consist of the elimination of 133 failed or failing septic systems (which can leach human waste into backyards, groundwater, and surface water) and the replacement of those systems with connections to the Sewer System.

22. With regard to the Federal SEP, Fort Wayne certifies:

(a) that all cost information provided to EPA in connection with its approval of the Federal SEP is complete and accurate, and that Fort Wayne in good faith estimates that the cost to implement the Federal SEP is $400,000;

(b) that, as of the date of executing the Consent Decree, the City is not required to perform or develop the Federal SEP by any federal, state, or local law or regulation and is not required to perform or develop the Federal SEP by agreement or grant or as injunctive relief in any other case;

(c) that the Federal SEP is not a project that the City was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Decree;

(d) that the City has not received and will not receive credit for the Federal SEP in any other enforcement action; and

(e) that no part of the Federal SEP expenditures will include federal or state funds, including federal or state low-interest loans, contracts, or grants.

23. Every year, on the anniversary of the Effective Date of this Consent Decree, and until the completion of the Federal SEP in accordance with this Consent Decree and Appendix 6, Fort Wayne shall submit milestone reports to EPA, detailing Fort Wayne's progress on implementing the Federal SEP.

24. No later than 120 Days from the date for completion of the Federal SEP as set forth in the Federal SEP Plan, Fort Wayne shall submit to EPA a Federal SEP Completion Report, which shall contain:

(a) a detailed description of the Federal SEP as implemented;

(b) a description of any operating problems encountered in completing the Federal SEP and the solutions thereto;

(c) an itemized list of all Federal SEP costs expended;

(d) certification that the Federal SEP has been fully implemented in accordance with the Federal SEP Plan and the provisions of this Consent Decree; and

(e) a description of the environmental and public health benefits resulting from implementation of the Federal SEP (with a quantification of the benefits and pollutant reductions, if feasible).

25. EPA may, in its sole discretion, require information in addition to that described in the preceding sentence, in order to evaluate the Federal SEP Completion Report.

26. After receiving the Federal SEP Completion Report, the United States shall notify Fort Wayne whether or not Fort Wayne has satisfactorily completed the Federal SEP.

27. Any (a) written or video publication concerning the Federal SEP's construction, environmental benefits, or completion, distributed by or for the City to news media outlets or the general public, and intended to inform the general public, and (b) any formal oral presentations conducted by or for Fort Wayne concerning the Federal SEP's construction, environmental benefits, or completion, delivered to the general public, neighborhood groups, or news media, including any formal interviews of Fort Wayne's officers, employees, or agents, shall include language identical or substantially similar to the following: "This project was undertaken in connection with the settlement of an enforcement action by the United States and the State of Indiana concerning Combined Sewer Overflows." The requirements of this Paragraph shall apply only to the above-specified public statements made from the Effective Date of this Consent Decree until the United States notifies Fort Wayne that it has satisfactorily completed the Federal SEP pursuant to Paragraph 26.

X. STATE SUPPLEMENTAL ENVIRONMENTAL PROJECTS

28. In lieu of payment of $242,271 of the $269,190 civil penalty to the State in accordance with Paragraph 31, Fort Wayne may instead (i) pay the sum of $26,919 to the State as a civil penalty within 30 Days after the Effective Date of this Consent Decree, and (ii) perform State Supplemental Environmental Projects ("State SEPs") in accordance the State Supplemental Environmental Project Plans ("State SEP Plans") attached to this Consent Decree as Appendix 7. The State SEPs shall consist of (i) septic system elimination in areas not subject to the Federal SEP (the "State Septic

SEP"), and (ii) a program to establish rain gardens (*i.e.*, planted areas that are designed to absorb stormwater runoff and thereby prevent it from flowing into storm drains and surface waters) (the "State Rain Garden SEP"). An offset ratio of 2:1 will apply to the State SEPs (*i.e.*, Fort Wayne must expend two dollars in order to offset one dollar of the civil penalty). Therefore, Fort Wayne must expend a minimum of $484,542 in order to offset 90% ($242,271) of the $269,190 civil penalty. Fort Wayne estimates in good faith that the cost to implement the State SEPs is $546,000.

29. Fort Wayne shall complete the State Septic SEP by December 31, 2011, and the State Rain Garden SEP by December 31, 2014. Every year, on the anniversary of the Effective Date of this Consent Decree, and until completion of the State SEPs in accordance with this Consent Decree and Appendix 7, Fort Wayne shall submit milestone reports to IDEM, detailing Fort Wayne's progress on implementing the State SEPs. In performing the State SEPs, Fort Wayne shall comply with all applicable federal, state, and local laws and regulations, and shall obtain and comply with any necessary licenses or permits. Within 30 Days of completion of either State SEP, Fort Wayne shall submit to IDEM an itemized list, along with supporting documentation, of costs incurred in performing that State SEP. In the event that the total cost of the State SEPs is less than $484,542, Fort Wayne shall pay the balance of the civil penalty that is not offset by the State SEPs, to be calculated utilizing the 2:1 offset ratio described above, plus interest at the rate established by Indiana Code 24-4.6-1-101. Interest on the balance of the civil penalty shall be paid from the Effective Date of this Consent Decree. Payment shall be made within 15 Days of receipt of notice from IDEM that payment is due.

30. In the event that Fort Wayne fails to complete the State SEPs in accordance with this Consent Decree and Appendix 7, Fort Wayne shall pay the entire balance of the civil penalty, totaling $269,190, plus interest at the rate established by Indiana Code 24-4.6-1-101. Interest on the balance of the civil penalty shall be paid from the entry date of this Consent Decree. Payment shall

be made within 15 Days of receipt of notice from IDEM that payment is due.

XI. CIVIL PENALTY

31. Within 30 Days after the Effective Date of this Consent Decree, Fort Wayne shall pay the sum of $269,190 to the United States and $269,190 to the State, as a civil penalty, together with interest from the date on which the Consent Decree is lodged with the Court, accruing at the rate specified in 28 U.S.C. § 1961 as of the date of lodging.

32. Any civil penalty to be paid pursuant to Paragraphs 28-31 shall be paid as follows:

(a) Payment to the United States shall be made by FedWire Electronic Funds Transfer ("EFT") in accordance with instructions to be provided to Fort Wayne, following lodging of the Consent Decree, by the Financial Litigation Unit of the U.S. Attorney's Office for the Northern District of Indiana. At the time of payment, Fort Wayne shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, to the United States in accordance with Section XIII, by e-mail to acctsreceivable.CINWD@epa.gov, and by mail to EPA Cincinnati Finance Office, 26 Martin Luther King Drive, Cincinnati, Ohio 45268. The transmittal letter (i) shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States and State of Indiana v. City of Fort Wayne*, and (ii) shall reference the civil action number and DOJ case number 90-5-1-1-07653.

(b) Payment to the State shall be made by check, payable to the "Indiana Department of Environmental Management Special Fund" and delivered to: Cashier, Indiana Department of Environmental Management, P.O. Box 7060, Indianapolis, Indiana 46207. At the time of payment, Fort Wayne shall send, to the State and IDEM in accordance with Section XIII, a copy of the check, together with a transmittal letter, which (i) shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States and State of Indiana v. City of Fort Wayne*, and (ii) shall reference the civil action number.

XII. REPORTING

33. Beginning with the end of the next full calendar quarter after the Effective Date of this Consent Decree and for every six months thereafter until this Consent Decree terminates in accordance with Section XXIII, Fort Wayne shall submit written status reports to EPA and IDEM. The written status reports may be provided either as paper documents or in electronic format, provided that the electronic format (i) is compatible with EPA and IDEM software; (ii) is accompanied by a written certification on paper in accordance with Paragraph 38; and (iii) is sent via certified or overnight mail in accordance with Section XIII.

34. In each written status report, Fort Wayne shall provide the following:

(a) a statement setting forth (i) the deadlines and other terms that Fort Wayne has been required by this Consent Decree to meet since the date of the last statement; (ii) whether and to what extent Fort Wayne has met those requirements; and (iii) the reasons for any noncompliance (Notification to EPA and IDEM of any anticipated delay shall not, by itself, excuse the delay);

(b) (i) a general description of the work completed within the prior six-month period; (ii) to the extent known, a statement as to whether the work completed in that period meets applicable Design Criteria; and (iii) a projection of work to be performed pursuant to this Consent Decree during the next six-month period;

(c) a statement as to Fort Wayne's understanding regarding the status of IDEM's response to the City's request for a revision to water quality standards in accordance with Section 5 of the City's Long-Term Control Plan;

(d) a description of any notices to proceed for any CSO Control Measure or measures specified in Appendix 3 that Fort Wayne has revoked in the prior six-month period, and a description of the status of Fort Wayne's compliance with Section XXI.F with regard to issuance of a new notice to proceed; and

(e) information generated in accordance with the Post-Construction Monitoring Program.

35. Fort Wayne shall also submit, with each written status report, copies (to EPA only) of all Monthly Monitoring Reports and other reports pertaining to CSOs, SSDs, and bypasses that Fort Wayne submitted to IDEM in the previous six months.

36. If Fort Wayne fails to meet any date for Completion of the Bidding Process or Achievement of Full Operation, as specified in Appendix 3, any Approved Revised CSO Control Measures Plan, or any Approved Extension of Deadline, Fort Wayne shall notify EPA and IDEM in writing of its failure within 14 Days of the date in question. The notice shall reference the project at issue and shall describe in detail: (i) the length of time that Fort Wayne anticipates it will take to achieve Completion of the Bidding Process or Achievement of Full Operation; (ii) the precise cause or causes of the failure to meet the date in question; (iii) the measures taken or to be taken by Fort Wayne to prevent or minimize the delay; (iv) the timetable by which those measures will be implemented; and (v) the extent (if any) to which the failure to meet the date may impact Fort Wayne's ability to meet other dates for Completion of the Bidding Process or Achievement of Full Operation. If Fort Wayne has revoked a notice to proceed for a project and has not complied with Section XXI.F, Fort Wayne's failure to comply with Section XXI.F shall be deemed a failure to meet a date for Completion of the Bidding Process for purposes of this Paragraph, thereby triggering the reporting obligations specified in this Paragraph.

37. If, during the design of the facilities listed in Appendix 3, Fort Wayne decides to design a specific facility so that its size, flow rate, capacity, treatment rate, pumping rate, volume, or other applicable measure will be less than 90% of the "approximate" design number specified for that facility in the Design Criteria portion of Appendix 3, Fort Wayne shall notify EPA and IDEM in writing within 14 Days of the date it has made that decision. The notice shall reference the facility

at issue and the design number that Fort Wayne has decided should be used in lieu of the "approximate" design number specified in the Design Criteria for that facility. The notice shall also describe the basis for Fort Wayne's selection of the lower design number, including an explanation as to why use of the lower design number will ensure that the corresponding facility-specific, watershed-wide, and system-wide Performance Criteria specified in Appendix 3 will be achieved, in accordance with Paragraph 16. Plaintiffs reserve their rights to argue that Fort Wayne has not complied with the requirements of Paragraph 16, notwithstanding any notice that Fort Wayne provides in accordance with this Paragraph.

38. Any report, plan, or other submission that Fort Wayne is required by this Consent Decree to submit, including reports, plans, or other submissions that Fort Wayne is also required to submit by its Current Permit, shall be signed by an official or authorized agent of Fort Wayne and shall include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

39. In any proceeding initiated by any of the Parties to enforce this Consent Decree, Fort Wayne may not object to the admissibility into evidence of any report, plan, or other submission prepared in accordance with this Consent Decree or the information contained in any such report, plan, or other submission. Notwithstanding the above, Fort Wayne may, in accordance with applicable law, seek to submit, in any proceeding to enforce this Consent Decree, any contradictory or other evidence as to any matter affected by the evidence referred to in the preceding sentence.

XIII. COMMUNICATIONS

40. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

As to the United States and/or DOJ:

By U.S. Mail:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044
Re: DJ # 90-5-1-1-07653

By Courier:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
ENRD Mailroom, Room 2121
601 D Street, NW
Washington, DC 20004
Re: DJ # 90-5-1-1-07653

As to EPA:

Chief
Water Enforcement and Compliance Assurance Branch
Water Division
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, IL 60604

As to the State and/or the Indiana Attorney General:

Office of the Attorney General
Sierra L. Cutts
Deputy Attorney General
Office of the Attorney General
100 North Senate Avenue
MC60-01IGCN1307
Indianapolis, IN 46204

As to IDEM:

Chief, Compliance Branch
Office of Water Quality
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206

Chief, Enforcement Section
Office of Legal Counsel
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206

As to Fort Wayne:

Director of City Utilities
Fort Wayne City Utilities, Room 280
City County Building
1 East Main Street
Fort Wayne, IN 46802

City Attorney
City of Fort Wayne Law Department
City County Building, 9th Floor
1East Main Street
Fort Wayne, IN 46802

41. Any Party may, by written notice to the other Parties, change its designated recipient or address set forth above.

42. All notifications, submissions, and communications shall be deemed submitted on the date they are mailed, via certified or overnight mail, unless otherwise provided by mutual agreement of the Parties in writing.

XIV. STIPULATED PENALTIES

43. Fort Wayne shall be liable to the United States and the State for stipulated penalties for violations of this Consent Decree as specified below, unless excused under Section XV, and subject to Fort Wayne's right to invoke dispute resolution under Section XXII. A violation includes failing

to perform any obligation required by this Decree or any work plan or other plan attached to or approved under this Consent Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Consent Decree.

44. For each failure to submit a timely and adequate post-construction monitoring report (required pursuant to Paragraph 15 and Appendix 4), Workplan for Revising CSO Control Measures (required pursuant to Section XXI.A), or Report on Revising CSO Controls (required pursuant to Section XXI.A), Fort Wayne shall pay the following stipulated penalties per violation per Day:

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$500
31st Day to 60th Day	$1,000
Each Day beyond 60 Days	$2,000

Stipulated penalties under this Paragraph for failure to submit a timely submission shall begin to accrue on the Day following the date that the submission was due. Subject to Paragraph 106, stipulated penalties under this Paragraph for failure to submit an adequate submission shall begin to accrue on the date that Fort Wayne receives written notice from EPA or IDEM that the submission is not adequate, in whole or in part, and shall continue to accrue until Fort Wayne submits a document to EPA and IDEM which EPA and IDEM ultimately approve.

45. For each failure to submit a timely and adequate report or other document required by this Consent Decree, but not included in Paragraph 44, Fort Wayne shall pay the following stipulated penalties per violation per Day:

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$500
31st Day to 60th Day	$1,000
Each Day beyond 60 Days	$1,500

Stipulated penalties under this Paragraph for failure to submit a timely submission shall begin to accrue on the Day following the date that the submission was due. Subject to Paragraph 106, stipulated penalties under this Paragraph for failure to submit an adequate submission shall begin to accrue on the date that Fort Wayne receives written notice from EPA or IDEM that the submission is not adequate, in whole or in part, and shall continue to accrue until Fort Wayne submits a document to EPA and IDEM which EPA and IDEM ultimately approve.

46. For each failure to adequately implement the measures, and/or meet the dates for Completion of the Bidding Process or Achievement of Full Operation, in accordance with Appendix 3 (as required by Section VII), any Approved Workplan for Revising CSO Control Measures (as required by Section XXI.A), any Approved Revised CSO Control Measures Plan (as required by Sections VII and XXI.A), any Approved Extension of Deadline (as required by Sections VII, XXI.B, and XXI.D), any Approved Supplemental Remedial Measures Plan (as required by Sections VII and XXI.D), or Appendix 5 (as required by Section VIII), Fort Wayne shall pay the following stipulated penalties per violation per Day:

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$1,000
31st Day to 60th Day	$2,000
Each Day beyond 60 Days	$5,000

Fort Wayne shall be deemed to have not met a date for Completion of the Bidding Process, and therefore shall be liable for stipulated penalties under this Paragraph, if Fort Wayne revokes a notice to proceed for a specific project, and does not comply with Section XXI.F or issue a new notice to proceed in accordance with Section XXI.F, in which case stipulated penalties shall begin to accrue starting on the date that the prior notice to proceed was revoked, and shall continue to accrue until the date a new notice to proceed has been issued.

47. For each Day that Fort Wayne fails to comply with its Current Permit or the Clean

Water Act in accordance with Section V, Fort Wayne shall pay the following stipulated penalties per violation per Day:

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$1,500
31st Day to 60th Day	$2,000
Each Day beyond 60 Days	$5,000

48. For each Day that Fort Wayne fails to comply with its CSSOP, its CMOM Program, or the NMC, O&M, and Mitigation Requirements of its Current Permit (as required by Section VI), Fort Wayne shall pay the following stipulated penalties per violation per Day:

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$1,500
31st Day to 60th Day	$2,000
Each Day beyond 60 Days	$5,000

49. For each Day that a CSO, Unlisted CSO, or bypass was caused by Fort Wayne's failure to comply with its CSSOP, its CMOM Program, or the NMC, O&M, and Mitigation Requirements of Fort Wayne's Current Permit, Fort Wayne shall, in addition to any stipulated penalties under Paragraph 48, pay stipulated penalties of $1,000 per Day for each CSO, Unlisted CSO, or bypass.

50. For each Day that an SSD (i) occurs from any of the SSD locations specified in Appendix 5 before the date for Achievement of Full Operation for the SSD location and (ii) was caused by Fort Wayne's failure to comply with its CSSOP, its CMOM Program, or the NMC, O&M, and Mitigation Requirements of its Current Permit, Fort Wayne shall, in addition to any stipulated penalties under Paragraph 48, pay stipulated penalties in the amounts set forth below per Day and per location for each SSD:

Volume of SSD	Penalty Per SSD
500 gallons or less	$500
More than 500 gallons	$1,000

Fort Wayne shall not, however, be liable for a stipulated penalty under this Paragraph for an SSD which occurs due to a ten-year or greater storm event and would have occurred notwithstanding any failure to comply with its CSSOP, its CMOM Program, or the NMC, O&M, and Mitigation Requirements of its Current Permit.

51. For each Day that an SSD occurs from any of the SSD locations specified in Appendix 5 on or after the date for Achievement of Full Operation for the SSD location specified in Appendix 5, or from any other location on or after the Effective Date of this Consent Decree, and for each Day that an Unlisted CSO occurs from any location on or after the Effective Date of this Consent Decree, Fort Wayne pay stipulated penalties in the amounts set forth below per Day and per location for each SSD and Unlisted CSO:

Volume of SSD or Unlisted CSO	Penalty Per SSD
500 gallons or less	$500
501 to 10,000 gallons	$1,000
More than 10,000 gallons	$3,000

Fort Wayne shall not, however, be liable for a stipulated penalty under this Paragraph for an SSD which occurs due to a ten-year or greater storm event.

52. Fort Wayne shall pay the following stipulated penalties for (i) failure to meet milestones pertaining to the Federal or State SEP Plans, any revisions to such SEP Plans, or submittals subsequently approved by EPA and IDEM pursuant to the provisions of this Consent Decree, or (ii) failure to timely submit the Federal SEP Completion Report (required by Paragraph 24):

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$1,000
31st Day to 60th Day	$1,500
Each Day beyond 60 Days	$2,250

53. If Fort Wayne fails to pay the civil penalty required to be paid under Section XI when due, Fort Wayne shall pay a stipulated penalty of $200 per Day for each Day that the payment is late.

54. For each failure to comply with any requirement of this Consent Decree not specified in Paragraphs 44-53, Fort Wayne shall pay the following stipulated penalties:

Period of Noncompliance With Requirement	Penalty Per Day
1st Day to 30th Day	$500
31st Day to 60th Day	$1,000
Each Day beyond 60 Days	$2,000

55. Except as provided in Paragraphs 44-46, stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Multiple penalties may accrue on any one Day for different violations of different requirements of this Consent Decree even if such violations are caused by the same set of circumstances. Penalties shall accrue as provided in this Paragraph regardless of whether EPA or IDEM has notified Fort Wayne of a violation.

56. Subject to Fort Wayne's right to invoke dispute resolution pursuant to Section XXII, Fort Wayne shall pay stipulated penalties to the United States and the State within 30 Days of the date of any written demand for the same by EPA or IDEM, as follows:

(a) Fifty percent (50%) of the penalty shall be paid to the United States by submitting to EPA Region 5, P.O. Box 70753, Chicago, Illinois 60637, a cashier's or certified check payable to "Treasurer of the United States." A transmittal letter shall accompany the check, and the letter (i) shall state that the payment is for stipulated penalties owed pursuant to the Consent Decree in *United States and State of Indiana v. City of Fort Wayne*; (ii) shall specify the violation(s) for which the penalties are being paid; and (iii) shall reference the civil action number and DOJ case number 90-5-1-1-07653. A copy of the check and transmittal letter shall simultaneously be sent to EPA Region 5, Water Enforcement and Compliance Assurance Branch, Compliance Section, WC-15J, 77 West Jackson Boulevard, Chicago, Illinois 60604, and to Chief, Environmental Enforcement Section, Environment and Natural Resources Division, U.S. Department of Justice, P.O. Box 7611, Washington, DC 20044.

(b) Fifty percent (50%) of the penalty shall be paid to the State by check, payable to the "Indiana Department of Environmental Management Special Fund" and delivered to: Cashier, Indiana Department of Environmental Management, P.O. Box 7060, Indianapolis, Indiana 46207. At the time of payment, Fort Wayne shall send to IDEM, at the addresses set forth in Paragraph 40, a copy of the check, together with a transmittal letter which (i) shall state that the payment is for stipulated penalties owed pursuant to the Consent Decree in *United States and State of Indiana v. City of Fort Wayne*; (ii) shall specify the violation(s) for which the penalties are being paid; and (iii) shall reference the civil action number.

57. If Fort Wayne invokes dispute resolution as provided in Section XXII, penalties shall continue to accrue as provided in Paragraph 55 during such dispute resolution, but need not be paid until the following:

(a) If the dispute is resolved by agreement or by a decision of EPA or IDEM that is not appealed to this Court, Fort Wayne shall pay accrued penalties determined to be owing, together with interest, to the United States or the State within 30 Days of the effective date of the agreement or the receipt of EPA or IDEM's decision or order;

(b) If the dispute is appealed to this Court and the United States or the State prevails in whole or in part, Fort Wayne shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 Days of receiving the Court's decision or order, except as provided in Paragraph 57(c);

(c) If the District Court's decision is appealed by any Party, Fort Wayne shall pay all accrued penalties determined by the District Court to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

58. Upon the Effective Date of this Consent Decree, the stipulated penalty provisions of this Decree shall be retroactively enforceable with regard to any and all violations of this Decree that occurred between the date of lodging and the Effective Date of the Decree, provided that stipulated penalties that may have accrued before the Effective Date may not be collected unless and until this Decree is entered by the Court.

59. If Fort Wayne fails to pay stipulated penalties according to the terms of this Consent Decree, Fort Wayne shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or the State from seeking any remedy otherwise provided by law for Fort Wayne's failure to pay any stipulated penalties.

60. Subject to Section XVII, the stipulated penalties provided for herein shall be in addition to other remedies or sanctions available to the United States or the State by reason of Fort Wayne's failure to comply with the requirements of this Consent Decree, applicable state law, or the Clean Water Act. The payment of such stipulated penalties shall not be construed so as to relieve Fort Wayne from the obligation to comply with this Consent Decree or federal or state law, or to limit the authority of the United States or the State to require compliance with such laws. Irrespective of the payment of any stipulated penalties, the United States and State are specifically authorized to

seek injunctive relief in this civil action to address any violation of this Consent Decree. Where an act or omission that constitutes a violation of this Consent Decree also constitutes a violation of a statute or regulation, the United States or the State may elect, in their sole discretion, to seek civil penalties under the statute or regulation. However, in an action for civil penalties based upon a violation of a statute, the Parties stipulate that evidence that Fort Wayne has paid a stipulated penalty to the United States, EPA, and/or the State for the same violation for the same Day in issue is admissible and may be considered as a factor in mitigation of a penalty.

XV. FORCE MAJEURE

61. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Fort Wayne, of any entity controlled by Fort Wayne, or of Fort Wayne's contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Fort Wayne's best efforts to fulfill the obligation. The requirement that Fort Wayne exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any such event (i) as it is occurring and (ii) after it has occurred to prevent or minimize any resulting delay to the greatest extent practicable. "Force Majeure" does not include Fort Wayne's financial inability to perform any obligation under this Consent Decree, nor does "Force Majeure" include the delay or denial of any federal, state, or other funding that Fort Wayne may seek to perform its obligations under this Consent Decree.

62. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Fort Wayne shall provide notice orally or by electronic or facsimile transmission to EPA and IDEM within 72 hours of when Fort Wayne first knew that the event might cause a delay. Within seven Days thereafter, Fort Wayne shall provide in writing to EPA and IDEM an explanation and description of (i) the reasons for the delay; (ii) the anticipated duration of the delay; (iii) all actions taken or to be taken

to prevent or minimize the delay; (iv) a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; (v) Fort Wayne's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and (vi) a statement as to whether, in the opinion of Fort Wayne, such event may cause or contribute to an endangerment to public health, welfare, or the environment. Fort Wayne shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Fort Wayne from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Fort Wayne shall be deemed to know of any circumstance of which Fort Wayne, any entity controlled by Fort Wayne, or Fort Wayne's contractors knew or should have known.

63. If EPA and IDEM agree that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA and IDEM for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, by itself, extend the time for performance of any other obligation. EPA and IDEM will notify Fort Wayne in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

64. If EPA and IDEM do not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA and IDEM will notify Fort Wayne in writing of their decision.

65. If Fort Wayne elects to invoke the dispute resolution procedures set forth in Section XXII, it shall do so no later than 15 Days after receipt of the notice referenced in Paragraph 64. In any such proceeding, Fort Wayne shall have the burden of demonstrating that (i) the delay or anticipated delay has been or will be caused by a force majeure event, (ii) the duration of the

delay or the extension sought was or will be warranted under the circumstances, (iii) best efforts were exercised to avoid and mitigate the effects of the delay, and (iv) Fort Wayne complied with the requirements of Paragraphs 61 and 62. If Fort Wayne carries this burden, the delay at issue shall be deemed not to be a violation by Fort Wayne of the Consent Decree obligation identified to EPA, IDEM, and the Court.

XVI. <u>INFORMATION COLLECTION AND RETENTION</u>

66. EPA, IDEM, and their representatives, including contractors, consultants, and attorneys, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon proper presentation of credentials, for the purposes of:

(a) monitoring the progress of activities required under this Consent Decree;

(b) verifying any data or information submitted pursuant to this Consent Decree;

(c) obtaining samples and, upon request, splits of any samples taken by Fort Wayne or its representatives, contractors, or consultants; and

(d) otherwise assessing Fort Wayne's compliance with this Consent Decree, Fort Wayne's Current Permit, the Clean Water Act, or applicable state law.

67. Upon request, Fort Wayne shall provide EPA and IDEM or their authorized representatives splits of any samples taken by Fort Wayne. Upon request, EPA and IDEM shall provide Fort Wayne splits of any samples taken by EPA and IDEM.

68. Until five years after the termination of this Consent Decree, Fort Wayne shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Fort Wayne's performance of its obligations under Sections VII and VIII. Other information shall be retained by Fort Wayne in

accordance with the requirements of its Current Permit. The information-retention requirements of this Paragraph shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the State, Fort Wayne shall provide the United States and the State with copies of any documents, records, or other information required to be maintained under this Paragraph, except to the extent Fort Wayne asserts a claim of privilege in accordance with Paragraph 69, and such a claim is awaiting resolution, by negotiation or adjudication, or has been resolved in Fort Wayne's favor, after negotiation or adjudication.

69. At the conclusion of the applicable information-retention period under the preceding Paragraph, Fort Wayne shall notify the United States and the State at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph, and, upon request by the United States or the State, Fort Wayne shall deliver any such documents, records, or other information to EPA or IDEM. Fort Wayne may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Fort Wayne asserts such a privilege, it shall provide the following: (i) the title of the document, record, or information; (ii) the date of the document, record, or information; (iii) the name and title of each author of the document, record, or information; (iv) the name and title of each addressee and recipient; (v) a description of the subject of the document, record, or information; and (vi) the privilege asserted by Fort Wayne. However, no non-draft documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

70. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Fort Wayne

to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits**.**

XVII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

71. This Consent Decree resolves the civil claims of the United States and the State for the violations alleged in the Complaint through the date of lodging of this Decree.

72. The United States and the State reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree. The United States and the State further reserve all rights against Fort Wayne with respect to any violations by Fort Wayne that occur after the date of lodging of this Consent Decree, and for any violations not specifically alleged in the Complaint, whether such violations occurred before or after the date of lodging of this Decree.

73. This Consent Decree is not a permit, or a modification of any permit, under any federal or state law or regulation, nor does this Decree, its Appendices, or any review or approval of submissions pursuant to this Consent Decree relieve Fort Wayne of its obligations to (i) obtain permits for its wastewater treatment facilities, sewer system, and modifications thereto, and (ii) comply with the requirements of the Current Permit and the Clean Water Act and all other applicable federal and state laws, regulations, and permits. Fort Wayne is responsible for achieving and maintaining complete compliance with all applicable federal and state laws, regulations, and permits; and the City's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the State do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Fort Wayne's compliance with any aspect of this Consent Decree will result in compliance with any provisions of federal or state laws, regulations, or permits.

74. Except as expressly set forth herein, this Consent Decree shall not be construed to prevent or limit the United States' or the State's rights to obtain penalties or further or additional

injunctive relief under (i) the Clean Water Act; (ii) other federal statutes or regulations, including, but not limited to, criminal punishment under Section 309(c) of the Clean Water Act, 33 U.S.C. § 1319(c); or (iii) applicable state laws and regulations.

75. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief or penalties relating to the WWTP, the Sewer System, or any facility excluded from this Consent Decree's definition of "Sewer System," Fort Wayne shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, *res judicata*, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of Paragraph 71.

76. This Consent Decree shall not be construed to limit any authority of the United States or the State, under any applicable statute or regulation, to seek information from Fort Wayne, to require monitoring, to conduct inspections, or to seek access to the property of Fort Wayne. Nor shall this Consent Decree be construed to limit the authority of the United States or the State to undertake any action against any person, including Fort Wayne, in response to conditions that may present an imminent and substantial endangerment to the environment or to the public health or welfare.

77. This Consent Decree does not limit or affect the rights of the United States, the State, or Fort Wayne against any third parties that are not Parties to this Decree, nor does the Decree limit the rights of such third parties against Fort Wayne, except as otherwise provided by law, or create rights in, or grant any causes of action to, such third parties.

XVIII. COSTS AND ATTORNEYS' FEES

78. Each Party shall bear its own costs and attorneys' fees in this action and with respect

to matters related to this Consent Decree, except that the United States and the State shall be entitled to collect the costs and attorneys' fees incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Fort Wayne.

XIX. EFFECTIVE DATE

79. The Effective Date of this Consent Decree shall be the date upon which this Decree is entered by the Court or a motion to enter the Decree is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that Fort Wayne hereby agrees that it shall be bound to perform duties scheduled to occur before the Effective Date. In the event the United States withdraws or withholds consent to this Consent Decree before entry, or the Court declines to enter the Decree, then the preceding requirement to perform duties scheduled to occur before the Effective Date shall terminate.

XX. CONTINUING JURISDICTION

80. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of enforcing the terms and conditions and achieving the objectives of this Decree, and for the purpose of resolving any disputes hereunder or entering any orders modifying this Decree in accordance with Sections XXI and XXII.

XXI. MODIFICATION

81. Except as provided in Paragraph 41 and this Section, there shall be no modification of the terms of this Consent Decree, the Appendices attached to this Consent Decree, or the submittals approved under this Consent Decree without written approval by all of the Parties. Where a modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court, except as provided in Paragraph 109. A "material change" shall be deemed to include, but shall not necessarily be limited to, the following: (i) any modification of Performance Criteria pursuant to Section XXI.A, Section XXI.E, or otherwise; and (ii) any modification that would

extend the date for Achievement of Full Operation for any CSO Control Measure related to the St. Joseph River beyond 2019 or the date for Achievement of Full Operation for any CSO Control Measure related to the St. Mary's and Maumee Rivers beyond 2025. All modifications, whether material or non-material, shall be deemed an enforceable part of this Consent Decree.

82. Before seeking any modification of this Consent Decree, the Appendices attached to this Consent Decree, or the submittals approved under this Consent Decree, Fort Wayne shall consult with EPA and IDEM concerning the proposed modification and the scope of public participation to be obtained by Fort Wayne before submission of a request for modification.

83. If the Parties do not agree that modification of this Consent Decree is warranted, Fort Wayne may file a motion seeking modification pursuant to Rule 60(b) of the Federal Rules of Civil Procedure; provided, however, that the United States and the State reserve their rights to oppose any such motion and to argue that modification is unwarranted. Such a motion for modification by Fort Wayne shall not relieve it of any of its obligations under this Consent Decree, unless the Court orders otherwise, and Fort Wayne shall continue with timely implementation of all measures required by the Decree until the Decree is modified in accordance with Paragraph 81 and any other applicable provisions of this Consent Decree.

A. <u>Revision of CSO Control Measures</u>

84. Fort Wayne shall submit to EPA and IDEM for approval a workplan ("Workplan for Revising CSO Control Measures" or "Workplan") for developing a Revised CSO Control Measures Plan consistent with Paragraph 86 if any of the following occurs:

(a) the State fails, within three years of the date of lodging of this Consent Decree, to submit to EPA, in accordance with 33 U.S.C. § 1313(c)(2)(A), any new or revised water quality standards resulting from Fort Wayne's request for revision to water quality standards (as set forth in Section 5 of the LTCP), and EPA, in its discretion not subject to judicial review, provides Fort

Wayne with written notice directing Fort Wayne to submit a Workplan;

(b) the State submits to EPA a proposed new or revised water quality standard in accordance with 33 U.S.C. § 1313(c)(2)(A) resulting from Fort Wayne's request as set forth in Section 5 of the LTCP; and

(i) in response to the State's submission, EPA takes final action to approve, disapprove, or promulgate in accordance with 33 U.S.C. § 1313(c)(3) and (4), and EPA's final action is inconsistent with the request that Fort Wayne had submitted to the State; and

(ii) as a result of EPA's final action, the level of control to be achieved upon completion of the CSO Control Measures will likely not be sufficient to ensure compliance with the requirements specified in Paragraph 17; or

(c) Fort Wayne chooses to submit a Workplan.

85. Fort Wayne shall submit the Workplan required pursuant to Paragraph 84:

(a) within 90 Days of Fort Wayne's receipt of EPA's notification under Paragraph 84(a); or

(b) with regard to a Workplan required under Paragraph 84(b):

(i) within 90 Days following EPA's actions under 33 U.S.C. § 1313(c)(3) and (4), if a judicial appeal challenging EPA's action has not been brought within 90 Days of EPA's action; or

(ii) within 90 Days after a final decision no longer subject to judicial appeal has been rendered, if a judicial appeal has been brought challenging EPA's actions.

86. The purpose of the Workplan for Revising CSO Control Measures shall be for Fort Wayne to develop a Revised CSO Control Measures Plan that contains measures necessary to ensure that the requirements in Paragraph 17 will be met. The Workplan shall contain the following:

(a) a description of how Fort Wayne will utilize the information and models that Fort

Wayne utilized in developing the LTCP to develop a Revised CSO Control Measures Plan, and a description of the additional actions that Fort Wayne will take to update that information and those models to develop the Revised CSO Control Measures Plan;

(b) a description of the actions that Fort Wayne will take to provide for public participation in the development of a Revised CSO Control Measures Plan;

(c) a description of all other actions that Fort Wayne must take to develop a Revised CSO Control Measures Plan in a manner consistent with any applicable provisions of EPA's CSO Control Policy;

(d) a schedule for completing development of the Revised CSO Control Measures Plan as expeditiously as possible, but in no event later than one year after EPA and IDEM approval of the Workplan for Revising CSO Control Measures; and

(e) identification of any CSO Control Measures set forth in Appendix 3 or in any previously Approved Revised CSO Control Measures Plan, in addition to the Phase I CSO Control Measures, that are likely to be consistent with the Revised CSO Control Measures Plan.

87. Upon receipt of EPA and IDEM's approval of the Workplan for Revising CSO Control Measures, or upon resolution of any disputes pertaining to the Workplan pursuant to Section XXII, Fort Wayne shall implement the Workplan in accordance with the schedule and terms set forth in the approved Workplan.

88. Within 90 Days after implementation of the Workplan for Revising CSO Control Measures has been completed, Fort Wayne shall submit to EPA and IDEM for approval a report ("Report on Revising CSO Controls") that contains the following:

(a) a Revised CSO Control Measures Plan consisting of those measures that are necessary to insure that the requirements in Paragraph 17 will be met (The overall level of control expected to be achieved by the Revised CSO Control Measures Plan for each watershed shall be no less stringent in terms of reducing CSO discharge occurrences and CSO discharge volumes than the overall level of control to be achieved for the watershed at issue by the CSO Control Measures set forth in Appendix 3);

(b) a schedule that is as expeditious as possible for design, construction, and implementation of the measures described in Paragraph 88(a) (If it is not possible for Fort Wayne to design and construct all control measures simultaneously, Fort Wayne shall develop a phased schedule based on (i) appropriate sequencing of activities to allow for efficient integration of the Revised CSO Control Measures Plan into the LTCP; (ii) engineering needs of each Revised CSO Control Measure (*e.g.*, magnitude of the project, special equipment, and/or procurement needs); and (iii) the relative importance of each measure, with highest priority being given to those projects that provide the greatest public health or environmental benefits and then second priority being given to eliminating discharges to sensitive areas to the extent such areas are addressed in the Revised CSO Control Measures Plan. The schedule shall specify milestones for each specific measure, including, at a minimum, milestone dates for (i) Completion of the Bidding Process and (ii) Achievement of Full Operation);

(c) a plan and schedule for performing any post-construction monitoring and modeling, in addition to the post-construction monitoring and modeling specified in Appendix 4 or any previously Approved Revised CSO Control Measures Plan, that is necessary to assess whether the requirements specified in Paragraphs 14 and 15 have been or will be met upon completion of the Revised CSO Control Measures Plan, and a plan and schedule for submitting supplemental milestone reports resulting from such additional monitoring and modeling; and

(d) information demonstrating that the provisions of the Approved Workplan for Revising CSO Control Measures have been complied with, including the provisions pertaining to public participation.

89. Except as provided in Paragraph 90, Fort Wayne shall perform the activities and construct the CSO Control Measures as required by Paragraphs 14 and 15 until Fort Wayne's receipt of EPA and IDEM's approval of any Report on Revising CSO Control Measures, or upon resolution of any disputes pursuant to Section XXII. Upon such approval, or upon resolution of such disputes, Fort Wayne shall implement the Approved Revised CSO Control Measures Plan as required by Paragraph 91.

90. If Fort Wayne is required to submit a Workplan under Paragraphs 84(a) or (b), then, upon receipt of EPA and IDEM's approval of the Workplan for Revising CSO Control Measures, or upon resolution of any disputes pursuant to Section XXII, and until Fort Wayne's receipt of EPA and IDEM's approval of a corresponding Report on Revised CSO Control Measures, or upon resolution of any disputes pursuant to Section XXII (at which time Fort Wayne shall be required to implement the Approved Revised CSO Control Measures Plan as required by Paragraph 91):

(a) Fort Wayne shall only be required to implement:

(i) the CSO Control Measures identified in Appendix 3 or any previously Approved Revised CSO Control Measures Plan as being "Phase I Projects," and

(ii) all additional projects identified by the Workplan as likely to be consistent with the Revised CSO Control Measures Plan; and

(b) Fort Wayne shall implement the measures specified in Paragraph 90(a) in accordance with the descriptions, Design Criteria, and dates for Completion of the Bidding Process and Achievement of Full Operation for each such project set forth in Appendix 3 or any previously Approved Revised CSO Control Measures Plan.

91. Upon Fort Wayne's receipt of EPA and IDEM's approval of any Report on Revising CSO Control Measures, or upon resolution of any disputes pursuant to Section XXII, the Revised CSO Control Measures Plan contained in the Approved Report on Revising CSO Control Measures

(including any additional post-construction monitoring and modeling) shall: (i) supersede Appendix 3, any previous Approved Revised CSO Control Measures Plan, and any previous Approved Extension of Deadlines; and (ii) shall be implemented by Fort Wayne in accordance with the schedule in the Approved Report on Revising CSO Control Measures.

B. Extension of Deadlines Due to Increased Costs

92. Fort Wayne currently estimates that the capital costs of the measures necessary to comply with Sections VII and VIII will be $239,397,825 (in 2005 dollars). In 2013, and then every six years thereafter, Fort Wayne shall report to EPA and IDEM on the actual capital costs compared to the estimated capital costs for the measures completed since the last report, and Fort Wayne shall reevaluate the estimated capital costs of the remaining measures. If one of these reports shows that the capital costs to Fort Wayne of implementing the measures required to comply with Sections VII and VIII will exceed $313,000,000 (in 2005 dollars), Fort Wayne may seek an extension of the date for Completion of the Bidding Process and/or Achievement of Full Operation for one or more CSO Control Measure set forth in Appendix 3 or any Approved Revised CSO Control Measures Plan.

93. In the event Fort Wayne seeks an extension, pursuant to the preceding Paragraph, of any of the dates for Completion of the Bidding Process and/or Achievement of Full Operation, Fort Wayne shall provide EPA and IDEM with a written submission that: (i) demonstrates that capital costs will exceed $313,000,000 (in 2005 dollars); (ii) explains why Fort Wayne believes that, because of the increased costs, it is not practicable to complete the CSO Control Measures within the schedules set forth in Appendix 3 or any Approved Revised CSO Control Measures Plan; (iii) demonstrates that the new dates are as expeditious as possible; (iv) includes all information that Fort Wayne believes supports the requested modification; and (v) includes all additional information that EPA or IDEM reasonably requests to assist in evaluating Fort Wayne's extension request.

94. Upon receipt of EPA and IDEM's approval of a request pursuant to Paragraph 92, or

upon resolution of any disputes pursuant to Section XXII, Fort Wayne shall implement the CSO Control Measures, and meet the date for Completion of the Bidding Process and/or Achievement of Full Operation, in accordance with the Approved Extension of Deadline. An extension of one deadline, pursuant to an Approved Extension of Deadline, does not, by itself, extend any other applicable deadlines.

95. Fort Wayne may obtain only one Approved Extension of Deadline pursuant to Paragraphs 92-94. If Fort Wayne receives such an Approved Extension of Deadline, it may not seek any further Approved Extensions of Deadline pursuant to Paragraphs 92-94, and Fort Wayne shall no longer be required to submit reports to EPA and IDEM in accordance with Paragraph 92.

C. Modifications to Reflect Significant Adverse Changes to Financial Circumstances, NPDES Permit Proceedings, or Inaction on Revising Water Quality Standards

96. If: (i) Fort Wayne experiences significant adverse changes to its financial circumstances; (ii) proceedings concerning issuance, reissuance, or modification of an NPDES permit warrant; (iii) the State does not, within three years of the date of lodging of this Consent Decree, submit to EPA any new or revised water quality standards resulting from Fort Wayne's request as set forth in Section 5 of the LTCP; or (iv) the State submits to EPA proposed revisions to its water quality standards pertaining to Fort Wayne's CSOs but EPA fails to take action in accordance with the time frames set forth in 33 U.S.C. § 1313(c)(3) and (4), Fort Wayne may request that the United States and the State agree to modification of this Consent Decree.

D. Extension of Deadlines to Achieve Performance Criteria

97. If, following Achievement of Full Operation of any CSO Control Measure(s), Fort Wayne needs additional time to implement additional remedial measures to achieve the Performance Criteria for the CSO Control Measure(s), Fort Wayne may submit to EPA and IDEM, for approval, (i) a request for an extension of the deadline for achievement of the Performance Criteria for the

CSO Control Measure(s) to allow for implementation of additional remedial measures, and (ii) a plan for performing supplemental remedial measures and additional post-construction monitoring and modeling ("Supplemental Remedial Measures Plan"). The Supplemental Remedial Measures Plan shall include (i) a description of the remedial measures that Fort Wayne will take to ensure that the Performance Criteria will be achieved; (ii) a schedule that is as expeditious as possible for design, construction, and implementation of the measures; (iii) a description of additional post-construction monitoring and modeling needed to assess whether Fort Wayne has achieved the Performance Criteria; and (iv) a schedule for performing such monitoring and modeling.

98. Upon receipt of EPA and IDEM's approval of a request pursuant to Paragraph 97, Fort Wayne shall implement the Approved Supplemental Remedial Measures Plan (including additional monitoring and modeling) in accordance with the schedule and terms set forth therein. An extension of one deadline, pursuant to an Approved Supplemental Remedial Measures Plan, does not, by itself, extend any other applicable deadlines.

E. <u>Modification of Performance Criteria</u>

99. (a) Should Fort Wayne determine, following Achievement of Full Operation of all CSO Control Measures required under Paragraph 14, and upon completion of the Post-Construction Monitoring Program required under Paragraph 15 and detailed in Appendix 4, that the City has not achieved the Performance Criteria in the manner set forth in Appendix 4, and cannot achieve the Performance Criteria in the absence of additional remedial measures the City maintains would be cost prohibitive, infeasible, or otherwise inappropriate, Fort Wayne may propose to the Director of the Water Division, EPA Region 5 ("Director"), and to the Assistant Commissioner, Office of Water Quality, IDEM ("Assistant Commissioner"), a modification of the Performance Criteria. The Performance Criteria review process set forth in this Paragraph shall be the exclusive means by which Fort Wayne may seek modification of Performance Criteria. The dispute resolution

provisions set forth in Section XXII shall not apply to requests by Fort Wayne for modification of Performance Criteria.

(b) Any proposal by Fort Wayne to modify the Performance Criteria under Paragraph 99(a) shall be in writing and shall include:

(i) a certification by the City's engineer that the City has properly designed and constructed the CSO Control Measures to achieve the Performance Criteria consistent with accepted industry standards;

(ii) a post-construction monitoring report prepared consistent with Appendix 4, which demonstrates that the City has not achieved the Performance Criteria;

(iii) a detailed description of the additional remedial measures that would be required to achieve the Performance Criteria, including the projected cost of such measures;

(iv) a detailed discussion of the reasons the City believes that additional remedial work would be cost prohibitive, infeasible, or otherwise inappropriate; and

(v) the text of the proposed modification of the Performance Criteria.

(c) The Director and the Assistant Commissioner or their designees shall meet in person to review Fort Wayne's proposal. EPA and IDEM may retain one or more independent consultants to assist them in their evaluation of Fort Wayne's proposal. The Director or the Assistant Commissioner, at their discretion, may request one or more representatives of Fort Wayne to attend the meeting to provide additional information.

(d) (i) Following the meeting described in Paragraph 99(c), the Director and the Assistant Commissioner shall issue a written initial determination recommending approval, disapproval, or approval subject to conditions or revisions of Fort Wayne's proposal, and shall immediately transmit such determination to the Regional Administrator, the Commissioner, and the City.

(ii) Fort Wayne may appeal the initial determination within 30 Days to the Regional Administrator and the Commissioner by submitting to those individuals any documents that the City deems relevant and appropriate. During the pendency of any such appeal, the Parties shall seek to reach agreement on any issues upon which they disagree.

(iii) The Regional Administrator and the Commissioner may approve or disapprove, or approve upon conditions or in a revised form, the proposed modification of the Performance Criteria. The determination of the Regional Administrator and the Commissioner shall be in their discretion and shall not be subject to judicial review, except that, if they approve a modification of Performance Criteria, the modification shall not be effective until a modification of the Consent Decree is approved by the Court in accordance with Paragraphs 81 and 100.

100. Any proposed modification of the Consent Decree resulting from a modification of Performance Criteria pursuant to Paragraph 99 shall be subject to public notice and comment pursuant to 28 C.F.R. § 50.7. The United States and the State reserve the right to withdraw or withhold their consent to any such proposed modification of the Consent Decree if public comments received disclose facts or considerations which indicate that the modified Consent Decree would be inappropriate, improper, or inadequate.

F. <u>Revocation of Notices to Proceed</u>

101. A notice to proceed with construction of any CSO Control Measure or any project specified in Appendix 5 may be revoked by Fort Wayne for cause. However, within 14 Days of the date that Fort Wayne revokes any notice to proceed, Fort Wayne shall submit to EPA and IDEM for approval a plan ("Notice To Proceed Plan"). The Notice to Proceed Plan shall: (i) explain why the notice to proceed was revoked; (ii) describe the steps that Fort Wayne will take to issue a new notice to proceed; and (iii) contain a schedule for issuing the new notice to proceed that includes a final date for issuance of the notice to proceed that is as expeditious as possible.

102. Upon approval of the Notice to Proceed Plan in accordance with Paragraph 101, or upon resolution of any disputes pursuant to Section XXII, Fort Wayne shall implement the approved Notice To Proceed Plan in accordance with the schedule set forth therein, including the final date for issuance of a new notice to proceed.

G. EPA and IDEM Approval of Submissions Pursuant to Sections XXI.A-F

103. For all plans, reports, and other documents that Fort Wayne is required to submit to EPA and IDEM for approval in accordance with Sections XXI.A-F, EPA and IDEM shall, in writing: (i) approve the submission, in whole or in part; (ii) approve the submission, in whole or in part, upon specified conditions; (iii) disapprove the submission, in whole or in part, providing comments identifying deficiencies and directing that Fort Wayne modify its submission and/or provide additional information; or (iv) any combination of the above.

104. If the submission is approved pursuant to Paragraph 103, Fort Wayne shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements therein. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 103, Fort Wayne shall, upon written direction from EPA and IDEM, take all actions required by the approved plan, report, or other document that EPA and IDEM determine are technically severable from any disapproved portions, subject to Fort Wayne's right to dispute only the specified conditions or disapproved portions, under Section XXII. Implementation of any approved portion of a submission shall not relieve Fort Wayne of any liability for stipulated penalties.

105. If the submission is disapproved in whole or in part pursuant to Paragraph 103, Fort Wayne shall, within 45 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for

approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Fort Wayne shall proceed in accordance with the preceding Paragraph.

106. Any stipulated penalties applicable to the original submission, as provided in Section XIV, shall accrue during the 45-Day (or otherwise specified) period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Fort Wayne's obligations under this Consent Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

107. If a resubmitted plan, report, or other document, or portion thereof, is disapproved in whole or in part, EPA and IDEM may again require Fort Wayne to correct any deficiencies, in accordance with the preceding Paragraphs, subject to Fort Wayne's right to invoke dispute resolution and the right of EPA and IDEM to seek stipulated penalties as provided in the preceding Paragraphs.

108. EPA and IDEM agree to use their best efforts to expeditiously review and comment on submittals that Fort Wayne is required to submit for approval pursuant to Sections XXI.A-F. If EPA and IDEM fail to act on a submittal within 60 Days, any subsequent milestone date dependent upon such action by EPA and IDEM shall be extended by the number of Days beyond the 60-Day period that EPA and IDEM use to act on the submittal, provided that Fort Wayne notifies EPA and IDEM in writing, at the time of its submittal, of any specific milestone dates that Fort Wayne believes would be extended under this Paragraph if EPA and IDEM fail to act within 60 Days. This Paragraph does not apply to EPA and IDEM review of, or actions taken with regard to, revisions to water quality standards, permits, or any matters other than submittals that Fort Wayne is specifically required to submit for approval pursuant to Sections XXI.A-F.

109. To the extent a submission approved pursuant to Sections XXI.A-F constitutes a

material change to this Consent Decree within the meaning of Paragraph 81, the same shall be incorporated into the Decree by amendment subject to Court approval; provided that Fort Wayne shall be obligated immediately to comply with the submission upon approval by EPA and IDEM, notwithstanding any requirement for subsequent amendment of the Decree, unless the Court orders otherwise.

XXII. DISPUTE RESOLUTION

110. Except as provided in Section XXI.E, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Fort Wayne's failure to seek resolution of a dispute under this Section shall preclude Fort Wayne from raising any such issue as a defense to an action by the United States or the State to enforce any obligation of Fort Wayne under this Decree. IDEM and/or EPA actions with regard to issuance, modification, or review of NPDES permits or water quality standards pursuant to 33 U.S.C. § 1313(c), 33 U.S.C. § 1342, or state law are not subject to dispute resolution under this Consent Decree.

111. Any dispute subject to dispute resolution under this Consent Decree shall in the first instance be the subject of informal negotiations. If Fort Wayne believes it has a dispute with any other Party, it shall provide notice to the other Parties in writing, including notice to the U.S. Department of Justice and Indiana Attorney General, setting forth the matter(s) in dispute. The period of informal negotiations shall not exceed 30 Days from the date the notice was sent, unless the Parties agree otherwise in writing.

112. If the informal negotiations are unsuccessful, the position of the Plaintiffs shall control unless, within 20 Days after the conclusion of the informal negotiation period, Fort Wayne invokes the formal dispute resolution procedures of this Section by serving on the United States and the State a written statement of position on the matter in dispute, including any supporting factual data,

analysis, opinion, or documentation. For purposes of this Section, "Plaintiffs" shall mean both the United States and the State, unless the dispute is only with one Plaintiff, in which case "Plaintiffs" shall mean only the Plaintiff with whom there is a dispute.

113. Within 30 Days of receiving Fort Wayne's statement of position under Paragraph 112, the Plaintiffs shall serve on Fort Wayne their written statement of position, including any supporting factual data, analysis, opinion, or documentation.

114. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to Paragraphs 112-113.

115. The Plaintiffs' statement of position shall be binding upon Fort Wayne unless Fort Wayne files a motion with the Court seeking judicial resolution of the dispute. Fort Wayne's motion must be filed no more than 20 Days after receipt of the Plaintiffs' statement of position pursuant to Paragraph 113. The motion shall contain a written statement of Fort Wayne's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

116. The Plaintiffs shall respond to Fort Wayne's motion within the time period allowed by the Local Rules of this Court. Fort Wayne may file a reply memorandum, to the extent permitted by the Local Rules.

117. (a) Except as provided in Paragraphs 65 and 83, in any dispute brought under Paragraph 112 or 115 pertaining to (i) the adequacy or appropriateness of plans, procedures to implement plans, schedules, or any other items requiring approval by EPA and IDEM under this Consent Decree; (ii) the adequacy of the performance of work undertaken pursuant to this Consent Decree; and (iii) all other disputes that are accorded review on the administrative record under

applicable principles of administrative law, Fort Wayne shall have the burden of demonstrating, based on the administrative record, that the position of the Plaintiffs is arbitrary and capricious or otherwise not in accordance with law.

(b) Except as provided in Paragraphs 65 and 83, in any other dispute brought under Paragraph 112 or 115, Fort Wayne shall bear the burden of demonstrating that its position complies with this Consent Decree and better furthers the objective of the Consent Decree, as described in Section III.

118. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Fort Wayne under this Consent Decree, unless the Parties so agree in writing or the Court so approves upon motion.

XXIII. TERMINATION

119. Upon motion filed with the Court by the United States, the State, or Fort Wayne, the Court may terminate the terms of this Consent Decree after each of the following has occurred:

(a) Fort Wayne has achieved compliance with all provisions contained in this Consent Decree, and subsequently has maintained satisfactory compliance with each and every provision for twelve consecutive months;

(b) Fort Wayne has paid all penalties and other monetary obligations due hereunder and no penalties or other monetary obligations due hereunder are outstanding or owed to the United States or the State; and

(c) At least 120 Days prior to filing the motion, Fort Wayne has certified to EPA and IDEM that it has complied with the requirements of Paragraphs 119(a) and (b) and has provided sufficient documentation to EPA and IDEM to support its certification.

120. The United States or the State may dispute whether Fort Wayne has complied with the requirements of Paragraph 119, in which case this Consent Decree shall remain in effect pending

resolution of the dispute pursuant to Section XXII and termination of the Decree pursuant to this Section.

XXIV. PUBLIC COMMENT

121. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days, for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments received disclose facts or considerations which indicate that the Consent Decree is inappropriate, improper, or inadequate. Fort Wayne consents to entry of this Consent Decree without further notice and agrees not to withdraw from, oppose entry of, or challenge any provision of this Consent Decree, unless the United States has notified Fort Wayne in writing that it no longer supports entry of the Consent Decree.

XXV. SIGNATORIES/SERVICE

122. The Assistant Attorney General for the Environment and Natural Resources Division of the United States Department of Justice, the Chief Deputy of the Office of the Indiana Attorney General, and the undersigned representative of Fort Wayne each certifies that he or she is authorized to enter into the terms and conditions of this Consent Decree and to execute and bind legally the Party he or she represents to this document.

123. Fort Wayne shall identify, on the attached signature page, the name and address of an agent who is authorized to accept service of process by mail on behalf of the City with respect to all matters arising under or relating to this Consent Decree. Fort Wayne hereby agrees to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons. The Parties agree that Fort Wayne need not file an answer to the Complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

XXVI. INTEGRATION/APPENDICES

124. This Consent Decree and its Appendices 1-7 constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Consent Decree. The Consent Decree and its Appendices supersede all prior agreements and understandings, whether oral or written, and all prior administrative orders, concerning the settlement embodied herein. Other than any submittals subsequently approved pursuant to this Consent Decree, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Consent Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree. The Appendices are not stipulations, and the United States and the State reserve their rights to disagree or contest particular statements contained therein. In the event of conflict between this Consent Decree and any Appendix, this Consent Decree shall control.

XXVII. FINAL JUDGMENT

125. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute the final judgment of the Court as to the United States, the State, and Fort Wayne. The Court finds there is no just reason for delay and therefore enters this Consent Decree as a final judgment under Rules 54 and 58 of the Federal Rules of Civil Procedure.

SO ORDERED this _______ day of _______________, 200___.

____
United States District Judge

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States and State of Indiana v. City of Fort Wayne.*

FOR THE UNITED STATES OF AMERICA:

Date: December 27, 2007

RONALD J. TENPAS
Assistant Attorney General
Environmental and Natural Resources Division
U.S. Department of Justice

Kevin Lyskowski / WA

KEVIN LYSKOWSKI
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044
(202) 514-5415

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States and State of Indiana v. City of Fort Wayne.*

FOR THE UNITED STATES OF AMERICA:

Date: December 28, 2007

DAVID CAPP
Acting United States Attorney
Northern District of Indiana

Wayne T. Ault
WAYNE T. AULT
Assistant United States Attorney
Northern District of Indiana
5400 Federal Plaza, Suite 1500
Hammond, Indiana 46320
Telephone: (219) 937-5500

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States and State of Indiana v. City of Fort Wayne.*

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Date: 12/21/07

GRANTA Y. NAKAYAMA
Assistant Administrator of Enforcement and
Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue
Washington, DC 20460

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States and State of Indiana v. City of Fort Wayne.*

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Date: 12/20/07

MARY A. GADE
Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Date: 12/20/07

Robert A. Kaplan

ROBERT A. KAPLAN
Regional Counsel
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States and State of Indiana v. City of Fort Wayne.*

FOR THE STATE OF INDIANA:

Date: December 20, 2007

THOMAS W. EASTERLY
Commissioner
Indiana Department of Environmental Management
100 North Senate Avenue
IGCN 1301
Indianapolis, IN 46204

STEVE CARTER
Attorney General of Indiana

Date: 12-20-2007

GREGORY F. ZOELLER
Chief Deputy
Office of the Attorney General
Indiana Government Center South
302 West Washington Street
Indianapolis, IN 46204

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States and State of Indiana v. City of Fort Wayne*.

FOR THE CITY OF FORT WAYNE:

Date: 12-20-07

Graham Richard

THE HONORABLE GRAHAM RICHARD
Mayor, City of Fort Wayne
Office of the Mayor
City County Building
1 East Main Street, 9th Floor
Fort Wayne, IN 46802

Agent authorized to accept service on behalf of the City of Fort Wayne:

Carol Taylor, Esq.
City Attorney
City County Building
City of Fort Wayne Law Department
1 East Main Street, 9th Floor
Fort Wayne, IN 46802
(260) 427-1124

United States and State of Indiana v. City of Fort Wayne, Indiana

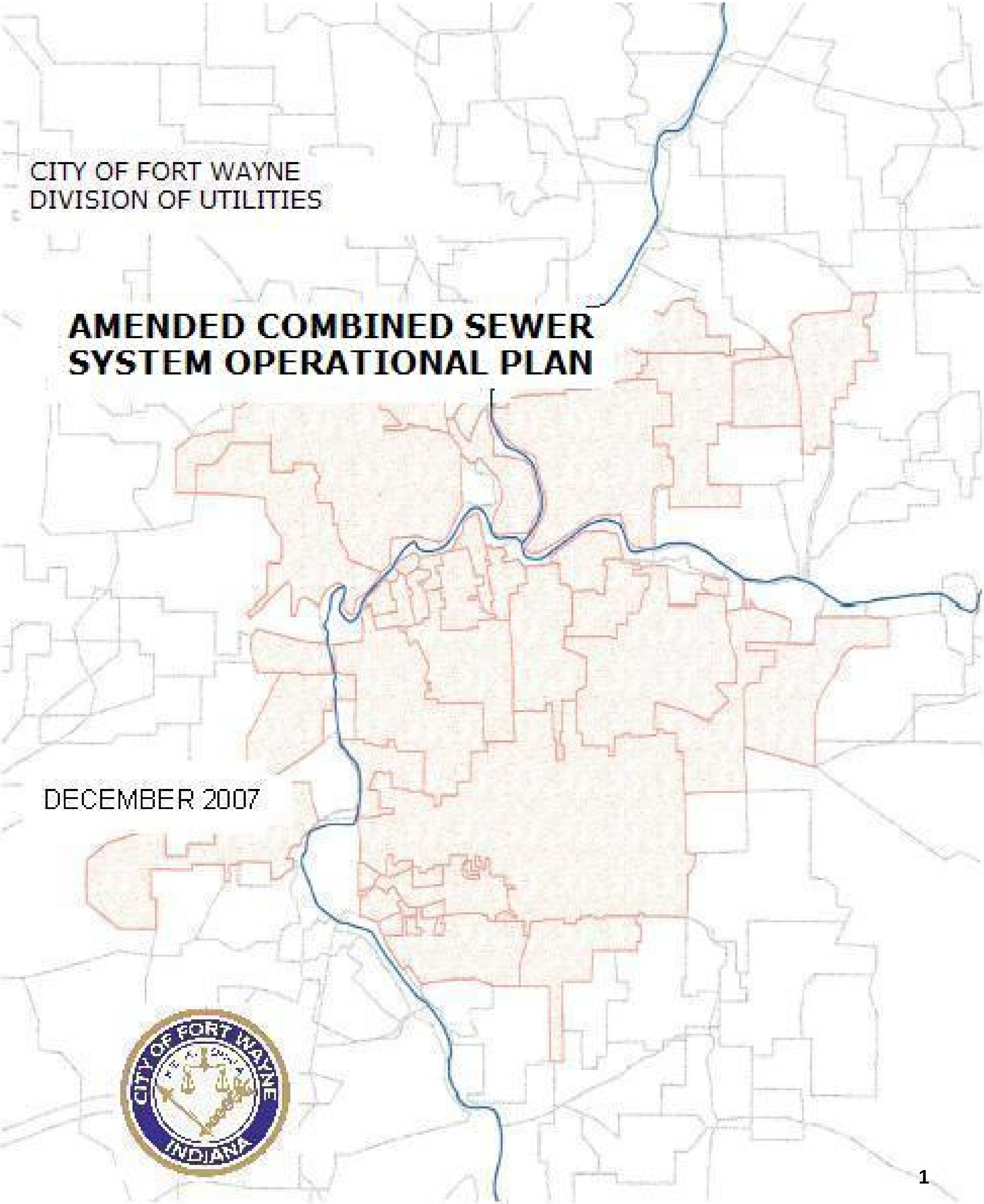
Consent Decree
<u>Appendix 1</u>

Combined Sewer System Operational Plan

CITY OF FORT WAYNE
DIVISION OF UTILITIES

AMENDED COMBINED SEWER SYSTEM OPERATIONAL PLAN

DECEMBER 2007



CSO OPERATIONAL PLAN

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AMENDED CSO OPERATIONAL PLAN

CSSOP INTRODUCTION

This Amended Combined Sewer System Operational Plan (CSSOP) is designed to be used by the City of Fort Wayne (City), through its wastewater utility, Board of Public Works, and other departments involved in programs that affect the operations and maintenance (O&M) of the City's combined sewer system. The Chapters herein describe how the City intends to continue to implement the Nine Minimum Controls (NMCs) consistently with EPA's 1995 Combined Sewer Overflows: Guidance for Nine Minimum Controls and identifies programs to be implemented to reduce the effects of Combined Sewer Overflows (CSOs) on receiving stream water quality.

The City's CSSOP document is intended to be a "living" document in that the City intends to revise and update the CSSOP as (i) more information pertaining to receiving stream water quality, combined sewers, the collection system, and the WPCP becomes available; (ii) system revisions or modifications are made; and (iii) new facilities, equipment, or personnel are added. The City's current NPDES permit requires IDEM approval of CSSOP updates. By functioning as a "living" document, changes in regulatory requirements, administrative goals, strategies, and resources will also be incorporated into the CSSOP.

REGULATORY BACKGROUND

The Clean Water Act (CWA) prohibits the discharge of any pollutant to navigable waters of the Unites States from a point source except in accordance with a National Pollutant Discharge Elimination System (NPDES) permit. In Indiana, NPDES permits are issued an administered by IDEM. The City's NPDES permit for its Water Pollution Control Plant (WPCP) at 2601 Dwenger Avenue was issued in 2004 and is to be modified in 2007. It serves to limit the amount and concentration of conventional pollutants allowed to be discharged from the WPCP.

In April 2004 EPA published its CSO Control Policy to help communities and states control CSOs and address CWA requirements. IDEM subsequently developed a CSO control strategy of its own. Both the EPA and IDEM policy documents present the following as required actions:

1. Characterize the combined sewer system and the affected streams
2. Implement the NMCs. The NMCs are:
    - Proper operation and maintenance of the combined sewer system and the CSOs
    - Maximum use of the collection system for storage
    - Review and modify pretreatment requirements to assure CSO impacts are minimized
    - Maximum flow to the POTW for treatment
    - Prohibition of CSOs during dry weather
    - Control of solid and floatable material in CSOs
    - Pollution prevention
    - Public notification
    - Monitoring to characterize CSO impacts and the efficacy of CSO controls
3. Develop a CSO long-term control plan (LTCP)

As IDEM was developing a CSO strategy in the early 1990's, the City organized a program team for sewer/storm water master planning in preparation for compliance with future CSO regulations. The resulting 1993 Sewer Master plan made recommendations for capacity correction projects, developed the City's first computer model (SWMM) and recognized the need to develop a LTCP. In 1994, a CSO Task Force comprised of City Sewer Engineering and external consultants began implementing recommendations of the 1993 Master Plan and were the first involved in the LTCP development process. The City's first CSO Operation Plan was developed and submitted to EPA in1996 pursuant to an EPA administrative order. At the request of EPA and IDEM in 2003, the City agreed to develop and submit an updated version of its CSO operational plan. The City's efforts to do so have resulted in this CSSOP. As stated above, further updates will be accomplished as required by the City's NPDES permit for the WPCP.

DESCRIPTION OF CITY'S COMBINED SEWER SYSTEM

Combined sewer subbasins are areas of the City served by sewers designed to carry both sanitary wastewater and stormwater runoff. Roof drains, sump pumps, catch basins, and surface area drains, as well as normal wastewater connections from residential, commercial, and industrial properties can all contribute to flows within combined sewers. While the sewer system and WPCP typically are able to treat flows from combined sewers during dry weather, system capacity can be exceeded in connection with wet weather events. That is, during wet weather, the capacity of combined sewers can be exhausted by rainfall runoff. Under such circumstances, the discharge of untreated wastewater can occur to local waterways. Regulators (which are physical devices or structures designed to help control the amount of wastewater flowing into interceptors) work to relieve combined sewers of excess wastewater to avoid surcharge conditions and upstream flooding. Individual overflow events are commonly referred to as CSOs. The City currently has 43 CSO outfalls from which discharges sometimes occur to the Maumee, St. Joseph and St. Mary's Rivers and their tributaries.

The City has approximately 401 miles of combined sewers which collect and direct stormwater runoff and wastewater to various interceptors, and ultimately to the WPCP. Combined sewers, which are concentrated primarily in the older, central section of the City, represent approximately 33% of the total length of sewers within the City's public collection system. Other types of sewers used for the conveyance of raw wastewater are: sanitary sewers, which represent 58% of the total pipe length in the collection system; and interceptors, which represent approximately 9% of the total pipe length within the collection system. Sanitary sewers, designed to carry only wastewater from residential, commercial, and industrial properties, are located in areas that contain separate systems to transport stormwater runoff. Interceptors are typically a network of the larger diameter sewers (15 inches and greater) within the collection system that transport wastewater from combined sewer systems and separate sanitary sewer systems directly to the WPCP.

Nine Minimum Controls – No. 1

1.0 PROPER OPERATION AND REGULAR MAINTENANCE PROGRAMS

1.1. OVERVIEW

The title of the 1st minimum control is "Proper Operation and Regular Maintenance Programs". Operation and maintenance activities help maximize the treatment of combined sewage by utilizing CSS capabilities. This Chapter will primarily, but not exclusively, focus on maintenance activities. The operation of the collection system is discussed in more detail in Chapters 2 and 4.

The City's Water Pollution Control Maintenance (WPCM) group and its Water Pollution Control Plant (WPCP) group collectively have responsibility for the vast majority of the City's operation and maintenance activities. The WPCM O&M Plan for the CSS (Exhibit A-1) and the WPCP O&M Plan for the CSS (Exhibit A-2), provide an overview of the organization, resources, responsibilities, and operating procedures for each group.

To implement this minimum control the steps involved are: 1) assess how well the existing O&M program is being implemented, 2) determine whether or not the O&M program needs to be improved to satisfy the intent of the NMC Guidance, 3) develop and implement the improvements to address CSOs, and 4) document any actions and report them to the NPDES permitting authority as necessary. The remainder of this chapter will examine each of these steps.

1.2. IMPLEMENTATION OF THE EXISTING O&M PLAN

While the O&M plans at Exhibits A-1 and A-2 are substantial, they are not intended to contain every maintenance procedure undertaken by the City. Indeed, the WPCP alone has hundreds of procedures documented elsewhere in materials kept at the WPCP.

1.2.1 Organizational Structure

The O&M Programs for WPCM and WPCP describe the organization of the City's CSS and the organization of each group. These documents describe the lines of communication, authority, and responsibility. Since 2001, 3 Program Managers and 3 CSS inspectors have been added to the staff responsible for the operation and maintenance of the CSS.

1.2.2 Budget

Utility O&M budgets are prepared annually. The process begins with the development of program budgets by program managers and those responsible for day to day O&M activities. Program budgets are assembled to form departmental budgets which, in turn, are assembled to form group budgets. Group budgets are assembled to form the utility's overall budget. A copy of the City's 2006 O&M budget (including WPCM and WPCP), Exhibit A-3, illustrates this process. Budgets are reviewed at least quarterly, variances are analyzed and any necessary adjustments made.

Department managers meet regularly with group managers and the utility director to review performance. The discussions during these performance reviews and the analysis of budget variances lead to goal and budget modifications. This is done to insure that performance parameters link efforts to results.

1.2.3 Critical Facilities

Section 4 of both Exhibits A-1 and A-2 list and describe the most critical components of the CSS and maintenance activities concerning them. These programs also provide information on the types and frequencies of maintenance activities performed on each component.

1.2.4 Procedures for Maintenance (Routine and Non-Routine) and Emergency Situations

The City has established routes, schedules, and procedures for maintaining (both proactively and in response to equipment failures) the most critical components of its CSS. These are discussed in the attached O&M plans. Emergency plans for a variety of possible situations are located at the WPCP. Contact information for designated staff is within those plans. Contact information for EPA, IDEM and local agencies are also provided to ensure continued proper reporting to regulatory authorities and response actions.

1.2.5 Inspections

The City has established routes, schedules, and procedures for inspecting the most critical components of its CSS. These are discussed in the attached O&M plans.

1.2.6 Training

The City has strong safety training programs. Both WPCM and WPCP have program managers in charge of training. These managers ensure that required periodic training, such as safety or certification renewal training is available to employees. They also provide some skill training such as math and some specialty training such as pump rebuilding.

1.2.7 Periodic Review of O&M Plans

WPCM and WPCP operation and maintained practices are reviewed periodically and modified. New procures are developed following the addition of new equipment and controls.

1.3. IMPLEMENTATION & IMPROVEMENTS

While the City's O&M activities have been effective in maintaining the CSS, especially given the system's size and complexity. However, like any activities, they can be improved. The City will continue to work to do so and will revise its plans following the installation of new control equipment and the identification of improved maintenance methods. .

1.4. RECORDKEEPING

Progress toward implementing this Amended CSO Operation Plan will be documented at Exhibit A-4.

DIRECTORY FOR APPENDIX A
(Items Presented in Order of Appearance in Appendix A)

EXHIBIT A-1

WATER POLLUTION CONTROL DEPARTMENT
Of
FORT WAYNE, INDIANA

WATER POLLUTION CONTROL MAINTENANCE

OPERATION AND MAINTENANCE PLAN

JULY 2006

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1. INTRODUCTION

1.1. PURPOSE, OBJECTIVES, AND GOALS

This report is entitled an "Operation and Maintenance Plan". It describes programs and procedures currently undertaken by the Water Pollution Control Maintenance (WPCM) Department in managing the maintenance of the combined sewer collection system. The WPCM Department provides sanitary sewer and storm water maintenance services in addition to the combined sewer services described in this document.

This report is not an operation and maintenance manual. It does not provide detailed descriptions of specific operation and maintenance functions or system components. These descriptions are provided elsewhere. Rather, this report presents a functional overview of programs, equipment, and personnel in place to manage collection system maintenance on a daily basis for the Water Pollution Control (WPC) Utility.

The WPCM Department is responsible for all in-house sewer collection system related maintenance and repair functions at the WPC Utility. In addition, the WPCM Department is involved in a host of other activities including but not limited to preventive maintenance, reactive maintenance, emergency maintenance, information gathering, system monitoring, scheduling, and maintenance tracking.

Although many of these tasks can be considered preventative or reactive, others are "emergencies" and can not be anticipated. The WPCM Department is aware that the reputation of the WPC Utility in the eyes of the public depends on how it responds to these "emergencies". It should be stated that the majority of "preventative or reactive" work done by the WPCM Department is to address potential problem areas in the collection system before they become "emergencies". The Department expends a significant effort in the following work areas:

- Root and debris removal,
- Internal inspection by closed circuit television (CCTV) to detect pipe defects before they become failures.
- Grease removal
- Caller complaint investigation
- Construction activities (main and structure repair/replacement)

Although it is impractical to detail every function performed by the WPCM Department, Section 5 of this plan emphasizes 5 principal areas of responsibility:

Area	Section
"Request for Service" Procedures	5.1
Preventive Maintenance	5.2
Emergency/Reactive Maintenance	5.3
Maintenance Management System	5.4
Monitoring/Information Gathering	5.5

These topics emphasize the WPCM Department's response capabilities to perform preventive and emergency maintenance in addition to other areas such as maintenance management.

This report is intended to supplement and be consistent with emergency plans and standard operating procedures.

It is hoped that the reader will gain an appreciation of the level of commitment provided by the WPC Utility through its WPCM Department to protect human health and the environment by its programs and activities.

1.2. UPDATING AND MAINTENANCE OF THE PLAN

It is recommended that the WPC Utility update the Plan on an as-needed basis to reflect revisions to the NPDES Permit, construction of new combined sewer collection facilities, and new initiatives that are being undertaken by the WPCM Department.

2. THE WATER POLLUTION CONTROL UTILITY ORGANIZATION

The Water Pollution Control Utility is responsible for the management and operation of the City's sewage collection and treatment system. The Director of Public Works and City Utilities has primary responsibility for the administration of the entire sewage system including; design, construction, operation, maintenance, and repair of all sewers and sewage treatment facilities. The Director manages 4 groups of departments: the Water Resources Group, the Water Pollution Control Plant (WPCP) Group, the Water Pollution Control Maintenance (WPCM) Department, and the Utility Administration (UTA) Group.

The Water Resources Group is responsible for the planning and administration of capital projects, service extension permits, and maintaining all sewer maps. The Water Resources Group is also responsible for planning, evaluating, and development of projects; development, management, and implementation of the capital improvement program; acquisition of easements and property; and project management from conception through design, construction, completion, and acceptance of the project with the goal of project completion on time and within budget.

The Water Pollution Control Plant Group has the responsibility for operating and maintaining the wastewater treatment plant, the package treatment plant, mechanical regulators, and pumping stations. They are also responsible for regulating industrial waste discharges, pretreatment programs, sampling, analytical laboratory operation, and CSO treatment facilities.

The Water Pollution Control Maintenance Department is responsible for inspection, cleaning, and repair and replacement of all sewers, combined sewer outlets and appurtenances. They also provide CSO and SSO monitoring services.

The Utility Administrative Group is responsible for accounting, budgeting, and customer service. They also take the lead in the preparation of rules, regulations, and legislation required to operate the Utility.

3. THE WATER POLLUTION CONTROL MAINTENANCE DEPARTMENT

3.1. ORGANIZATIONAL DESCRIPTION

The Water Pollution Control Maintenance (WCPM) Department is responsible for the inspection, cleaning, and repair and replacement of the wastewater collection system, which includes all combined sewers, separate sanitary sewers, combined sewer regulators and appurtenances. A organizational chart is presented in Figure 3-1. The WPCM Department is organized into 5 functional areas illustrated in Figure 3-2 and introduced below.

Area	Primary Function(s)
1. Maintenance	* Inspections * Cleaning
2. Construction	* Repairs & Replacements
3. CSO Program	* Monitoring CSOs
4. Administrative	* Dispatching * Investigations * Storeroom/Yard Inventory * Budget Development
5. Training	* Training

The purpose of the above listing is to highlight primary functions of the 5 areas. These designations reflect normal day-to-day operations. As can be seen, much of the work done by the WPCM Department relates to information gathering, scheduling, coordination and preventive maintenance. A brief description of each area is below.

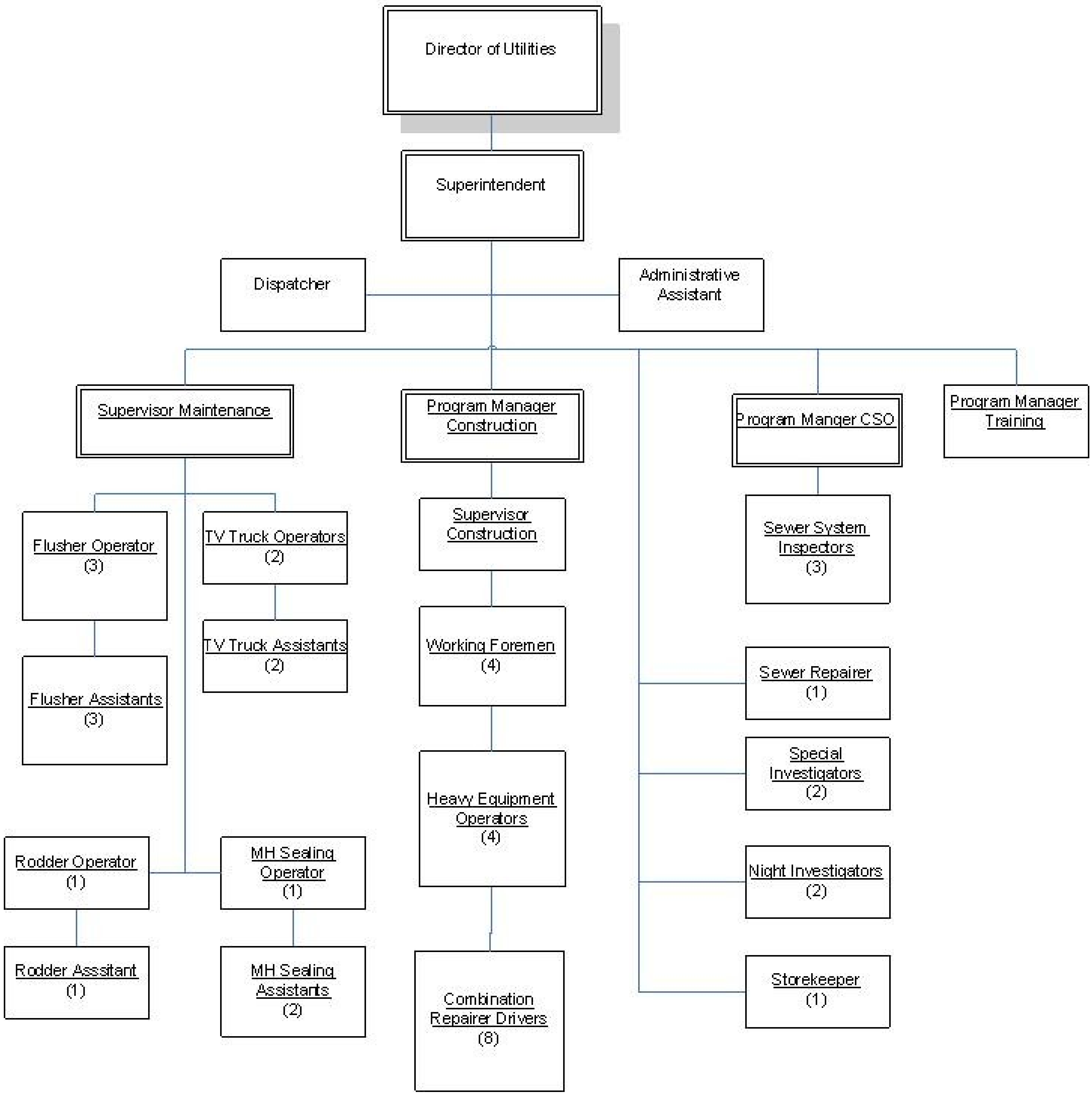
Maintenance: Reactive TV inspection and cleaning as requested by the investigators, other areas of the group, or work requested by other groups of the Water Pollution Control (WPC) Utility are performed in this area. Inspecting and cleaning combined sewers, interceptors and control structures are also done in this area. Details on inspecting and cleaning these sewers may be found in Section 6.

Work related to scheduled preventive maintenance TV inspection and sewer cleaning operations is also done in this area. This area is responsible for overseeing the scheduling of inspections and cleaning for the group.

Construction: The Construction Area teams perform minor to moderately-sized repairs and replacements on various elements of the collection systems.

CSO Program: The CSO Program Area teams collect CSO flow and rain data from flow meters and the rain gage network and prepare required regulatory reports. They also install flow meters and help maintain the meters.

Figure 3-1
WPCM Organizational Chart



Administrative: The dispatcher in this area is the first line of contact with the public. The dispatcher processes reports once the investigators are done with a call. All records are maintained in an organized manner and available to WPC Utility personnel.

Dispatchers collect information over the telephone in a calm, friendly and professional manner. This task may be complicated by the fact that the person calling may be upset, confused or unknowledgeable about the problem being experienced. During normal working hours, the dispatcher works out of the complex at 515 E. Wallace Street. During evenings the night investigators perform the tasks of the dispatcher and work out of the complex at 515 E. Wallace Street. During late night, calls are routed to the night investigators via a pager/call back system. Night investigators in turn investigate complaints or notify “on-call” supervisors if the reported problem warrants additional evaluation or supervision.

The dispatcher is important to the group in that he/she schedules and coordinates “work order” projects based on information collected from investigators. The dispatcher provides an important interface with recommendations made from a “complaint” or “Request for Service” response call once the immediate problem has been addressed. For example, if the recommendation from a “complaint” or “Request for Service” response call is to clean or TV inspect sections of sewer line, he creates a work order and schedules the project.

Administrative support to the WPCM Group and storeroom services are also provided by this area.

Training: This area is responsible for planning, developing, and implementing the training and safety programs for the department.

With the exception of the Administrative Area, each of the functional areas includes a Supervisor or a Program Manager to report to the Superintendent. The Administrative Area is supervised by the Superintendent.

Supervisors or Program Managers hold positions of supervisory authority under the Superintendent and are senior operations staff. Supervisors or program Managers work with the crews to resolve sewer maintenance problems and serve as a liaison between the crews and the superintendent. During normal working hours, there are a number of supervisors who can handle problems as they arise. During evenings and weekends, problems are referred to the “Supervisor on Call”. Supervisors on Call are changed on a rotating basis once every week.

The Superintendent is in charge of the WPCM Department and reports to the Director. Although the Superintendent will normally not be personally involved in most service calls, he/she is administratively responsible for activities performed by the Department, including all fiscal and budgetary matters and coordination with the Director's office. The Superintendent also is a valuable technical resource who is knowledgeable in the design, construction and maintenance of collection systems and is therefore, frequently involved in devising strategies and directing actions to solve the most complicated problems.

In no way does this completely describe all work done by these areas nor reveal how they interact with each other. As will be seen in Section 5 under the "Request for Service" procedures, all groups interact and coordinate to resolve sewer related problems that arise. Although personnel assigned to each group generally perform functions of that particular group, there is a substantial overlap that occurs in solving sewer problems. Most personnel are trained to perform multiple tasks and can be assigned to other groups on a temporary or permanent basis, if necessary.

3.2. FACILITY AND EQUIPMENT DESCRIPTION

3.2.1. Physical Facility

The WPCM Department operates out of a complex at 515 E. Wallace Street. The facility is centrally located within the service area which provides crews timely response to collection system problems.

Besides providing offices and conference space for technical and support personnel, the complex also features large enclosed vehicle and equipment parking, storage areas, and material storage areas both under roof and in yard areas around the complex.

3.2.2. Equipment

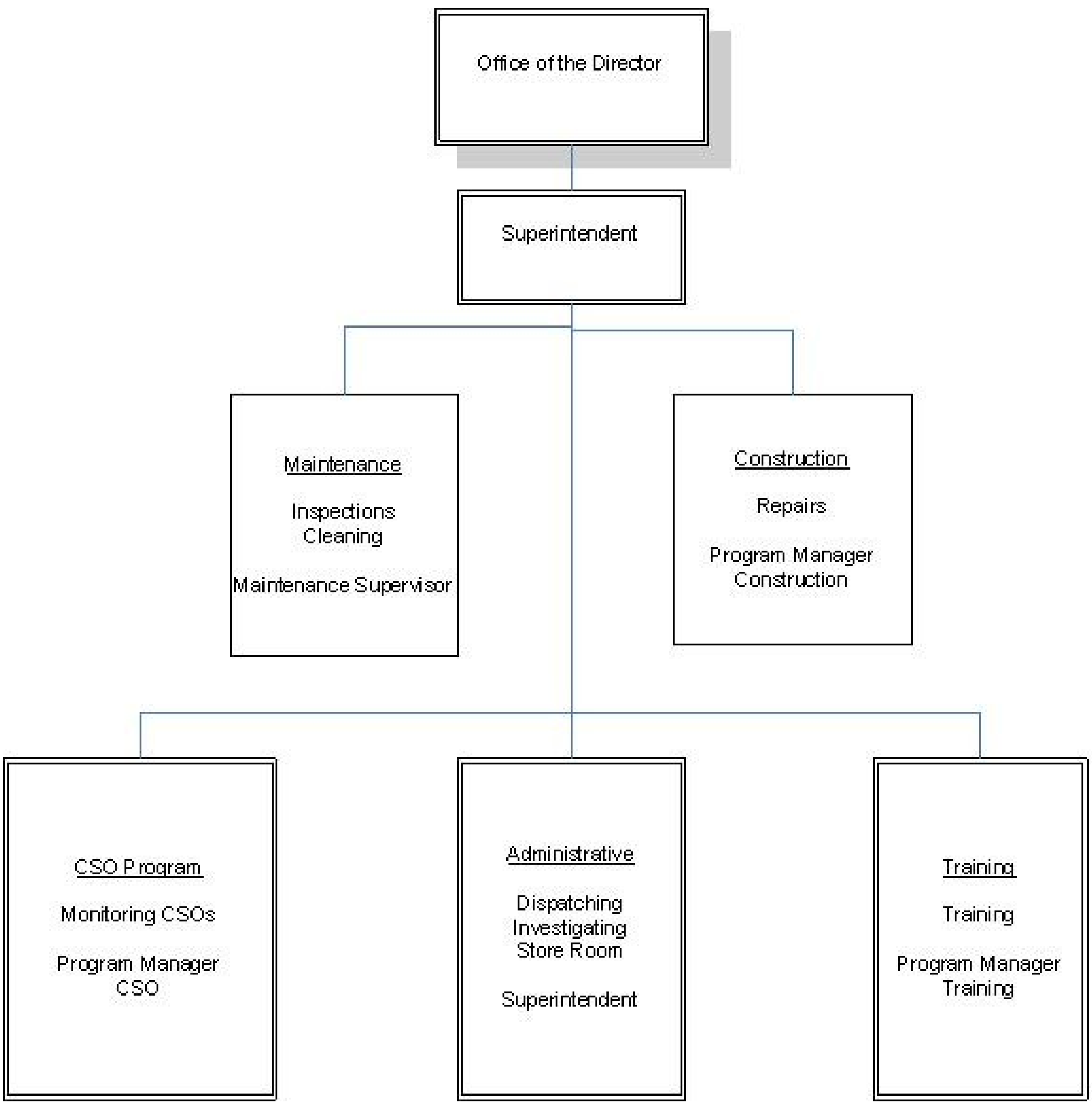
The WPCM Department owns and has ready access to a sizable arsenal of equipment to perform sewer maintenance and repair work for nearly every foreseeable situation. Equipment was purchased based on the needs of the WPC Utility's collection system including difficult to access areas. As such, the WPCM Group owns a wide array of equipment. The equipment currently owned is set forth in Appendix A.

3.3. IMS/GIS

The WPCM Department uses an electronic database to track maintenance activities. The database is called the Infrastructure Management System (IMS). Complaints are logged into this system, work orders are created by the system, and the data is linked to the City's Geographic-Information System (GIS) by structure identification numbers or street address.

The City's GIS is a mapping system which includes natural features (rivers, topography, land use), utility information (sewers, manholes, water mains), property information (property lines, right-of-way lines, addresses, and street segments). The City Utility's GIS Department operates and maintains both the IMS and GIS as they relate to City Utility infrastructure.

Figure 3-2
Functional Areas of WPCM



4. SEWER SYSTEM DESCRIPTION

The Water Pollution Control (WPC) Utility is a municipal sewer operation that has been providing sewer services to the City of Fort Wayne since shortly after the Civil War. The WPC Utility services most of the incorporated areas of the City of Fort Wayne and areas adjacent to the City. Aqua Indiana, a private utility, serves large areas of western and northern Fort Wayne and Allen County. Several communities in Allen County and the Allen County Regional Water and Sewer District operate their own collection systems and transport their sewage to Fort Wayne for treatment. There are large portions of the County that are not sewered.

Figure 4-1 is a large scale map of the WPC Utility's collection system.

The collection system contains (as of July 2006):

- 892 miles of sanitary sewers
- 347 miles of combined sewers
- 427 miles of storm sewers
- 49 lift stations
- 4,957 catch basins
- 12,449 inlets
- 33,576 manholes
- 1 central treatment plant
- 1 package treatment plant

The collection system serves over 80,000 customers.

4.1. COMBINED SEWER SYSTEM COMPONENTS

4.1.1. Sewers and Manholes

4.1.1.1. Capacity

Sewer capacity is measured by multiplying the velocity of flow by the cross sectional area of flow. The design velocity should be 2ft/sec or greater to keep solids in the sewage suspended in the liquid for transportation to the treatment plant.

Gravity sewers are usually designed to carry sewage at a velocity of 2ft/sec when flowing just full. Force mains are usually designed to carry sewage at velocities between 2ft/sec and 8ft/sec.

Manholes should be designed and constructed so they do not create turbulence in the flow that is transported through them. Turbulence can be created by rapid expansion or contraction of channel width or elevation. If channeled properly they will have the same capacity as that of the pipes connected to them.

4.1.1.2. Causes of Poor Performance

4.1.1.2.1. Stoppages

Fats, oils, grease, rags, sticks, gravel, mud, silt and tree roots cause stoppages when they accumulate in a sewer or manhole. When sewer users dump excessive amounts of fats, oils, and grease down a drain it collects on the walls of sewers, hardens, and creates stoppages. Rags can be flushed down a toilet. They can become snagged on sharp protrusions or other obstructions and contribute to stoppages. Sticks, gravel, and mud can enter a sewer through an open manhole or storm water collection point and form dams or snags for other debris. Roots and silt can enter sewers through cracks or unsealed joints. Roots seek sewage as a source of water and nutrients. As they grow they create stoppages and cause additional damage to the pipe. Silt can collect in sharp bend or flats sections of sewer where the velocity decreases and the solids settle out of the liquid creating deposits and eventually stoppages.

4.1.1.2.2. Collapse

Collapsed sewers are encountered frequently in sewer sewage collection systems. These failures may result from any one of several causes. Common causes of collapse are discussed below.

4.1.1.2.2.1. Improper Pipe Bedding

Where the sewer pipe is laid in a trench that has a rock bottom, or where it is laid in a trench where rock protrudes, the sewer will fail because of a lack of uniform bearing unless proper bedding is provided. A concentrated load will develop and the pressure, instead of being uniformly supported by the entire pipe, will be exerted at the single point of contact between pipe and rock.

4.1.1.2.2.2.Failure Due to Live Loads

Pipe laid with insufficient cover may be broken by a surface load imposed on it by traffic or by some piece of construction equipment such as a grader or a heavy tractor. It is desirable to have a minimum of 3 feet of cover over the sewer.

4.1.1.2.2.3.Failure Due to Earth Movement

Sewers can be damaged by earth movement caused by frost-heaving or shifting dirt. Sewers should be constructed below the frost line. Proper shoring techniques can provide protection to existing sewer lines from cave-ins.

4.1.1.2.2.4. Root-Growth Damage

Roots can enter a sewer through small cracks or joints that are not properly sealed. As the root grows it can displace or crush a pipe.

4.1.1.2.2.5. Failure due to Improper Jointing

If a joint is not made correctly during construction a cave-in eventually occurs as the surrounding soil is washed away. When a hole is knocked into a pipe to make a lateral connection, the lateral pipe can protrude into the main sewer and cause a stoppage as well as form a bad joint and/or cause a cave-in.

4.1.1.2.3. Infiltration

Sewers that are not water tight allow ground water and rain induced flows in the sewer’s bedding to enter the sewer and use up capacity that could be used by sewage. The same things that cause collapse allow infiltration.

4.1.1.2.4. Odor

Gasses that smell bad are created when sewage is decomposed into basic compounds by particular types of bacteria. This can create an odor problem in the collection system when this type of decomposition occurs in the collection system and when the gas created by this process if released from sewage during turbulence.

4.1.1.3. List of Components

There are over 347 miles of sewers in the combined sewage collection system. That translates into roughly 6,400 sewer segments. All segments are mapped in GIS and have individual SIP #, but it would not be practical to list all those segments here. However, there are many characteristics of a sewer segment that make it more critical than other segments. The failure of a large sewer creates bigger problems than the failure of a smaller sewer. Overflows are particularly sensitive to those segments that carry flow to the treatment plant and are just downstream of regulators. Inverted siphons require frequent maintenance as do sewers that are laid on a flat grade. Sewers that are subject to exceptional loading can have frequent problems.

4.1.2. Diversion Structures

4.1.2.1. Capacity

Diversion structures, at a minimum, should be able to direct peak dry weather flows to the WPCP for treatment.

4.1.2.2. Causes of Poor Performance

The diversion structure opening that allows flow to go to the Publicly Owned Treatment Works (POTW) is usually much smaller that the opening that allows flow to enter the diversion structure. Large pieces of debris can enter the structure through the large opening but become lodged in the smaller opening causing a blockage and overflows to the receiving waters.

4.1.2.3. List of Components

The diversion structures are listed in Structure Inventory Program (SIP)# order in Table 4-1. Structure type, diversion method, and whether or not there is a regulator associated with this diversion structure are indicated in the table. The subbasin where the diversion structure is located and its discharge point's SIP# and permit # are also provided for cross reference.

4.1.3. Discharge Points

4.1.3.1. Capacity

The capacity of a discharge point is dependent upon the receiving water's stage. When the receiving water is up and covering the discharge point nothing can flow into the receiving water until the water level in the discharge pipe rises above the receiving water level. This can cause basement backups or sewer overflows in streets or yards in some situations. When this is a possibility pumps should be utilized to discharge overflows into the receiving waters.

4.1.3.2. Causes of Poor Performance

Erosion damage to structures, improper adjustment of tide gates, and debris preventing tide gates from closing tightly are the most common causes of poor performance.

4.1.3.3. List of Components

The discharge points are listed in SIP# order in Table 4-2. Information on size, presence of a headwall, tide gate type if applicable, and sluice gate normal position if applicable are indicated in the table. The subbasin where the discharge point is located, associated upstream diversion structure(s) (regulator(s)), and discharge point's permit # are also provided for cross reference.

4.1.4. Catch basins

4.1.4.1 Capacity

The capacity of a catch basin is dependent on the grate on top of the structure that allows storm water into the structure and the elbow and discharge pipe leading from the structure to the sewer.

4.1.4.2. Causes of Poor Performance

The most common causes of poor performance of a catch basin are a plugged inlet grate or debris and sediment in bottom of structure causing elbow to be partially plugged.

4.1.4.3. List of Components

There are 4,957 catch basins in the combined sewage collection system. Every catch basin is mapped in GIS and have individual SIP #'s, but it would not be practical to list all those segments here.

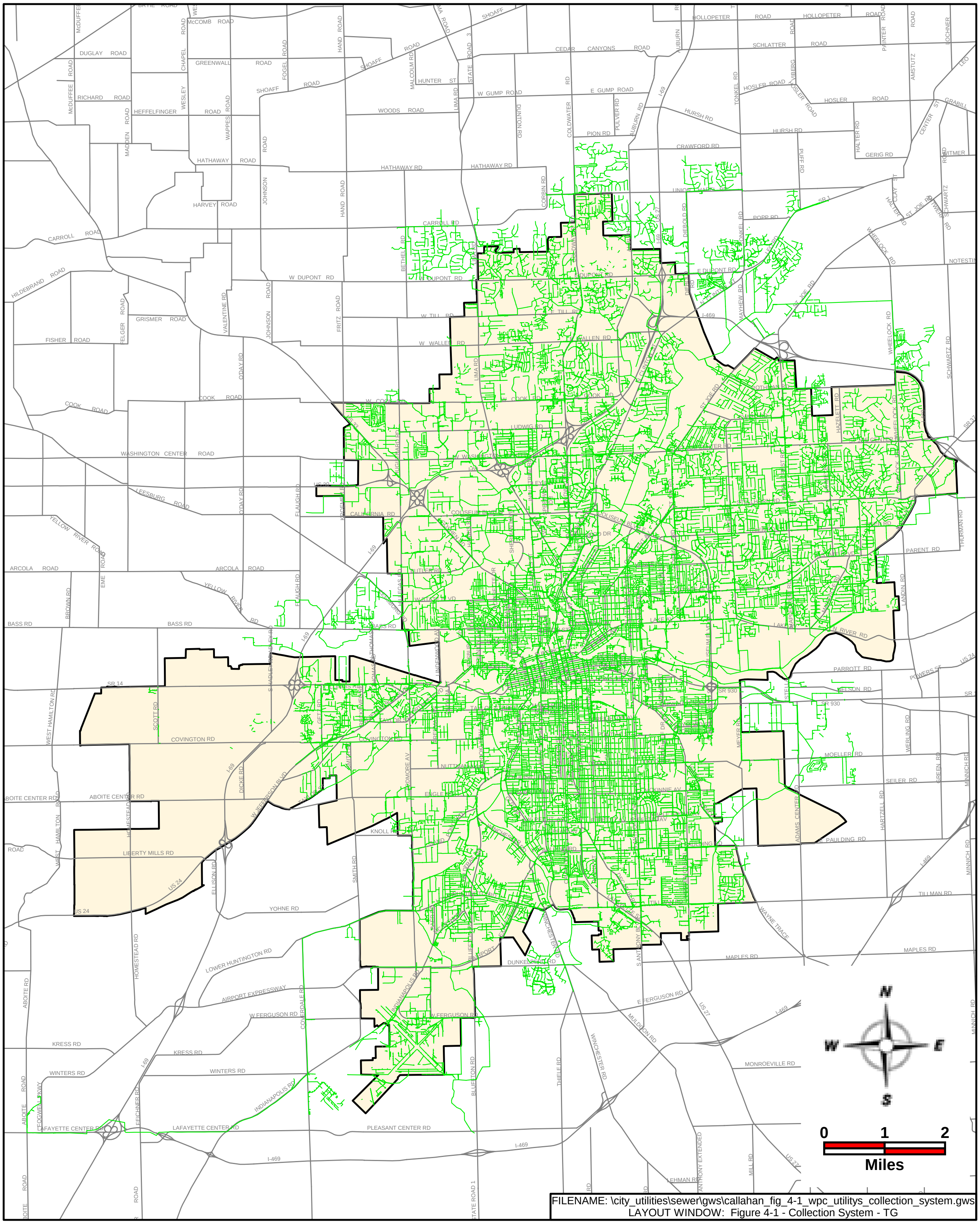


FIGURE 4-1
WPC UTILITY'S COLLECTION SYSTEM

Table 4-1

DIVERSION STRUCTURE LIST
July 2006

Structure SIP #	Structure Type	Diversion Method	Associated Regulator	Subbasin	Discharge Point SIP#	Discharge Point Permit #
J02-089	RS	D	YES	J02-089	J02-090	004
J03-267	RS	OP,SW	YES	J03-012	J03-313 & K03-092	056 &007
J11-163	BT&D	D	YES	K11-004	J11-164	005
K06-231	BT&D	D	YES	K06-290B	K06-233 & K06-234	011 &012
K06-275	RS	OP	YES	K06-290B	K06-298	013
K06-285	RS	D	YES	K06-290A	K06-298	013
K07-006	MH	OP	NO	K07-026	K07-109	016
K07-101	MH	OP	NO	K06-026	K07-106	014
K07-115	MH	OP	NO	K07-026	K07-106	014
K07-171	BT&D	D	YES	K07-026	K07-176	017
K11-162	BT&D	D	YES	K11-010	K11-178	019
K11-163	BT&D	D	YES	K11-010	K11-165	018
K15-009	BT&D	D	YES	K15-009	K15-116	020
K15-110	RS	DC	YES	K15-112	K19-077	067
L06-086	BT&D	D	NO	L06-086	L06-421	025
L06-088	BT&D	D	NO	L06-087	L06-420	024
L06-102	CB	DC	NO	L06-078	L06-103	023
L19-018	RS	D	YES	L19-252	K19-018	021
M06-706	BT&D	D	NO	M06-719	M10-306	032
M10-150	RS	D	YES	M10-120	M10-151	026
M10-198	BT&D	D	NO	M10-120	M10-202 & M10-313	027 & 033
M10-199	BT&D	D	NO	M10-120	M10-202 & M10-313	027 & 033
M10-256	BT&D	D	NO	M10-250	M10-265	029
M10-279	CB	SW	NO	M10-237	M10-238	028
M10-309	BT&D	D	NO	M06-044	M10-265	029
M18-256	RS	D	YES	M18-256	M18-032	036
N06-007	RS	D	YES	N06-007	N06-022	039
N18-241	MH	OP	NO	N22-005	N18-254	068
N22-092	RS	DC	YES	M18-261	N22-093	044
N22-101	MH	DC	NO	M18-261	N22-103	045
O10-273	CB	SW	NO	O06-017	O10-277	050
O10-311	CB	SW	NO	O10-101	O10-252	048
O19-009	RS	D	YES	N23-078	O23-080	054
O22-045	MH	D	NO	O22-092	O22-002	051
O22-095	MH	SW	NO	O22-092	O22-094	053

Table 4-1

P06-014	RS	D	YES	P06-014	P10-121 & Pond 2	057 & 002
P06-119	RS	D	YES	P06-119	P06-192	055
P18-089	MH	OP	NO	O10-101	P10-001	080*
P18-150	MH	OP	NO	O10-101	P10-001	080*
P18-155	MH	OP	NO	O10-101	P10-001	080*
P22-001	CB	SW	NO	O22-061B	O22-004	052
P22-139	MH	D	NO	O22-061B	O22-004	052
Q03-011	CB	SP	NO	Q06-022	S02-035	064
Q06-036	MH	DC	NO	Q06-049	Q06-034	058
Q06-057	CB	OP	NO	Wayne St. Interceptor	P10-121 & Pond 2	057 & 002
Q07-022	CB	SP	NO	Q06-022	S02-035	064
R06-030	BT&D	D	NO	Q06-002	R06-031	060
R18-188	RS	D	YES	R14-075	R14-138	062
S18-070	CB	OP	NO	R14-033	R14-032	081*
S18-071	CB	OP	NO	R14-033	R14-032	081*
S18-082	MH	D	NO	R14-033	R14-137	061*

**assumed number, to be determined/verified upon proposed NPDES permit modification*

Structure Type Legend

- BT&D – Blind Tap & Dam
- CB – Concrete Box
- MH - Manhole
- RS – Regulator Structure

Diversion Method Legend

- D - Dam
- DC – Depressed Channel
- OP – Overflow Pipe
- SP – Split Pipe
- SW – Side Weir

Table 4-2
Discharge Points
Jul-06

	PERMIT		UPSTREAM			TIDE		SLUICE	NORMAL
SIP#	#	SUBBASIN	REGULATOR(s)	HEADWALL	SIZE	GATE	TYPE	GATE	POSITION
J02-090	4	J02-089	J02-089	yes	24"	yes	duckbill	no	
J03-313	56	J03-012	J03-267	yes	2-36"	yes	flap	no	
J11-164	5	K11-004	J11-163	yes	66"	yes	flap	no	
K03-092	7	J03-012	J03-267	yes	60"	yes	flap	yes	closed
K06-233	11	K06-290B	K06-231	yes	72"	yes	flap	yes	closed
K06-234	12	K06-290B	K06-231	yes	2-36"	yes	flap	yes	open
K06-298	13	L06-290A&290B	K06-275&285	yes	72"	yes	flap	no	
K07-106	14	K07-026	K07-101&115	no	12"	no		no	
K07-109	16	K07-026	K07-006	no	15"	no		no	
K07-176	17	K07-026	K07-176	yes	42"	yes	flap	no	
K11-165	18	K11-010	K11-163	yes	126"	yes	flap	no	
K11-178	19	K11-010	K11-178	yes	42"	yes	flap	no	
K15-116	20	K15-009	K15-009	yes	6'x6'	yes near regulator	flap	no	
K19-044	21	L19-252	L19-018	yes	66"	yes	flap	no	
K19-077	67	K15-112	K15-110	yes	24"	yes	flap	no	
L06-103	23	L06-078	L06-102	yes	48"	yes	flap	no	
L06-420	24	L06-087	L06-088	yes	72"	yes	flap	no	
L06-421	25	L06-086	L06-086	yes	60"	yes	flap	no	
M10-151	26	M10-120	M10-150	yes	4-6'x6'	yes	flap	yes (2)	open
M10-202	27	M10-120	M10-199	yes	72"	yes	flap	yes	closed
M10-238	28	M10-237	M10-279	yes	30"	yes	flap	yes	open
M10-265	29	M10-250&M06-044	M10-256&309	yes	48"	no		yes	open
M10-306	32	M06-711	M06-706	yes	60"	?		no	
M10-313	33	M10-120	M10-199	yes	4-42"	yes	flap	no	
M18-032	36	M18-256	M18-256	yes	24"	yes	flap	no	
N06-022	39	N06-007	N06-007	yes	60"	no		no	
N18-254	68	N22-005	N18-241	yes	36"	yes	flap	yes	open
N22-093	44	M18-261	N22-092	yes	12"	yes	flap	no	
N22-103	45	M18-261	N22-101	yes	12"	yes	flap	no	
O10-252	48	O10-101	O10-311	yes	5-30"	no			
O10-277	50	O06-017	O10-273	yes	36"	yes	flap	no	
O22-002	51	O22-092	O22-045	yes	42"	yes	flap	yes	open
O22-004	52	O22-061B	P22-139&001	yes	48"	yes	flap	no	
O22-094	53	O22-092	O22-095	yes	18"	yes	duckbill	yes	open
O23-080	54	N23-078	O19-009	yes	48"	no		no	
P06-192	55	P06-119	P06-119	yes	48"	yes	flap	no	
P10-001	80*	O10-101	P18-089,150,&155	yes	72"	yes	duckbill	yes	open
P10-121	57	P06-014&Wayne	P06-014&Q06-057	yes	3-7'x7'	yes	flap	no	
Q06-034	58	Q06-049	Q06-036	yes	24"	yes near regulator	flap	no	
R06-031	60	Q06-002	R06-030	yes	42"	yes	flap	no	
R14-032	81*	R14-033	S18-070&071	yes	54"	no		no	
R14-137	61	R14-033	S18-082	yes	42"	no		no	
R14-138	62	R14-075	R18-188	yes	60"	yes	flap	no	
S02-035	64	Q06-022	Q07-022&Q03-011	yes	102"	no		no	

**assumed number, to be determined/verified upon proposed NPDES permit modification*

5. OPERATION AND MAINTENANCE PROGRAM

As is seen from the discussion in Section 3, the WPCM Department is involved in a number of wide-ranging activities including but not limited to preventive maintenance, reactive maintenance, emergency maintenance, information gathering, system monitoring, scheduling, and data and project tracking.

For purpose of clarity, it should be stated that the discussion presented in Section 3 emphasizes activities generally considered to be preventative or reactive. The following topics emphasize other aspects of the WPCM Department's response capabilities for preventive and emergency maintenance, the Department's maintenance management system, and other monitoring and information gathering activities.

Area	Section
"Request for Service" Procedures	5.1
Preventive Maintenance	5.2
Emergency/Reactive Maintenance	5.3
Maintenance Management System	5.4
Monitoring/Information Gathering	5.5

This plan will be subject to modification by the Director of the WPC Utility to account for changes in circumstances such as changes in the configuration of WPC Utility facilities, the purchase of new equipment, changes in regulatory requirements, the development of new technologies, or changes in industrial standards/best management practices.

5.1. "REQUEST FOR SERVICE" PROCEDURE

"Request for Service" or "Complaint" calls are those initiated by the public in response to sewer related problems. Typically those may include water-in-basement complaints, or reports of sewage in streets. In many instances these calls end up being false alarms in that no real problem is occurring and the caller only perceived that a problem was occurring. In other instances, WPC Utility finds that the "problem" is due to problems with building service lines (e.g. building service laterals) on private property or a privately owned sewer line.

Although not all "Request for Service" or "complaint" calls are bonafide emergencies, all require a prompt response. The "Request for Service" procedures outlined here provide insight into the coordinated efforts of all members of the WPCM Department and how they work together as an integrated team.

"Request for Service" calls also provide the WPCM Department with valuable information. For example, a sewer line may need frequent root removal. In this manner, this particular line may be added to the pool of root removal project sites and scheduled in the future as “preventive maintenance” rather than “emergency or reactive maintenance.”

The process utilized by WPC Utility to respond to “Request for Service” or “complaint” calls is defined in the Process Flowchart shown in Figure 5-1. This procedure includes all calls received at WPC Utility, regardless of whether a sewer overflow has occurred.

Each step of the flow chart is described below.

Step 1 – Dispatcher Receives Telephone Call

Request for service calls are received by the Dispatcher at the 427-1255. Dispatchers are trained to elicit information on the exact nature and magnitude of the problem, including whether the sewer problem is on private property or in the WPC Utility owned main-line sewer.

Step 2 – Dispatcher Logs Basic Information in Log Book

At this time, the Dispatcher manually logs key information into the “Log Book”. Information to be obtained is as follows:

- Name of the person calling,
- Phone number of the person calling,
- Date and time the call was received,
- Location of the problem, and
- Type of problem.

A reproduction of a page from the Log Book is attached as Appendix “B”.

Step 2A – Dispatcher Creates a Work Order for the Investigation

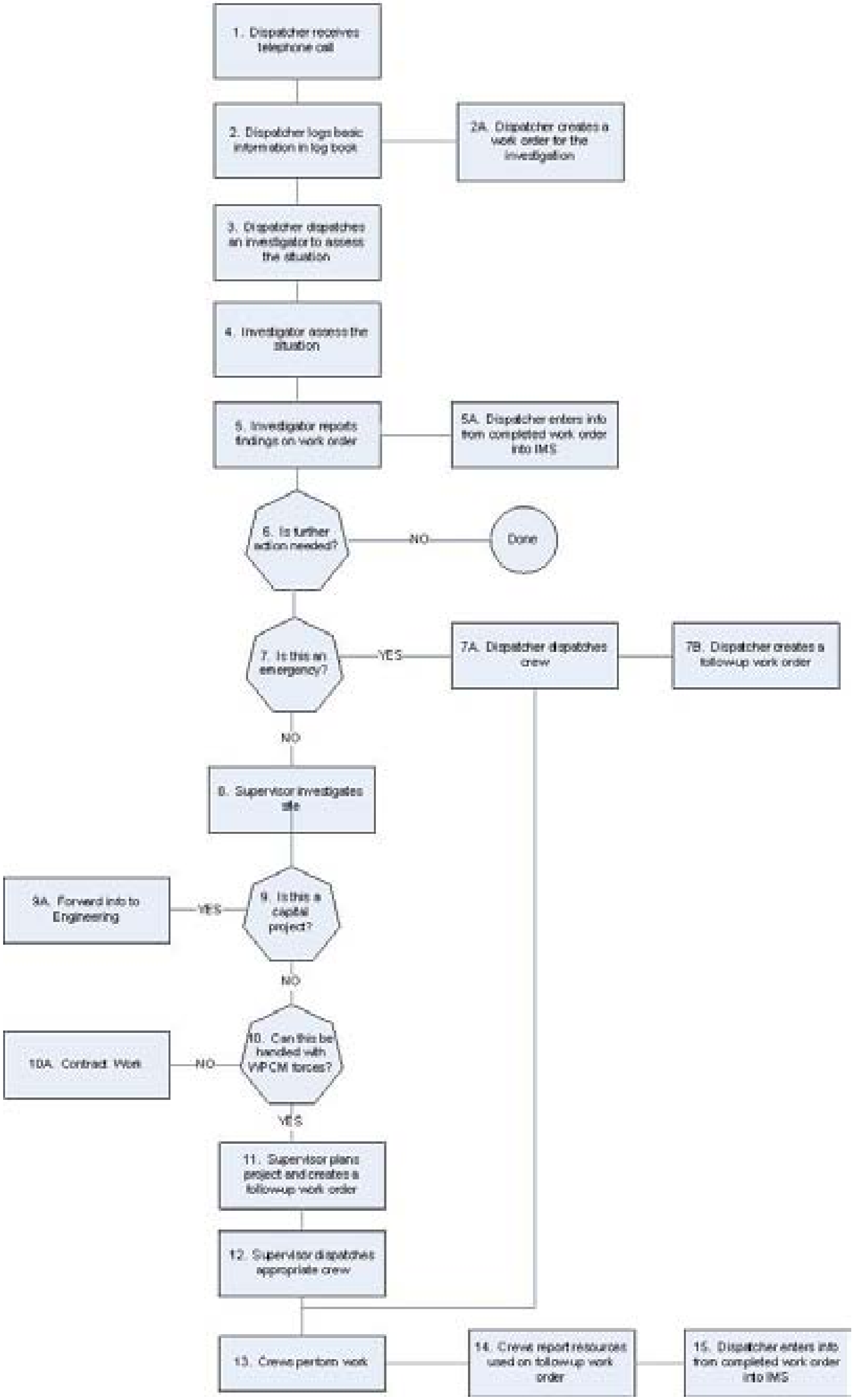
The Dispatcher enters the information from the “Log Book” into the IMS database and prints a work order. A reproduction of the “Work Order Entry Screen” is attached as Appendix “C”.

Step 3 – Dispatcher Dispatches an Investigator to Assess the Situation

The Dispatcher pages Investigators by radio to respond to the service call. An Investigator has a pickup truck containing some hand tools and a few barricades.

Step 4 – Investigator Assesses the Situation

Figure 5-1
"Request For Service"
Process Flow Chart



During this step, the investigator arrives on site and locates the problem. If needed, the investigator places the initial barricades. The investigator then attempts to determine the cause of the problem.

Step 5 – Investigator Adds Findings to Work Order

The findings are reported to the Dispatcher. When the investigator returns to the office he adds the findings to a hard copy of the investigation work order.

Step 5A – Dispatcher Enters the Information from the Completed Work Order into IMS

Step 6 – Is Further Action Required?

At this point the Investigator has assessed the situation and reported to the Dispatcher if further action is needed.

Step 7 – Is This an Emergency Situation?

In addition to reporting the need for additional action to the Dispatcher the Investigator has indicated if emergency action is required or if routine action is required.

Step 7A – Dispatcher Dispatches Crew.

If emergency action is required the dispatcher dispatches an appropriate crew. If the situation merits discussion with a supervisor the appropriate supervisor is contacted.

Step 7B – Dispatcher Creates a Follow-up Work Order.

The Dispatcher enters the dispatch information in the IMS database and prints a work order.

Step 8 – Supervisor Investigates Site.

The supervisor determines site conditions and crew requirements.

Step 9 – Is This a Capital Project?

The supervisor determines if this could be included in a current capital project. If it could be a capital project the Supervisor checks with Engineering.

Step 9A – Forward Site Information to Engineering.

If it is determined that the work is or should be part of a capital project the Supervisor should forward all inform he has to Engineering.

Step 10 – Can This Work Be Handled With WPCM Forces?

The Supervisor determines if WPCM Group has the required resources to perform the required work.

Step 10A – Contract Work.

If the Supervisor determines that the WPCM Group does not have the required resources he solicits bids from contractors.

Step 11 – Supervisor Plans Project and Creates a Follow-up Work Order.

The Supervisor obtains the required locates, permits, traffic plans, and notifications. Then the Supervisor finishes the follow-up work order that provides the appropriate crew with the information that they need to complete the required tasks.

Step 12 – Supervisor Dispatches Crew.

The supervisor gives the appropriate crew the follow-up work order and sends them to the site.

Step 13 – Crews Perform Work.

Step 14 – Crews Report Resources Used On Follow-up Work Order.

Crews record labor hours, equipment hours, and material used on the hard copy of the follow-up work order.

Step 15 – Dispatcher Enters Information From the Completed Work Order Into the IMS.

5.2. PREVENTIVE MAINTENANCE

The previous section outlines “Request for Service” procedures utilized by the WPCM Department. Although the WPCM Department recognizes that some emergencies are inevitable, the Department places a premium on preventive maintenance to minimize the occurrence of future “emergencies.”

Many of the programs administered by the WPCM Department were introduced in Section 3 along with a discussion as to which functional area was in principal charge. Although many of the Department's specific procedures relating to preventive maintenance are outlined in the Section 6**,** the Department relies on the use of CCTV to provide information that drives the subsequent maintenance activities. In part information obtained from CCTV is entered into the televising database described in Section 5.4.

For purpose of preventive maintenance the WPCM Department generally selects lines to be CCTV inspected on the following basis:

- Sewers located in areas of reported basement flooding
- Sewers located in areas of repeated requests for service
- Sewers located in areas of planned public improvements

Information gained from CCTV work is entered into the database described in Section 5.4. This database assists the WPCM Department in deciding which lines need additional maintenance and repair, what type of action is appropriate, and when this work may be required.

Based on the findings obtained from CCTV, the WPCM Department may perform one or more of the following activities:

- Perform additional line cleaning/root removal
- Perform minor repairs
- Recommend a Capital Improvement Project

Each of these activities is described further below:

Perform Additional Root Removal and Sewer Cleaning

In many instances the WPCM Department will discover that the available capacity in a sewer line may be reduced by the presence of roots, grease, grit material and other debris. By removing these obstructions, the available capacity in a line can be effectively restored.

Perform Minor Repairs

In other instances, CCTV inspection work will reveal situations where a minor or moderate repair is warranted. Typical repairs performed by the WPCM Department include point repairs on main line sewers, manholes, or force mains.

Recommend a Capital Improvement Project

In other instances the WPCM Department will work with other divisions in WPC Utility to formulate a capital improvement project.

Annual Preventive Maintenance Target Goals

Wastewater Collection System Gravity Sewer Information:

1,539 miles (total) of combined and sanitary sewers

The WPCM Department is presently implementing a Preventive Maintenance Program for Sewer Cleaning and CCTV Inspection.

Targeted yearly production rates for this program currently are:
- Degrease 520,000 linear feet of sewer pipe per year
- De-root 210,000 linear feet of sewer pipe per year
- Clean 5,600 catch basin and inlet structures per year
- Televise 135,000 linear feet of sewer pipe per year
- Clean 95,220 feet of sewer pipe per year (as a support to the TV program)
- Flush 130,000 linear feet of sewer pipe per year

5.3. EMERGENCY/REACTIVE MAINTENANCE

The WPCM Department understands that while emergencies are unavoidable and cannot be always anticipated, it is imperative to know how to respond when an "emergency" does occur. The "Request for Service" procedures in the earlier part of this section provide an introduction to the types of actions typically performed by the Investigators when encountering a problem.

Emergency contractors are used to assist the WPCM Department with larger maintenance and repair projects. A procedure for hiring contractors to perform emergency repairs has been established. The conditions may vary to a degree as to when emergency contractors are mobilized; however emergency contractors are generally used for larger maintenance and repair projects.

5.4. MAINTENANCE MANAGEMENT SYSTEM

The WPC Utility has developed a program with the goal of creating a comprehensive database that tracks pending and completed work as well as aids in the estimation of cost. In addition to this the Utility wanted the information made easily available for everyday use.

The GIS tracking system is a linking of graphical and attribute data displayed through its Geomedia Professional software. The graphical data consists of manhole and sewer segment identification from the GIS. The attribute data consists of data entered directly from work orders issued for maintenance or inspection.

5.4.1. The maintenance Process

Request for Maintenance Work

The request can come from other WPC Utility Groups, other WPCM Sections, WPC Utility Contractors, City Departments as well as from homeowners. The “Request for Service” is entered into the IMS database and referred to a Supervisor. The information entered is:

Who requested the work,
What type of work is to be done,
Where is the work to be performed (address),
When the request was made, and
Why the work is being requested.

Graphically Assigning the Work

The Supervisor can find out the sewer size, length, upstream and downstream manhole numbers (e.g. sewer segment) by looking up the address on the City’s paper quarter section maps or by utilizing the GISweb a digital mapping intranet system. He can also see if any work has been done at the work address by accessing the IMS database. A copy of the quarter section map can be made to accompany the work order.

Databases

The WPCM Department utilizes a computerized management system to handle work orders.

Information from each complaint or work order is entered into the maintenance database. Maintenance database fields are as follows:

- Work Order Tracking Number
- Date Work Order Created
- Crew to be assigned to Work Order
- Problem Location
- Date/Time Service Request Received
- Employee who Received the Request
- Priority
- Map area
- Department responsible for work
- Comments to instruct crew

This information is saved as a pending job. Maintenance work can then be assigned by type of work and/or other considerations.

Once the maintenance work order is completed the data from the work sheets is entered into a data base. This database is able to compute job cost.

The Group has found these databases to be very useful in scheduling preventive maintenance such as root removal. Root removal from sewer lines is a continuous maintenance problem that needs to be performed on a regular basis for some sewer segments. By searching the data base WPC Utility is able to determine what sewer segments need periodic maintenance and how often.

5.4.2. Maintenance Tracking Database

Collection system maintenance activities are recorded and tracked in the IMS database. Activities that are directly related to union productivity bonus tracking are also tracked in a Microsoft Excel spreadsheet, because the IMS system does not track activities in as great a detail as management needs for this matter. This work includes, but is not limited to, TV inspection, flushing, derooting, degreasing, structure cleaning and inspections, and structure and main repairs and replacements. Work orders are generated from the Request for Service process, the scheduled maintenance program or other sources. The work request is entered into the system and assigned by a WPCM dispatcher or supervisor to a WPCM crew. As work is completed, information from the field crew is entered into the database. The system tracks the status of the work (assigned, complete, follow-up work required), the type of activity performed (flushing, vacuum, deroot, degrease, structure repairs, adjustments, etc), and findings of the field crews that either describe work performed or suggest additional work is necessary. This system is also utilized to schedule preventative activities (derooting, degreasing, structure cleaning, etc.). All maintenance activities are included in this system to provide a comprehensive record of all maintenance work completed throughout the system.

5.4.3. TV Inspection Database

A CCTV Inspection database, called Rapidview, is also utilized to monitor the condition of the system. As the CCTV investigation of a section of sewer is conducted, the crews enter their findings into the database on a computer mounted in their truck. When the inspection is complete, data is moved from the truck to the WPCM Department office to be uploaded into the Televising Data server and printed reports of the findings are reviewed by the Maintenance Supervisor. If the inspection reveals poor main conditions, the Maintenance supervisor may create additional work orders for additional maintenance/repair work or send the inspection information to the Engineering Group for their review. At this time, the

Televising Database and the Maintenance Tracking Database are completely separate systems that do not link together.

5.4.4. Project Tracking Database

Minor to moderate repair projects, such as main line repair, joint repair, building lateral repair, force main repair, collapsed pipe, structure, etc. are tracked by the WPCM Construction Supervisor in a Microsoft Excel spreadsheet that was designed in-house specifically for this process. The projects are listed by street address and include descriptions of the work to be done. As repair projects are identified, they are added to the spreadsheet to be scheduled. Once the project is scheduled, the Construction Supervisor will use the IMS Maintenance Tracking system to generate a Work Order for the appropriate crew. This action will create a Work Order number, and the system will track the type of work that needs to be performed, location, crew assignments and any additional instructions for the crew. The project is then assigned to a WPCM construction crew. Upon completion of the project, information from the construction crew is added to the IMS system, including length of pipe repaired or replace, supplies used to complete the project, and any other comments.

Large repair projects are contracted out, and at this time do not go into the IMS system for tracking.

Data from the Maintenance, Televising and Project Tracking systems can be linked to the City Utilities' GIS and can be mapped or compared to other existing data.

5.4.5. Inventory Management System

Collection system maintenance equipment and replacement parts are maintained by the City's Fleet Management Group. Supplies and material used for collection system repair and maintenance include, but are not limited to, pipe, precast concrete manhole components, castings, fittings, etc. The WPCM Department maintains an inventory of replacement parts presently valued at $54,000. The supply levels and materials usage costs are tracked by a Microsoft Access database designed in-house specifically for this process.

5.5. MONITORING/INFORMATION GATHERING

The WPCM Department is involved with the collection of primary data through the flow monitoring programs conducted with City owned equipment and City employees. Two examples of these are the SSO monitoring program and the CSO monitoring program. Each is introduced below.

SSO Monitoring

The current SSO Monitoring Program Originated in 2003 with the issuance of Administrative Order V-W-03-AO-07. It is discussed in the report entitled Inspection of Sanitary Sewer Overflows.

CSO Monitoring

This program is discussed in the report entitled CSO Monitoring Program. The program has been in place since April of 2005.

6. INSPECTING, CLEANING, AND REPAIRING

6.1. GENERAL

The purpose of collection system maintenance is to make sure the collection system (meaning all its components) performs as intended. This is accomplished through inspections, cleaning, and repairs.

Inspections assess the condition of a component and establish the need for reinspection, cleaning, repair, and replacement. Fort Wayne uses structural and operational inspections. Structural inspections are used to determine the structural integrity of a component. Operational inspections are used to determine if a component is performing as intended in the system.

Cleaning removes accumulated substances from a system component. Excessive accumulation can lead to corrosion, blockages, equipment malfunction, and odor. Many methods can be employed to clean components. The best method depends on the component and what needs to be removed.

Repairs restore the structural integrity of a worn or broken system component.

Maintenance methods and frequencies are discussed below by component.

6.2. COMPONENT MAINTENANCE

6.2.1. Sewers and Manholes

6.2.1.1. Inspections

6.2.1.1.1. Purpose

Inspections can be used to determine the structural integrity of the system's components, performance of the system, or the cause of poor system performance. Manhole inspections, pulling a mandrel through sewers, and closed circuit televising (CCTV) are all used to determine the structural condition of sewers. Metering and user observations are used to detect sewer performance problems. Visual inspections of surface conditions, manhole inspections, smoke testing, dye testing, and CCTV are all used to determine the causes of poor system performance.

6.2.1.1.1.1. Visual Inspection of Surface Conditions

Sidewalk irregularities; cracked, settled, or dipped pavement; or depressions along the path of the pipe are indicators. If a joint is bad or a pipe is broken, wastewater may wash away the surrounding soil and create a cavity beneath the surface. Sometimes the weight of the overlying soil is enough to cause collapse and a depression at the surface. In easements, these depressions can be seen a flooded or sunken areas along the pipe route.

6.2.1.1.1.2 Manhole Inspections

A visual inspection of a manhole can detect missing bricks, concrete, or rungs; water seepage through the barrel or rim risers of the manhole; or broken rims and covers. Signs of bedding material in the invert suggest a breech of collapse in the upstream line. Deteriorated steps may indicate the presence of corrosive gases, possibly hydrogen sulfide. Evidence of high water or surcharging indicate partial blockages or excessive flow.

6.2.1.1.1.3.Pulling Mandrels

Offset joints, collapsed pipe, or protruding laterals can be detected by pulling a mandrel slightly smaller than the inside diameter of a sewer through the sewer. Accumulation of debris and other substances that restrict flow can also be detected. If the mandrel won't go through a problem exists.

6.2.1.1.1.4.Closed Circuit Televising

CCTV can be used to locate and describe pipe corrosion, cracks, offset joints, pulled joints, collapses and other structural failures. Points of infiltration, material deposits, illegal service connections, and causes of stoppages can also be located and described through CCTV.

6.2.1.1.1.5.Metering

Flow measurements can be used to determine I/I volumes by comparing dry and wet weather measurements. In some cases, flow measurements are used to detect wastewater leaking out of the pipe (overflows).

6.2.1.1.1.6.Smoke Testing

Smoke tests reveal roof, footing, and yard drain connections, as well as leaky manholes, cracked and leaky pipes, poor joints, and missing caps.

6.2.1.1.1.7.User Observations

Users report performance deficiencies such as backups, odor, and settlements.

6.2.1.1.2. Procedures

The procedure for performing each of the above inspections is discussed below.

6.2.1.1.2.1. Visual Inspection of Surface Conditions

Walk along the alignment of the sewer line and look for signs of sewer failure.

6.2.1.1.2.2.Manhole Inspections

Visually inspect the surface around the manhole. Then remove the cover and visually inspect the interior of the manhole. Use a standard form to record observations.

6.2.1.1.2.3.Pulling a Mandrel Through the Sewer

The sewer should be cleaned and a line should be pulled through the sewer before trying to pull the mandrel. A mandrel one size smaller than the sewer (6" mandrel for 8" sewer), should be tied to the line. A second line should be tied to the other end of the mandrel to back it out if an obstruction is found. Slowly pull the mandrel through the sewer. If it stops note where it stops and pull the mandrel out the same way it was pulled in. Repeat the process from the other end of the sewer.

6.2.1.1.2.4.Closed Circuit Televising

Procedures for conducting a television inspection can be found in Appendix E of the Water Research Centre's Sewerage Rehabilitation Manual. WRC codes are used for recording defects.

6.2.1.1.2.5.Metering

Procedures for metering sewers can be found in Chapter 6 "Flow Monitoring" of WEF Manual of Practice FD-6 Existing Sewer Evaluation & Rehabilitation. Depth/velocity automatic flow meters are the type of flow measuring device used.

6.2.1.1.2.6.Smoke Tests

Smoke testing procedures can be found in Chapter 4 "Methods of Infiltration and Inflow Evaluation" of WEF Manual of Practice FD-6 Existing Sewer Evaluation & Rehabilitation.

6.2.1.1.2.7.User Observations

Users see situations that should not exist and call the utility to report them.

6.2.1.1.3. Schedule

6.2.1.1.3.1.Visual Inspections of Surface Conditions

Visual inspections of surface conditions are used to investigate performance problems that have been identified by another type of inspection. They are done on an as needed basis.

6.2.1.1.3.2.Manhole Inspections

Manhole inspections are done at the same time structural inspections of sewers are done. They are also used to investigate performance problems that have been identified by another type of inspection on an as needed basis.

6.2.1.1.3.3.Pulling Mandrels

Mandrel inspections have been used to provide initial structural information on small (8”-15”) diameter sewers. Currently the City prefers the use of CCTV for investigations and inspections.

6.2.1.1.3.4.Closed Circuit Televising

CCTV is being used to develop an initial structural condition of small (8”-15”), medium (16” -36”) and large (>36”) diameter sewers. This process should be completed by the end of 2010. It will also be used for scheduled follow-up structural inspections. The follow-up schedule will be determined by the initial condition of the sewer and will be in the range of 5-20 years.

CCTV is also being used to investigate performance problems that have been identified by another type of inspection on an as needed basis.

6.2.1.1.3.5.Metering

Ninety nine percent of all CSOs are being metered on a continuous basis. Metering will also be done in individual CSS subbasins as CSS capacity improvement projects are completed for that subbasin where necessary to recalibrate subbasin models. Metering has been used to isolate sources of excessive I/I.

6.2.1.1.3.6.Smoke Testing

Smoke testing is used to isolate sources of excessive I/I.

6.2.1.1.3.7.User Observations

User observations are not scheduled. They take place continuously.

6.2.1.2. Cleaning

6.2.1.2.1. Methods

Maintaining a clean sewer is a main part of the preventive maintenance program. Roots, Grease, and deposited solids are the most common cleaning problems. Cleaning methods can be grouped into 3 general categories, hydraulic cleaning, mechanical cleaning and chemical cleaning. Each are discussed below and Table 3.4 of the Water Environment Federation's Manual of Practice 7 Wastewater Collection Systems Management suggests which methods should be used for what types of stoppages.

6.2.1.2.1.1.Hydraulic Cleaning

Hydraulic cleaning refers to any application of water to clean the sewer. Hydraulic cleaning includes the use of sewer balls, pigs, high-velocity jet nozzles, and vacuums. These methods are discussed more fully in Water Environment Federation's Manual of Practice 7 Wastewater Collection Systems Management.

6.2.1.2.1.2.Mechanical Cleaning

The term mechanical cleaning denotes the use of machinery to scrape, cut, or pull material out of a sewer. Among the most common methods of mechanical cleaning are rodding, power rodding and the use of bucket machines. These methods are discussed more fully in Water Environment Federation's Manual of Practice 7 Wastewater Collection Systems Management.

6.2.1.2.1.3.Chemical Cleaning

Chemical dosing is an option only after careful observation and planning and close consideration of the problems associated with the process. Chemicals cannot clear sewer line stoppages, they are often expensive, and chemicals used for one solution may cause a problem somewhere else. Chemicals can also harm the environment, employees, or the treatment process. Chemical cleaning is discussed more fully in Water Environment Federation's Manual of Practice 7 Wastewater Collection Systems Management.

6.2.1.2.2. Schedule

All sewer segments are cleaned during structural inspections. Sewers are also commonly cleaned as the result of a performance inspection. When these types of inspections identify sewer segments with chronic problems the segments are put on a regular cleaning list. There are lists for grease, roots, and sediment. The frequency of cleaning is dependant on the type of obstruction and the severity of the problem. In some segments grease removal is required weekly. In others root removal is required every two years.

6.2.1.3. Repairs

6.2.1.3.1. Methods

Repairs can be made in a number of ways. During repair of smaller lines, wastewater may be pumped around the section to be repaired. Techniques most frequently used include excavation and replacement and pipe lining.

6.2.1.3.1.1.Excavation and replacement

Excavation and replacement involves the removal of the existing pipes or manholes from the ground and replacing them with new ones. The cost of this technique can be much higher than other rehabilitation techniques and the time requirements are usually much longer. Application is recommended under the following conditions only:

- Pipes or manholes have lost their structural integrity, such as pipes or manholes which are collapsed, crushed, broken or badly deteriorated or cracked.
- Pipe size enlargement, change in grade, and/or alignment are needed in addition to pipe deficiency corrections.
- Damages to existing pipes or manholes have been identified and it is desirable to prevent the recurrence of these damages by replacement with components of better quality and greater strength.

6.2.1.3.1.2.Pipe Lining

Pipe lining involves internally lining structurally sound round concrete or brick piping with a cement or epoxy mortar. The method is generally applied to pipes 24 inches in diameter or larger, although it may be applied to smaller pipes. The cement mortar linings are vulnerable to chemical attack and should not be used in sewers with corrosive contents or environs. For corrosive environments, the epoxy mortar should always be used.

6.2.1.3.2. Construction Repairs and Community Relations

Poor community relations with the sewer maintenance department may be caused by such minor occurrences as: (1) the jar received when an automobile hits a sunken paving cut; (2) an obstruction in the road; (3) improper excavating; and (4) inadequate warnings and others.

6.2.1.3.2.1.Excavations

Quite often excavations for sanitary sewers must be left open overnight. Here, public relations take the form of public safety. The excavation, if it is in the street, should be protected by suitable barricades and lighted carefully. In the event of storms of high winds, personnel should make certain the proper warnings are still in place. Care must be taken by any means to prevent blocking a private driveway.

Every Consideration should be given to the dust and noise which result from sewer repair work. Repair work should not be unnecessarily delayed.

6.2.1.3.2.2.Repaving

After repair work is completed, roadway cuts and sidewalks may need to be repaved. Good public relations, as well as good traffic safety, suggests a stabilized backfill on heavily traveled streets. This can be done by tamping selected materials in the backfill and finishing off with a topping of quick-setting pavement patch compound such as asphalt or Portland Cement concrete. If streets have concrete base and asphalt surface, a passable repair can be made by placing concrete over the tamped backfill to within a few inches of street grade and finishing the repair later.

6.2.1.3.2.3.Cleanup

Cleanup work should be thorough. If the excavation has been made in an alley, the ground should be restored to proper condition for adequate drainage, and be made as neat as or neater than it was originally. Pieces of broken pipe, tar, or large rocks from the excavation should not be left on the site. In the event the work is in a yard or a parkway, the area should be put back to functional condition as soon as practicable. Coordination with the property owners and other governmental agencies is essential.

It is good policy to remove sod and stack it carefully until the excavation is completed, and then employ reasonable soil stabilization and replace the sod. Repairs during cold weather will mean the loss of grass; in this case, of course, it cannot be resodded, but certainly any evidence of construction in the way of loose rock can be removed. Backfill should be made with a suitable top soil and seed mulch. In no case should a mounded trench be left in front of an owner's property for very long. It is better to carry off the excess and, at a later date, add top soil to make up for trench settlement. These comments apply to public property as well as private property. Streets and alleys rights-of-way are frequently as important to adjoining property owners as their own property. Therefore, repairs should be made as promptly as possible.

Many owners believe that their properties extend to the pavement. It is important to explain these repairs in advance to avoid problems with the adjacent owners.

6.2.2. Diversion Structures

6.2.2.1.Inspections

Structural inspections are used to determine the structural integrity of the diversion structures. Operational inspections are used to determine the performance or cause of poor performance. In addition to the structural and operational inspections, the City also inspects diversion structures daily as part of its monitoring program for CSO events.

6.2.2.1.1. Procedures

6.2.2.1.1.1.Structural Inspections

- Check dams and side weirs for damage

6.2.2.1.1.2.Operational Inspections

- Check base flow to determine if downstream obstructions are present
- Check to see if overflows have occurred or are occurring to determine if the structure is operating properly
- Check for river intrusion to determine if discharge points are functioning properly
- Check for interceptor surcharging to determine if the interceptor is operating correctly
- Download meter data to determine the start, duration, and volume of any overflows that have occurred.

6.2.2.1.2. Schedule

6.2.2.1.2.1.Structural Inspections

Structural inspections are conducted annually.

6.2.2.1.2.2.Operational Inspections

Operational inspections are conducted weekly and after significant runoff events. (See monitoring plan for site specific instructions)

6.2.2.2.Cleaning

Cleaning involves entering the structure and dislodging and removing the debris that is causing the blockage.

6.2.2.3.Repairs

Repairs consist mainly of repairing damaged or corroded concrete structures such as dams or side weirs.

6.2.3. Discharge Points

6.2.3.1.Inspections

6.2.3.1.1. Purpose

Structural inspections are used to determine the structural integrity of the discharge point. Operational inspections are used to determine the performance or cause of poor performance. In addition to the structural and operational inspections, the City also inspects discharge points daily as part of its monitoring program for CSO events.

6.2.3.1.2. Procedure

6.2.3.1.2.1.Structural inspections

- Check for erosion damage
- Exercise sluice gates
- Check to make sure tide gates close tightly

6.2.3.1.2.2.Operational inspections

- Diversion Structures are inspected at least once a week and after all significant runoff events. If river intrusion is observed during a regulator inspection the corresponding discharge point tide gates should be inspected.

6.2.3.1.3. Schedule

6.2.3.1.3.1. Structural Inspections

Structural inspections are conducted annually.

6.2.3.1.3.2.Operational Inspections

Operational inspections are conducted when river instruction is detected.

6.2.3.2.Cleaning

Remove debris keeping tide gates from closing tightly.

6.2.3.3.Repairs

Adjust tide gates when required. Lubricate sluice gates annually.

6.2.4. Catch Basins

6.2.4.1.Inspections

6.2.4.1.1. Purpose

Structural inspections are used to determine the structural integrity of the catch basin. Operational inspections are used to determine the performance or cause of poor performance.

6.2.4.1.2. Procedure

6.2.4.1.2.1.Structural inspections

- Check grate not plugged
- Check grate properly seated and not damaged
- Check elbow not plugged

- Check to make sure no settlement around structure

6.2.4.1.2.2.Operational inspections

- Catch basins are inspected to ensure there is not an excess of material in the bottom sump of the catch basin that may plug discharge or prevent catch basin from capturing additional material.

6.2.4.1.3. Schedule

6.2.4.1.3.1. Structural Inspections

Structural inspections are scheduled on approximate 2.5 year rotation. This includes a full cleaning of the structure.

6.2.4.1.3.2.Operational Inspections

Operational inspections occur along with structural inspections or as necessary in response to street or yard flooding complaints.

6.2.4.2.Cleaning

Two major aspects of cleaning are involved with catch basins. Cleaning the grate by scraping out debris from openings of intake grate and vacuuming debris and sediment out of catch basin sump.

6.2.4.3.Repairs

Repairs consist of mainly replacing catch basin grate, or repairing damaged structural concrete or brick as necessary per structural inspection.

APPENDIX A

MASTER VEHICLE & EQUIPMENT LIST BY DEPARTMENT - last update 9/12/05							
DEPT	VEH#	YEAR	VEH MAKE	VEH ID #	LICENSE	TIRE SIZE	REPLACE
SWM	44032	2004	Sterling Semi Tractor	2FWJAZCV74AM67357	65325	(F&R) 11.R22.5	2015
SWM	39077	1999	INT'L 2TN DUMP	IHTSLABM9XH665273	55270		2007
SWM	20112	2000	Chevy Pickup Truck	1GCEK19V5YZ315520	57443	P245/75R16	2008
SWM	25024	2005	GMC Sierra Hybrid	1GTEC19T45Z258136	27810	(F&R) P235/75R16	2012
SWM	27322	2007	Ford Escape Hybrid	1FMYU59H97KB06485		(F&R) P235/70R16	2014
SWM	33105	2003	4300 INT'L 2TN DUMP	1HTMNAAMX3H589237	63178	(F&R) 245/70R19.5	2010
SWM	34209	2004	4300 INT'L 2TN DUMP	1HTMNAAM94H656380	65318	245/70R 19.5	2011
SWM	56700	1996	Lg. Kobelco Excavator	YQU2558	NP		
SWM	43169	2003	Volvo Tandem Dump Truck	4V5KC9GF63N347919	63158	(F)315/80R22.5(R)11R22.5	2011
SWM	45186	2005	INT'L Vacuum Truck	1HTWYAHT05J159421	33432	(F)385/65R22.5(R)11R22.5	2012
SWM	45187	2005	INT'L Vacuum Truck	1HTWYAHT55J168700	33431	(F)385/65R22.5(R)11R22.5	2012
SWM	46084	2006	IH Tandem Dump Truck	1HTWYAHT16J260789	69092	(F)315/80R22.5(R)11R22.5	2013
SWM	47002	2007	IH 7600 Combo Truck	1HTWYAHT37J496300		(F)315/80R22.5(R)11R22.5	2014
SWM	53240	2003	Gradall Ditch Machine	225419	NP		2013
SWM	53239	2003	Vermeer Chipper	1VRN1312521002876		215/75R175	
SWM	54119	2004	JD Backhoe 410G	T0410GX933936		(F) 12.5/80-18 (R) 19.5L-24	2015
SWM	55101	1985	INGERSL AIR COMP	146845U85953	6096	F4.10/3.50-4(B)P215/75R15	2003
SWM	55701	2006	CAT Shid Loader	0287BCZSA02797	NP	Rubber Tracks	
SWM	61005	1971	DUETZ 6" PUMP	F3-6L912/W	NP	P215/75B15	2003
SWM	63616	2003	Lg. Target Concrete Saw	saw #373602-motor #00680186	NP		
SWM	65102	1985	6" CH&E PUMP	TO4219D111672	NP	(F)4.80-8(B)P195/75R15	2006
SWM	65103	1985	6" CH&E PUMP	TO4219D111671	NP	(F)4.80-8(B)P195/75R15	2006
SWM	65104	1985	6" CH&E PUMP	TO4219D113921	NP	(F)4.80-8(B)P195/75R15	2006
SWM	66101	1986	6" CH&E PUMP	TO4239D140668	NP	(F)4.80-8(B)P195/75R15	2006
SWM	66102	1986	6" CH&E PUMP	TO4239D145267	NP	(F)4.80-8(B)P195/75R15	2007
SWM	66103	1986	6" CH&E PUMP	TO4239D145266	NP	(F)4.80-8(B)P195/75R15	2007
SWM	62109	2002	Godwin Hydraulic Pump	2209222	NP	ST205/70D15	
SWM	74613	1994	Hudsn htd18c bh trl	10HHTD1C9R1000036	842	9.50-16.5LT	2014
SWM	47112	1997	INT'L TANDEM DMP	1HTSWAARXVH447791	492	11R22.5 front & rear	2008
SWM	71207	2001	Talbert Lowboy Trl	40FS0493811020602		255/CR22.5	
SWM	72614	2002	Eager Beaver Trl - 20 ton	112H8V3212L060539	63131	215/75R 17.5	2014
SWM	43169	2003	Volvo Tandem Dump	4V5KC9GF63N347919	temp	(F) 315/80R22.5(R) 11R22.5	2011
SWM	77702	2007	Towmaster Trailer	4KNUT20207L163320		215/75R 17.5	
SWM	78507	1998	CAM Utility Trailer	4YUUF0910WL001497	57426	205/75R15	
WPM	45555	2004	INT'L Combo truck	1HTWYAHT75J148268	27837	(F)425/65R22.5 (R)11R22.5	2012
WPM	47003	2007	INT"L Combo truck	1HTWAHT27J550895	74211	(F)315/80R22.5(R)11R22.5	2014
WPM	22017	2002	Ford F250 Pick Up	1FTNF20L32EC50042	60629		2010
WPM	23759	2003	Ford F250 Superduty	3FTNF20LX3MB36759		LT 235/85R16 M/S	2011
WPM	23760	2003	Ford F250 4x4	3FTNX21L53MB36762		LT 235/85R16 M/S	2011
WPM	36106	2006	INT'L 2TN Dump	1HTMNAAM06H319714	69250	(F&R) 245-70R 19.5	2014
WPM	36210	2006	INT'L 4700 2TN Dump	1HTMNAAM66H327249		(F&R) 245/70R 19.5	2014
WPM	37115	2006	INT'L 4300 2 Ton Dump	1HTMNAAM67H451281	54719	(f&r) 245/70R 19.5	2013
WPM	27525	1997	Ford F250 Pick Up	3FTHF25HOVMA39221	54647	LT 235/85R16 M/S	2006
WPM	25182	2005	Ford Ranger Super Cab	1FTZR45EX5PA42652	27561	(f&r) P255/70R16	2013
WPM	25183	2005	Ford Ranger Super Cab	1FTZR45E15PA42653	27560	(f&r) P255/70R16	2013
WPM	26013	2006	GMC Sierra Hybrid	1GTEC19T06Z297811	21173	(F&R) P235/75R16	2014
WPM	26318	2006	Ford Escape Hybrid	1FMYU96H76KC95874	69837	(f&r) P235/70R16	2014
WPM	26319	2006	Chevy Colorado 4x4	1GCDT136368296365	69905	P235/75R15	2014
WPM	29527	1999	Ford F250 4X4	1FTNF21L4XEA71952	55201	LT265 / 75R16	2008
WPM	27308	1997	Ford Rodder F350	1FDNF80C1VVA31776	57422	225/70R19.5 FRT &REAR	2010
WPM	55703	2005	Medium Size Excavator	7H04-03236	NP		2015
WPM	58701	1998	Mini-excavator	8004858	NP		
WPM	72614	2007	Komatsu mini-excavator	KMTPC029T01003195	NP		2017
WPM	30064	2000	MH Sealing Truck	3FCMF53S3YJA02636	57414	(f & r) 245/70R 19.5	2010
WPM	29065	1989	Hydro-seeder Truck	1GBKP32K6K3317176	53598	8-19.5	
WPM	22068	2002	TV Truck (white)	1FDWE35L12HA66170	60696	(f&r) LT225/75r16 -	2008
WPM	39111	1999	Sterling Flusher	2F2HRJAA1XAA32000	55855	11R-22.5	2007
WPM	40159	2000	Sterling Tri-axle	2FZXEPYB2YAG10146	54447	(F)425/65R22.5(R)11R22.5	2010
WPM	32081	2002	INT'L 4900 Flusher	1HTSDADRX2H408637	53642	255/70R22.5	2009
WPM	34018	2004	Sprinter TV Truck	WD2PD543145603017	65383	(f & r) 195/70R 15	2012
WPM	34208	2004	4300 INT'L 2TN DUMP	1HTMNAAM24H656379	65200	245/70R 19.5	2011
WPM	35166	2005	4700 INT'L Flusher	1HTWCAZR95J010457	27830	(f&r) 11R22.5	2012
WPM	37116	2006	INT'L 7400 Flusher	1HTWCAAR87J488187	71279	(F)295/75R22.5 (R)11R22.5	2013
WPM	27526	1997	Ford F250 Pick Up	1F1HF25H1VEC13819	53261	LT 235/85R16 M/S	2006
WPM	14047	2004	Ford Taurus	1FAFP55U24G110677	65389	(F&R) P215/60R16	2012
WPM	25021	2005	GMC Sierra Hybrid	1GTEC19T05Z267481	27825	(F&R) P235/75R16	2012
WPM	25023	2005	GMC Sierra Hybrid	1GTEC19T45Z280895	27823	(F&R) P235/75R16	2012
WPM	43168	2003	Volvo Tandem Dump	4V5KC9GF43N347918	63159	(F)315/80R22.5(R)11R22.5	2010
WPM	51117	2001	Ford N.H. Skid Loader	196024	NP	16.5	2013
WPM	55103	1985	Ingersoll Air Comp	146846U85953	5587	F4.10/3.50-4(B)P215/75R15	
WPM	50116	2000	410E Deere Backhoe	T0410EX884046	NP	(F) 12.5/80-18 (R) 21L.24	
WPM	57285	1997	Mauldin Roller	32			
WPM	60087	1989	Sereco Power Mach	LB-9-881729	NP	(F) hard rubber(B)7.00-15LT	
WPM	60088	1989	Sereco Power Mach	LB-9-881728	NP	(F) hard rubber(B)7.00-15LT	
WPM	64071	1984	Western mortar mixer	23362	NP	4.80-12	
WPM	64150	1984	Best cement mixer	4641118	NP	b78-13	
WPM	65108	2005	Godwin Hydraulic Pump	4313311	NP	LT235/85R16	
WPM	66104	1986	CH&E 6" pump	TO4239D140670	NP	(F)4.80-8 (B) P195/75R15	
WPM	63107	2003	ACME 6" Pump	30505			

DEPT	VEH#	YEAR	VEH MAKE	VEH ID #	LICENSE	TIRE SIZE	REPLACE
WPM	66105	1986	Hand Rodder Sreco	PDL1994	NP	Hard Rubber	
WPM	70610	1990	Interstate BH Trailer	1JKDTP292LA601828	53357	8-14.5 LT	
WPM	70611	1980	Reids Utility Trailer	702477	6456	8-14.5 LT	
WPM	71611	1991	Bemis Arrowboard	9107B201	NP	P185/80D13	
WPM	79610	1999	Tracom Arrowboard	645		205 \ 75 R14	
WPM	72717	1992	Shore Trailer	10HHD1206N1000019	298	8-14.5LT	
WPM	72718	1992	Shore Trailer	10HHD1202N1000020	299	8-14.5LT	
WPM	73100	1993	Brindle TV Trailer	1L90V1113PG085016	53607	p235/75r15	
WPM	74592	1954	Concrete saw trailer	no id	NP	6.50-16LT	
WPM	78719	2007	Felling concrete saw trailer	5FTPE122581029994		ST225/75R15	
WPM	79530	1989	S&S MFG Trailer	PH124F308K1J1000L	NP	p215/75b15	
WPM		1990	Backhoe att skid ldr	88M2CL1391			
WPM	WPM03	1995	Partner Abrasive Saw		Spare	Tool Room	
WPM	WPM04		Abrasive Saw	14" blade			
WPM	WPM07	1995	Honda Pan Tamper				
WPM	WPM08	1995	Honda Pan Tamper				
WPM	WPM09		Jumping Jack Tamper				
WPM	WPM14	1995	3" Pump				
WPM	WPM15		3" Pump				
WPM	WPM16	1995	3" Pump				
WPM	WPM18	1995	3" Pump				
WPM	WPM20	1995	3" Pump				
WPM	WPM21	1995	2" Pump				
WPM	WPM22	1995	2" Pump				
WPM	WPM23	1995	2" Pump				
WPM	WPM27	1995	2" Pump				
WPM	WPM28	1995	3" Pump				
WPM	WPM29		Dayton Generator				
WPM	WPM30		Dayton Generator				
WPM	WPM32		Hand Rod Machine				
WPM	WPM33		Air Blower	sets in mh frame			
WPM	WPM34		Air Blower	sets in mh frame			
WPM	WPM35		Mower	21" cut John Deere			
WPM	WPM36		Mower	21" cut Murry			
WPM	WPM38		Smoke Test Blower				
WPM	WPM41		Stihl Chain Saw	24" bar			
WPM	WPM42		Stihl Chain Saw	24" bar			
WPM	WPM43		Stihl Concrete Saw				
WPM	WPM45		Honda Air Compressor				
WPM	WPM46		Snow Blower				
WPM	WPM47	2001	Stanley Hydraulic Unit	99122511			
WPM	WPM48	2001	3" Gorman Rupp Pump	1207811			
WPM	WPM49	2001	Kohler Hydro-seeder	2811104731			
WPM	WPM50	2001	Ryobi Weed-Eater	101144309			
WPM	WPM51	1987	Cement Pump in MHST				
WPM	WPM053	2003	Target Abrasive Saw	1311494352			
WPM	WPM054	2003	Stanly hydr abrasive saw	1590			
WPM	WPM57	2004	Partner Abrasive Saw	04 0500089		Spare (toolroom)	
WPM	WPM58	2004	Partner Abrasive Saw	04 0500093			
WPM	WPM059	2004	Stihl Chain Saw - MS180	262-190-104			
WPM	WPM060	2004	Tamper for JD Backhoe	220083			
WPM	WPM061	2004	Handi-ram for JD Hoe				
WPM	WPM062	2004	Hydraulic Pump for JD	49334FXJ0418X8			
WPM	WPM063	2005	Stihl Chain Saw MS180	264392843			
WPM	WPM064	2005	Stihl Weed-eater	257067353			
WPM	WPM065	2004	Partner Concrete Saw	04-5200477	#112		
			Chicago Pneumatic drill	(CP 9 A) 04232X019N			
WPM	WPM66	2005	Stihl Chainsaw-MS290	264749546			
WPM	WPM67	2005	Stihl Leaf Blower-BR550	265203987			
WPM	WPM068	2005	Abrasive Saw	05-3700416	#124		
WPM	WPM069	2005	Abrasive Saw	968 34 14-00	#107		
WPM	WPM070	2000	Kent Handy Ram C.P.6				
WPM	WPM071	1990	New Holland B-109				
	WPM072		attachment to 50162				
WPM	WPM073	2006	Barrel Grinder CAT HM312	DJP00108			
	WPM074		Harley Rake			attachment to 51117	
WPM	WPM075	2006	Mower Deck CAT BR378	RDN00189			
		2006	Milwaukee 41/2" Grinder	856H80543 0598		Hand held (red in color)	
		2006	Milwaukee 71/4" Circular Saw	983C80609 0913		Red in color	
WPM	WPM076	2006	Boss Snow Plow	STB03167		attached to unit #29527	
WPM	WPM077	2006	Partner 750 Abrasive Saw	06-2500457	#169		
WPM	WPM078	2006	Partner 750 Abrasive Saw	06-4200617	#105		
		2007	Rugby 300 SG Lazer Level	300-61682		Purchased by Engineering	
		2007	Rugby 300 SG Lazer Level	300-61540		Purchased by Engineering	
		2007	Dewalt 18 volt cordless drill	126372	#124	keeping on truck #34209	
		2007	Dewalt 18 volt cordless drill	126377	#169	Keeping on truck #34208	
		2007	Dewalt 18 volt cordless drill	126363	#112	Keeping on truck #36210	
		2007	Dewalt 18 volt cordless drill	126358	#107	keeping on truck #37115	
		2007	Dewalt 18 volt cordless drill	126337	#105	keeping on truck #36106	
		2007	Dewalt 18 volt saws-all	352342	#120	keeping on truck #30064	
WPM	WPM079	2007	Troybuilt Pony Tiller	1D107K80049			
WPM	WPM080	2007	Troybuilt Pony Tiller	1L015K80004			

APPENDIX B

WPCM/STM **Log Sheet**

DATE:__________________

ONLY USE CODES FROM BOTTOM OF PAGE

TIME	NAME	PHONE	CODE	ADDRESS	ASSIGN

Back Up/Slow Drain - BU
Construction Complaint - CC
Internal Request - INTR (from other dept)
Yard Flooded/Standing Water - YR

Bad Odor - ODOR
Contract Services - CS
Lid Off Structure - LO

Basement Flooding - BU
Ditch Problem - DIT
Street Flooding - SF

Cave In - CAVE
Hazardous Spill/Discharge - HS
Vermin Problems - VER

APPENDIX C

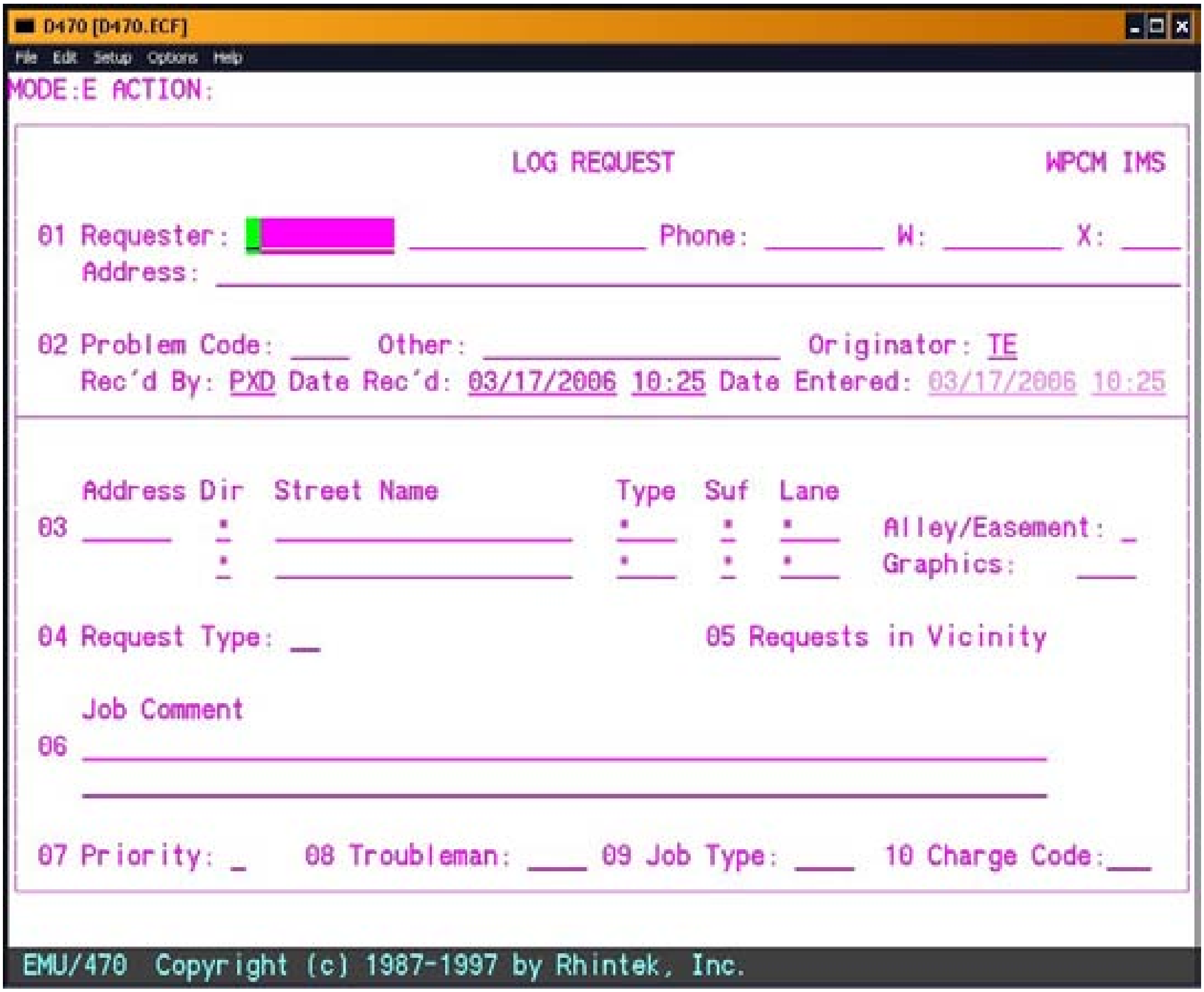

D470 [D470.ECF]
File Edit Setup Options Help
MODE:E ACTION:
LOG REQUEST
WPCM IMS
01 Requester: Phone: W: X:
Address:
02 Problem Code: Other: Originator: TE
Rec'd By: PXD Date Rec'd: 03/17/2006 10:25 Date Entered: 03/17/2006 10:25
Address Dir Street Name Type Suf Lane
03 Alley/Easement:
Graphics:
04 Request Type:
05 Requests in Vicinity
Job Comment
06
07 Priority:
08 Troubleman:
09 Job Type:
10 Charge Code:
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EXHIBIT A-2

WATER POLLUTION CONTROL DEPARTMENT
Of
FORT WAYNE, INDIANA

CSO TREATMENT FACILITIES, COMBINED SEWER SYSTEM PUMP STATION, AND MECHANICAL REGULATOR OPERATION AND MAINTENANCE PLAN

JULY 2006

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1. INTRODUCTION

1.1. PURPOSE, OBJECTIVES, AND GOALS

This report is entitled a “CSO Facilities, Combined Sewer System Pump Station and Mechanical Regulator Operation and Maintenance Plan”. It describes programs and procedures currently undertaken by the Water Pollution Control Plant (WPCP) Group in managing the operation and maintenance of the combined sewer overflow treatment, pump station, and mechanical regulator facilities. The WPCM Department provides sanitary sewer and storm water maintenance services in addition to the combined sewer services described in this document.

This report is not an operation and maintenance manual. It does not provide detailed descriptions of specific operation and maintenance functions or system components. These descriptions are provided elsewhere. Rather, this report presents a functional overview of programs, equipment and personnel in place to manage the operation and maintenance of the CSO treatment facilities, combined sewer system pump stations, and mechanical regulators on a daily basis for the Water Pollution Control (WPC) Utility.

The WPCP Group is responsible for all in-house maintenance and repair functions at the WPC Utility related to mechanical or electrical equipment. In addition the WPCP Group is involved in a host of other activities including but not limited to operating the water pollution control treatment plant, the biosolids facilities, the industrial pre-treatment program, the sanitary sewer system pump stations, and the WPC Utility laboratory.

Although it is impractical to detail every function performed by the WPCP Group, Section 5, 6, and 7 of this plan emphasizes operating and maintenance procedures for the CSO Facilities, combined sewer system pump stations, and mechanical regulators respectively. These sections emphasize the WPCP Group’s capabilities to operate and perform preventive and emergency maintenance. This report is intended to supplement and be consistent with emergency plans and standard operating procedures.

It is hoped that the reader will gain an appreciation of the level of commitment provided by the WPC Utility through its WPCP

Group to protect human health and the environment by its programs and activities.

1.2. UPDATING AND MAINTENANCE OF THE PLAN

It is recommended that the WPC Utility update the Plan on an as-needed basis to reflect revisions to the NPDES permit, construction of new combined sewer collection facilities and new initiatives that are being undertaken by the WPCP Group.

2. THE WATER POLLUTION CONTROL UTILITY ORGANIZATION

The Water Pollution Control Utility is responsible for the management and operation of the City's sewage collection and treatment system. The Director of Public Works and City Utilities has primary responsibility for the administration of the entire sewage system including; design, construction, operation, maintenance, and repair of all sewers and sewage treatment facilities. The Director manages 4 groups of departments: the Water Resources Group, the Water Pollution Control Plant (WPCP) Group, the Water Pollution Control Maintenance (WPCM) Department, and the Utility Administration (UTA) Group.

The Water Resources Group is responsible for the planning and administration of capital projects, service extension permits, and maintaining all sewer maps. The Water Resources Group is also responsible for planning, evaluating, and development of projects; development, management, and implementation of the capital improvement program; acquisition of easements and property; and project management from conception through design, construction, completion, and acceptance of the project with the goal of project completion on time and within budget.

The Water Pollution Control Plant Group has the responsibility for operating and maintaining the wastewater treatment plant, the package treatment plant, biosolids facilities, mechanical regulators, CSO facilities and pumping stations. They are also responsible for regulating industrial waste discharges, pretreatment programs, sampling, and analytical laboratory operation.

The Water Pollution Control Maintenance Department is responsible for inspection, cleaning, and repair and replacement of all sewers, combined sewer outlets and appurtenances. They also provide CSO and SSO monitoring services.

The Administrative Group is responsible for accounting, budgeting, and customer service. They also take the lead in the preparation of rules, regulations, and legislation required to operate the Utility.

3. THE WATER POLLUTION CONTROL PLANT GROUP

3.1. ORGANIZATIONAL DESCRIPTION

The Water Pollution Control Plant (WPCP) Group is responsible for operating and maintaining the wastewater treatment plant, the package treatment plant, mechanical regulators, CSO treatment facilities and pumping stations. They are also responsible for regulating industrial waste discharges, pretreatment programs, sampling, and analytical laboratory operation. A table of organization is presented in Figure 3-1. The WPCP Group is organized into 8 functional areas illustrated in Figure 3-2 and introduced below.

Area	Primary Function(s)
1. Operations	* Monitor Plant Operations * Adjust Processes
2. Biosolids	* Dewater and Process Biosoilds
3. CSO Treatment	* Operate CSO Treatment Facility
4. Water Quality	* Administer Pre-Treatment Program * Sampling & Water Quality Inspection Services
5. Laboratory	* Analyzes WPCP Samples
6. Maintenance	* Maintain & Rehab WPCP Process Equipment * Program & Calibrate I&C Equipment
7. Administration	*Processes Personnel Data *Processes Accounting Data *Processes Plant Operating Data
8. Training	*Teach Safety Procedures *Teach Job Skills

The purpose of the above listing is to highlight primary functions of the 8 areas. These designations reflect normal day-to-day operations. As can be seen, much of the work done by the WPCP Group relates to information gathering, information analysis, process adjustment, maintenance and training. A brief description of each area is below.

Figure 3-1
WPCP Organizational Chart

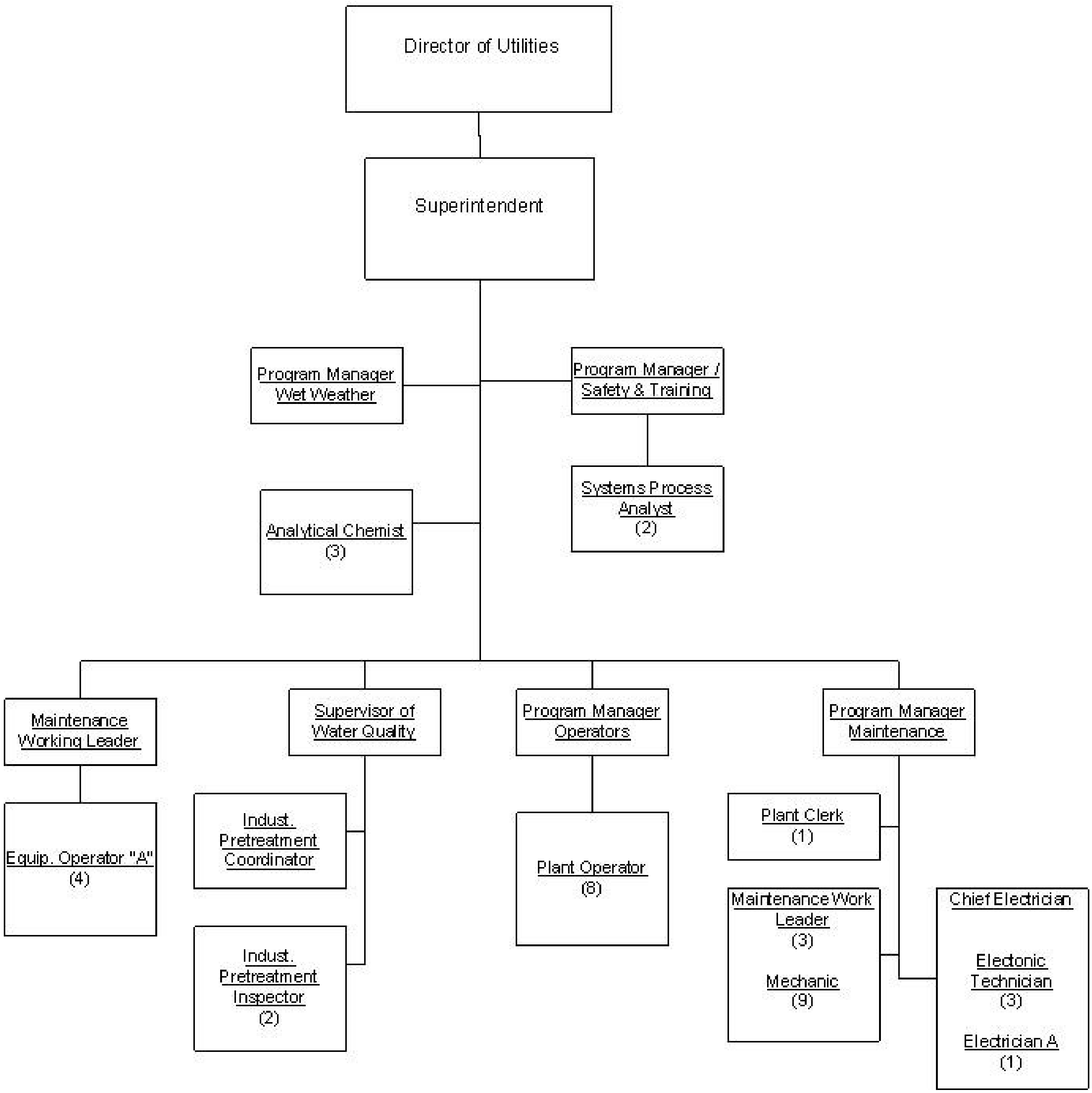
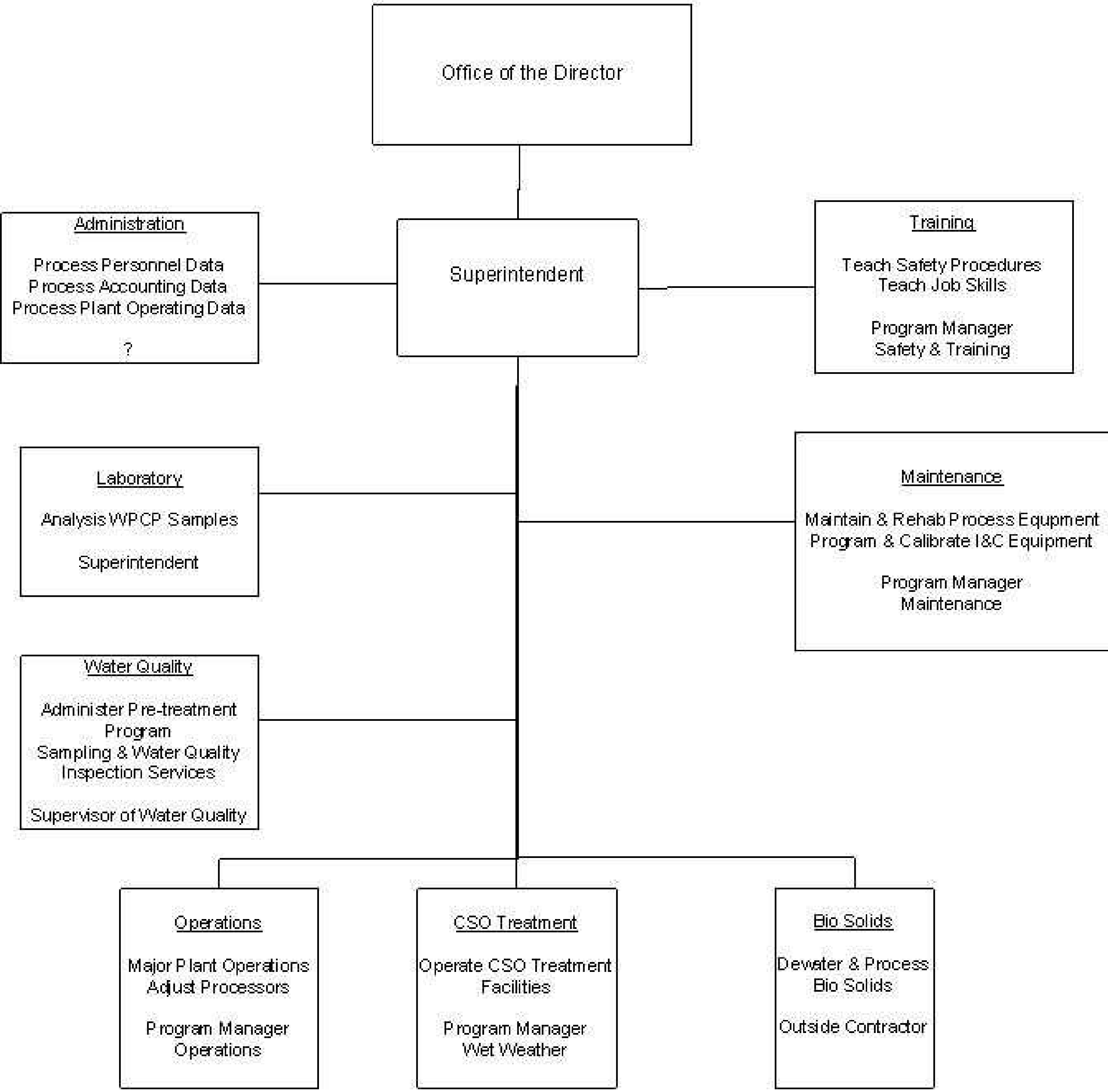


Figure 3-2
Functional Areas of WPCP



Operations: Continuous monitoring of the treatment plant and collection system pump stations is performed in this area. Operators spend about a third of their time in one of three control rooms monitoring remote sensors installed through out the treatment plant and in collection system pump stations. Two thirds of their time is spent touring the facilities visually inspecting equipment and the processed sewage.

This area is also responsible for process adjustments required to properly treat sewage and requesting reactive maintenance services. The area also has some plant security monitoring responsibilities.

Biosolids: Biosolids from the plants digesters are pumped to ponds where it is dewatered and processed for reuse by this area.

The biosolids area also processes lime from the filtration plant, processes soil from City excavations for reuse, and manages a yard waste/leaf pickup recycling program.

CSO Treatment: This area is responsible for screening, pumping, routing, detaining, and sampling CSOs that are directed to CSO Treatment Facility. They are also responsible for seeing that required maintenance is performed on the facilities.

Water Quality: This area is responsible for administration of the Industrial Pretreatment Program, including permit writing, inspections, and monitoring. In addition to the pretreatment activities this area samples flow from restaurants, waste haulers, and contract customers. They also develop and implement pollutant minimization programs.

Laboratory: This area performs chemical testing and analysis of samples collected by other areas of the WPCP Group. If results are out of acceptable ranges they notify the appropriate area. Their data is posted to a database that is accessible to the other area for their use.

Maintenance: This area handles the mechanical and electrical maintenance for the WPCP Group. Electricians install wiring, calibrate instruments, and maintain instrument and control systems.
Two mechanical crews perform preventative and reactive maintenance at the plant. Another mechanical crew performs preventative and reactive maintenance at the pump stations and mechanical regulators through out the collection system.

Administration: The administrative area is responsible for maintaining the data bases used by the WPCP Group, entering manually collected data, printing reports, and performing statistical analysis on operational data. They also keep accounting and personnel records for the WPCP Group.

Training: This area teaches safety procedures, provides instructions on specialized job activities such as the use of infrared cameras, and provides training in basic job required skills such as math or pump maintenance.

With the exception of the Laboratory Area, each of the functional areas includes a Supervisor or a Program Manager to report to the Superintendent. The Laboratory Area is supervised by the Superintendent.

Supervisors or Program Managers hold positions of supervisory authority under the Superintendent and are senior operations staff. Supervisors or program Managers work with the crews to resolve operational and maintenance problems and serve as a liaison between the crews and the superintendent. During normal working hours, there are a number of supervisors who can handle problems as they arise. During evenings and weekends, problems are referred to the “Supervisor on Call”. Supervisors on Call are changed on a rotating basis once every week.

The Superintendent is in charge of the WPCP Group and reports to the Director. Although the Superintendent will normally not be personally involved in most activities, he/she is administratively responsible for activities performed by the Group, including all fiscal and budgetary matters and coordination with the Director’s office. The Superintendent also is a valuable technical resource who is knowledgeable in the operation and maintenance of treatment systems and is therefore, frequently involved in revising strategies and directing actions to solve the most complicated problems.

In no way does this completely describe all work done by these areas nor reveal how they interact with each other. As will be seen in Sections 5, 6, & 7 all groups interact and coordinate to resolve treatment related problems that arise. Although personnel assigned to each group generally perform functions of that particular group, there is a substantial overlap that occurs in solving problems. Most personnel are trained to perform multiple tasks and can be assigned to other groups on a temporary or permanent basis, if necessary.

3.2. FACILITY AND EQUIPMENT DESCRIPTION

3.2.1. Physical Facility

The WPCP Group operates and maintains facilities at 4 centralized sites as well as pump stations and regulators throughout the collection system. The main treatment plant, maintenance facility, laboratory, and office complex are located at 2601 Dwenger Avenue. The CSO Treatment Facilities are located across the Maumee River just north of the main treatment plant. The biosolids facilities are located at 6202 Lake Avenue. The WPCP also operates a small satellite package treatment plant north of the City near the intersection of County Line Road and Tonkel Road.

3.2.2. Equipment

The WPCP Group owns and has ready access to a sizable arsenal of equipment to perform maintenance and repair work for nearly every foreseeable situation. Equipment was purchased based on the needs of the WPC Utility's treatment systems including difficult to access areas. As such, the WPCP Group owns a wide array of equipment. The equipment currently owned is set forth in Appendix A.

3.3. INFORMATION SYSTEMS

The WPCP Group uses several electronic databases to track operational and maintenance activities.

Intellutions is a human-graphical interface software package that allows plant operators to monitor the operations of most of the mechanical and electrical equipment in the combined sewer collection and CSO treatment system. It provides an interface between the operators and remote sensors.

I historian is a software package that saves the date sent to Intellution. This allows analysis and reporting of information derived from the data.

A computerized maintenance management system (CMMS) is operated by the Maintenance area to keep an inventory of equipment, access parts information, schedule maintenance activities and maintain a history of maintenance performed.

A laboratory information management system (LIMS) is operated to collect, analyze, and report laboratory results.

A material safety data sheet (MSDS) database is maintained by the WPCP Group.

All these information systems are operated and maintained by personnel in the WPCP Group with support from various information technology consultants.

4. **TREATMENT, PUMPING, AND REGULATOR FACILITIES DESCRIPTION**

4.1. WPC TREATMENT PLANT DESCRIPTION

Flow collected in the Fort Wayne sewer collection system is conveyed to the Fort Wayne Water Pollution Control Plant for treatment. The plant is an activated sludge wastewater treatment plant utilizing preliminary, primary, and secondary treatment, as well as effluent polishing and reaeration. Plant effluent is discharged to the Maumee River. Solids are processed using two-stage anaerobic digestion and lagoon dewatering.

Wastewater enters the plant through an 84-influent sewer. Wastewater flow is divided between two influent channels equipped with separate traveling screens that mechanically removed solids in the wastewater of one quarter inch and larger. Screenings are conveyed to a dumpster and are disposed of in a landfill.

Four raw wastewater pumps are used to pump raw wastewater from a wetwell located after the screens up to a channel leading to two vortex grit removal systems. The firm capacity of the station is 60 mgd with one pump out of service.

Wastewater is processed through one of two cyclone shaped concrete grit removal structures. The vortex system contains rotating paddles to allow the grit to settle in the bottom. Grit is pumped, dewatered and sent to a landfill.

Following grit removal, an effluent conduit carries wastewater to a primary diversion chamber. The diversion chamber divides the influent flow so that about approximately 67 percent of the flow is directed to Primary Tanks 1 through 5, and approximately 33 percent of the flow is directed to Primary Tanks 6 through 8.

The primary tanks are rectangular and have two passes per tank. Each tank is provided with chain and flight type sludge collectors and cross collectors for sludge removal. Raw sludge is removed and pumped to the digesters. Primary effluent from tanks 1 through 4 is directed to Aeration Tanks 6 through 9. Primary effluent from tanks 5 through 8 is directed to Aeration Tanks 1 through 5. Iron salts are added to the primary effluent flow for phosphorus removal in secondary treatment.

The aeration tanks are rectangular. Air is supplied to each tank from blowers in the blower building. Waste activated sludge is removed, as needed, from the return sludge flow and routed to the centrifuge building. Fine bubble type diffusers are used for aeration. Mixed liquor from Aeration tanks 1 through 5 flows to Final Settling Tanks 1 through 5. Mixed liquor from Aeration Tanks 6 through 9 flows to Final Settling Tanks 6 through 9. Wastewater flows are divided so that 53 percent of the flow is treated in tanks 1 through 5, and 47 percent of the flow is treated in tanks 6 through 9 in secondary treatment.

The Centrifuge building receives waste activated sludge, removing water to produce a five percent sludge which is pumped to the digesters. The water removed from the sludge is returned to a sewer and reenters the headworks of the plant.

The final settling tanks use rim feed/rim collection weirs for influent and effluent flows. Each tank is provided with a revolving sludge collector mechanism. Activated sludge is removed from the final tanks and returned to the aeration tanks using centrifugal pumps. Secondary effluent is discharged to a chlorine contact tank for disinfection.

Chlorinated effluent is directed to Pond 3 for effluent polishing. During periods of the year as required by the NPDES permit Pond 3 final effluent is dechlorinated. Final effluent from Pond 3 also passes through three reaeration chambers to increase dissolved oxygen levels before discharging to the Maumee River.

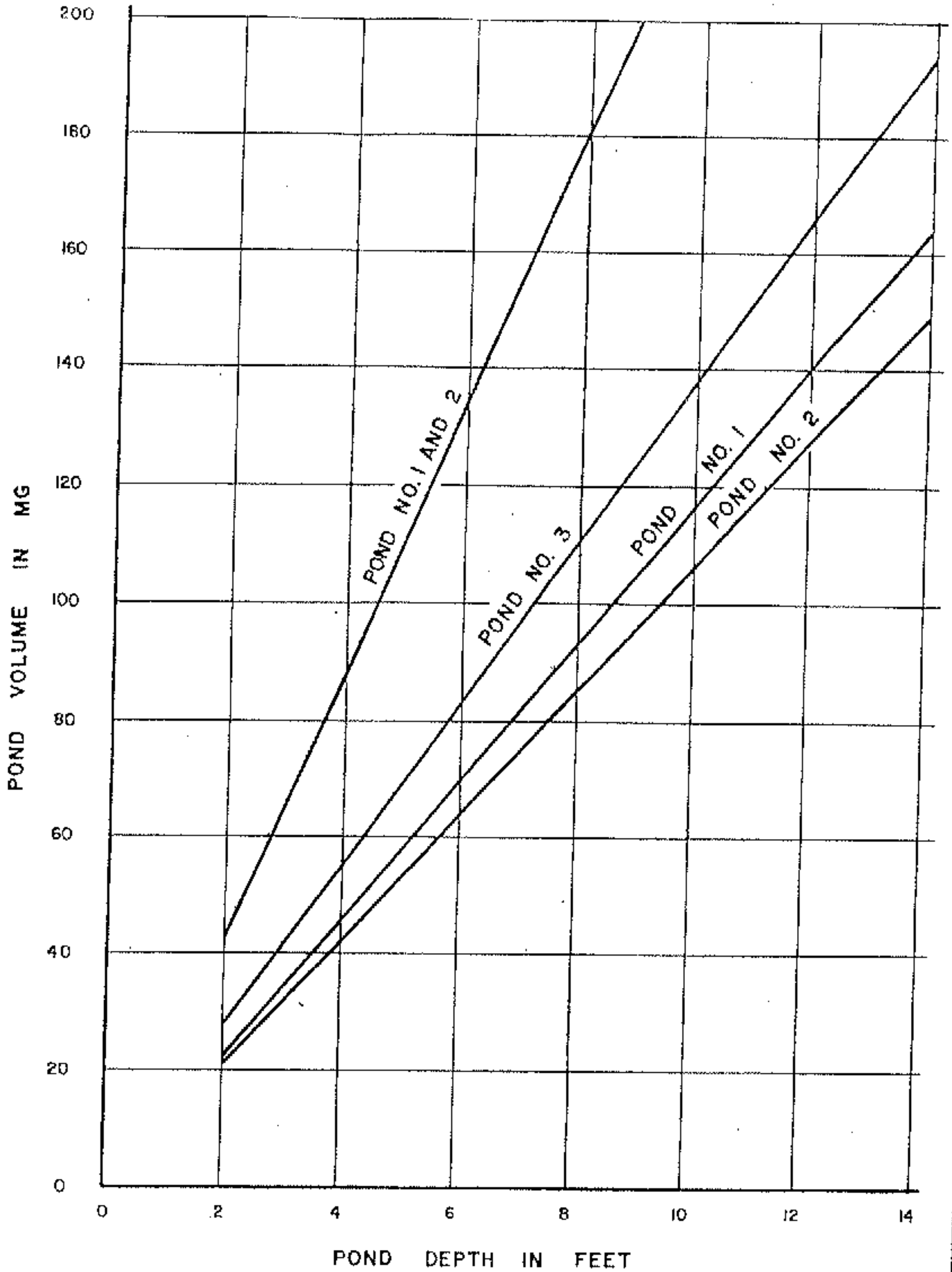
Five anaerobic digesters with floating covers are used for digestion of the primary and waste activated sludges. Four digesters serve as primary digesters, while the remaining one serves as a secondary digester. The digesters are heated using boilers, heat exchangers, and recirculation equipment. Gas produced from digestion is collected from each digester, compressed, and stored in pressure gas storage vessels, and used in boilers for maintaining mesophilic temperatures in the digesters as well as heating the facility. Excess digester gas is flared off in a waste gas burner.

Digested sludge is pumped from the secondary digester to the sludge storage lagoons for dewatering. Sludge is processed at the lagoons by drying, wind rowing, and screening into a class A biosolids that is available as a topsoil additive.

4.2. CSO FACILITIES

When the flow of combined sewage in the Wayne Street Interceptor exceeds the capacity of the WPC Treatment Plant it causes surcharging in the interceptor. The interceptor overflows when the surcharge exceeds 3’ at the Plant Regulator structure. This overflow combines with overflows from the Glasgow Regulator on the south side of the Maumee and is transported under the Maumee River to the CSO Facilities wet well through two 96” pipes.

Figure 4-1



TERMINAL PONDS - VOLUME / DEPTH RELATIONSHIPS

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A DIVISION OF HOWARD NEEDLES TAMMEN & BERGENDOFF
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IV/4

FIGURE IV/3
CITY OF FORT WAYNE, INDIANA

The wet well at the CSO Facility is sized at 550,000 gallons capacity. A trash rack is installed at the inlet end of the wet well. A permanent metal building houses the CSO pumps.

Two Allis-Chalmers 90” X 60” YDD VRFM mixed flow vertical turbine pumps pump the combined sewage to a rectangular channel which allows the flow to proceed by gravity to CSO Pond No. 1.These pumps are designed to operate at 105,000 GPM at 45 TDH. If the flow to the wet well exceeds the capacity of the pumps it is released directly to the Maumee River through 3 openings in the back of the wet well.

4.3. CSO PONDS

CSOs pass through 2 ponds on the north side of the Maumee River. It is possible to operate the CSO ponds at a variety of depths and volumes. It should be recognized that greater depths mean greater volumes, and therefore, higher loadings per surface area, without a corresponding increase in oxygen transfer capability from surface reaeration. The surface area governs surface reaeration rates because the oxygen transfer capability remains substantially the same. This may adversely affect efficiency of stabilization of organic matter and help to create unwanted conditions such as odors, rising sludge, or other undesirable effects.

Table 4-1 gives pond volumes for possible operating points. For depths of combined sewage between those given, refer to Figure 4-1 for the various pond volume vs. depth relationships.

TABLE 4-1
POND AREA AND VOLUME CHARACTERISTICS

	Terminal Pond No.1	Terminal Pond No.2
Surface Area	33.5 Ac.	29 Ac.
Volume at 3-foot depth	38 MG	33 MG
Volume at 4-foot depth	50 MG	43 MG
Volume at 5-foot depth	61 MG	54.5 MG
Volume at 7-foot depth	84 MG	75 MG
Volume at 10-foot depth	118 MG	106 MG
Volume at 13-foot depth	152 MG	138 MG

4.4. PUMPING FACILITIES

There are two types of pump stations in the combined sewer system (CSS). The first type is located downstream of the regulator and pumps overflows. The second type pumps dry weather flows to a gravity interceptor that takes it to the treatment plant.

4.4.1. Overflow Pump Stations

There are 5 overflow pump stations in Fort Wayne's CSS. They are briefly described below.

4.4.1.1. Brown Street Pump Station

The Brown Street Pump Station is located at 1800 Brown Street. A mechanical bar screen precedes two 200 horsepower pumps with each pump having a rated capacity of 20,000 gpm at 28' of head. The station wet well has horizontal dimensions of 29' x 31' and is equipped with a dewatering pump system. The dewatering system is designed to discharge any CSO storage in the wet well back into the interceptor system when capacity is available.

4.4.1.2. Nebraska Pump Station

The Nebraska Pump Station is located at 1100 Camp Allen Drive. It contains two 125 horsepower pumps with each pump having a rated capacity of 25,000 gpm at 15' of head. The station wet well has horizontal dimensions of 22.33' x 15.33' and is equipped with a dewatering pump system. The dewatering system is designed to discharge any CSO storage in the wet well back into the interceptor system when capacity is available.

4.4.1.3. Third Street Pump Station

The Third Street Pump Station is located just east of the Third Street/Calhoun Street intersection. A mechanical bar screen precedes 4 pumps. Each pump pumps at a different rate. These rates range between 14,000 gpm and 23,000 gpm. The station wet well has horizontal dimensions of 40.33' x 40.33' and is equipped with a dewatering pump system. The dewatering system is designed to discharge any CSO storage in the wet well back into the interceptor system when capacity is available.

4.4.1.4. Griswold Pump Station

The Griswold Pump Station is located at 1900 Griswold Drive. It contains 2 pumps that pump at approximately 400 gpm. The station wet well has horizontal dimensions of 17.33' x 17.33'.

4.4.1.5. Morton Street CSO Pump Station

The Morton Street CSO Pump Station is located at 1614 Edgewater Avenue. It contains four 150 horsepower pumps with room for a fifth pump. Each pump is rated at 19,000 gpm. The station wet well has horizontal dimensions of 40' x 34.5' and is equipped with a dewatering pump system. The dewatering system is designed to discharge any CSO storage in the wet well back into the interceptor system when capacity is available.

4.4.2. Dry Weather Flow Pump Station

There is one dry weather flow pump station. The Morton Street Dry Weather Pump Station is located at 1614 Edgewater Avenue. A comminuter precedes two 25 horsepower pumps. Each pump is rated at 2,500 gpm.

4.5. MECHANICAL REGULATORS

There are two types of mechanical regulators that are kept operational by the WPCP Group. The first type uses floats to control mechanical regulator gates. The second uses depth sensors, such as float switches to control hydraulic regulator gates.

4.5.1. Float Actuated Mechanical Regulator Gates

Currently, there are 7 regulators that have active float actuated mechanical regulator gates. There SIP #s and locations are provided below:

SIP #	Location
P06-119	At the intersection of Anthony Blvd. and Wayne St.
L06-438	At the intersection of Wayne St. and Fairfield Ave.
N06-007	At the intersection of Hanna St. and Wayne St.
K06-285	At the intersection of Nelson St. and Wayne St.
K11-163	Just west of the intersection of Rudisill Blvd and Broadway
M10-150	Just east of the intersection of Third St. and Calhoun St.
K07-171	At the west end of the alley just north of Wildwood Ave.

4.5.2. Float Switch Actuated Hydraulic Regulator Gates

Currently, there are 2 regulators that have active float switches to activate hydraulic regulator gates. There SIP #s and locations are provided below:

SIP #	Location
K15-009	On Hartman Rd. approximately 300’ south of Westover Rd.
L19-018	Southeast of 5340 Century Ct.

5. CSO FACILITY OPERATION AND MAINTENANCE PROGRAM

As is seen from the discussion in Section 3, the WPCP Group is involved in a number of wide-ranging activities including but not limited to operating and maintaining the wastewater treatment plant, the package treatment plant, biosolids facilities, mechanical regulators, CSO facilities and pumping stations.

For purpose of clarity, it should be stated that the discussion presented in Section 3 covers all the activities of the WPCP Group. The following topics emphasize aspects of the WPCP Group's activities associated with the CSO Facilities and Ponds.

Area	Section
Operations	5.1
Maintenance	5.2
Regulatory Reporting	5.3

This plan will be subject to modification by the Director of the WPC Utility to account for changes in circumstances such as changes in the configuration of WPC Utility facilities, the purchase of new equipment, changes in regulatory requirements, the development of new technologies, or changes in industrial standards/best management practices.

5.1. CSO POND FACILITIY OPERATIONS

The CSO Facilities receive CSOs from the Glasgow Regulator and from overflows of the Wayne Street Interceptor intermittently during wet weather. There is no flow into the facilities the majority of the time. But, during some wet weather, flows can exceed 100 million gallons during a 24 hour period. This can be followed a day or two later with additional flows of tens of millions of gallons.

The CSO Facility is not sized to provide a constant level of treatment for this range of flows. Low flows and long detention times produce fairly high quality effluent. During flow through conditions there appears to not be much difference in the quality of CSO Facility influent and CSO Facility effluent.

The City is currently working with IDEM to characterize the Ponds as CSO storage facilities that would function primarily as temporary storage of CSO and then bled back to the WPCP when capacity is available.

The types of processes that may take place in the CSO Facilities when flow characteristics allow are described below.

5.1.1. CSO Pond Process of Removal Description

The process of removal of suspended and organic matter from combined sewage requires specific physical, chemical, and biological conditions to support the biochemical process reactions.

5.1.1.1. Physical Process Mechanisms

Physical removal mechanisms work primarily to settle out suspended matter that would otherwise pass on to the receiving waters. The CSO ponds have been channelized by the use of sheet pilings and other structures for flow direction control. The use of sheet steel pilings serves to control the direction of the wastewater flow, acting to prevent short-circuiting of flow, and, coupled with the control of the water depth (by effluent sluice gate control), determines the bulk velocity of flow through any segment of the treatment ponds. The depth of water kept in a pond is fixed by the position of the effluent sluice gates. The flow through the pond is controlled by the CSO Facilities pumping rate. The combination of these two operational constraints determines the degree of removal of suspended solids from the pond influent. The percentage of removal for suspended solids will vary with the loading rates. The solids loading rate for combined sewage ranges from 500 to perhaps 125,000 pounds per acre per day. The detention period for the CSO Facility effluent can be sufficiently long to have rapid biological uptake of soluble organic wastes. The solids generated by this biological activity in the pond system can settled out before the effluent leaves the ponds. By this mechanism, a significant part of the waste loading to the ponds can be removed.

5.1.1.2. Biological Removal Mechanisms

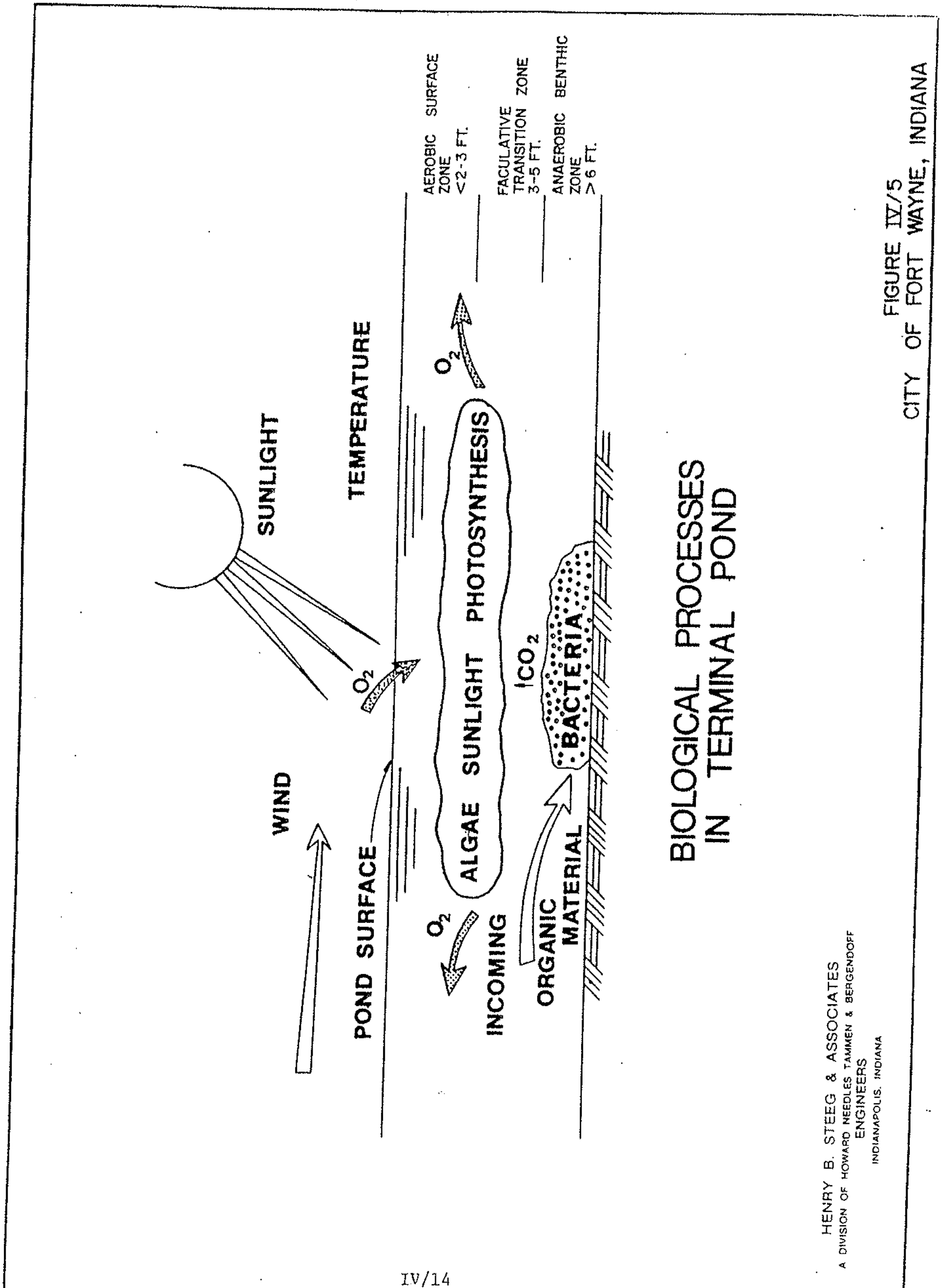
The Ponds are a type of oxidation Pond (i.e., depending upon natural reaeration rates as the dissolved oxygen source). As oxidation ponds, these ponds can be operated as facultative ponds by virtue of the depth of water and loading rates to the pond. The removal mechanisms in a facultative pond vary with depth. The first action is associated with the solids removal by sedimentation described above. As the solids settle to the bottom, an anaerobic layer of decomposing biological solids builds up on the bottom of the pond. These decomposing solids undergo a reaction similar to that in an anaerobic digester with subsequent release of methane gas. A portion of the solids always remain as incompletely digested material. The soluble organic material and colloidal solids which are either brought in fresh by the incoming wastewater or scoured from the bottom of the pond by intra-pond mixing due to wind, or water turnover caused by seasonal temperature changes of the waters, are broken down by bacterial action in the aerobic upper layers of the pond.

Some of this material is incorporated into the bacterial cells that grow and with settling add to the organic matter at the bottom anaerobic zone of the pond. The CO_2 given off by the bacteria, along with the bicarbonate of the incoming wastewater and the CO_2 introduced into the pond by surface reaeration resulting from wind action is utilized by algae in the presence of sufficient sunlight and inorganic nutrients such as phosphorus, nitrogen, and iron to produce oxygen and additional algae cells.

This photosynthesis reaction takes place during the daylight hours. At night, algae use oxygen and oxidize some of the organic compounds produced and stored while undergoing photosynthesis reactions. The symbiotic relationship between bacteria and algae recycles carbon materials that were originally settled out as suspended solids. The net effect of this carbon cycling mechanism is to:

1). Cause a deposition of the solids originally present in the wastewater;
2). Cause some stabilization of the organic load of the combined sewage by bioconversion to carbon dioxide or methane lost to the atmosphere:

Figure 5-1


SUNLIGHT
TEMPERATURE
WIND
POND SURFACE
O_2
ALGAE SUNLIGHT PHOTOSYNTHESIS
O_2
O_2
CO_2
INCOMING ORGANIC MATERIAL
BACTERIA
AEROBIC SURFACE ZONE <2-3 FT.
FACULATIVE TRANSITION ZONE 3-5 FT.
ANAEROBIC BENTHIC ZONE > 6 FT.
BIOLOGICAL PROCESSES IN TERMINAL POND
HENRY B. STEEG & ASSOCIATES
A DIVISION OF HOWARD NEEDLES TAMMEN & BERGENDOFF
ENGINEERS
INDIANAPOLIS, INDIANA
FIGURE IV/5
CITY OF FORT WAYNE, INDIANA
IV/14

3) Cause a conversion of much of the soluble inorganic and organic material into bacterial and algal cell material.

Figure 5-1 displays the various biological processes that can occur within the ponds.

To properly be termed a biological synthesis system where the generation of biological solids is the objective of the organic removal process, the removal of the settled solids once settled in the ponds is important. If the solids are permitted to accumulate over an extended period of time, the solids settled will eventually use up a large portion of the pond's available detention time, increase the flow-through velocity, decrease the solids removal efficiency, and increase the amount of organic material that is resolubilized. To prevent filling the ponds with sludge solids over time, a dredge can be provided to remove the settled solids every few years.

A reasonable estimate of the pond solids detention time can be made by utilizing the concept of Mean Cell Residence Time, since this parameter represents the time that a hypothetical particle will theoretically remain in the terminal pond undergoing treatment. Solids detention time can be defined in terms of the suspended solids that are stored in the volume available for the wastewater divided by the rate of wastage of suspended solids (primarily in the pond effluent). Since the concentration of suspended solids in a treatment pond very nearly always equal those in the effluent, the relationship for solids detention time simplifies to that for the hydraulic detention time:

$$\text{Solids Detention Time in Days} = \text{Theoretical Hydraulic Detention Time} = \frac{\text{Volume of Terminal Pond In MG}}{\text{Pond Effluent Flow Rate In MGD}}$$

This assumes no pond influent during this period.

As already indicated above, the volume available for treatment is primarily a function of the pond depth. The control of pond depth is possible as outlined in the section following.

5.1.2. CSO Pond Control Depth

Per the original pond design intent, depending on pond depth and influent flow rate, the pond can be operated in different treatment modes. Each treatment mode has certain advantages and disadvantages associated with the process control. Since consideration of pond depth is essential regardless of the hydraulic through-put rate, the operation of the pond can be conveniently classified by operating depth alone. In the ensuing discussion, CSO pond depth will be the determining control parameter considered while recognizing that hydraulic detention time also is a very important parameter for pond performance control. It should be noted that the City operational experience of the Ponds has shown that the consistent use of the Ponds for treatment has not been consistent or effective overall.

5.1.2.1. Oxidation Pond Mode – Depth Less than 5 Feet

The operation of the CSO ponds at water depths less than 5 feet is termed the "Oxidation Pond" mode. In this configuration, natural convection and wind-generated vertical mixing can reasonably supply the entire oxygen demand for the pond most of the time if the organic loading is not excessive (say, less than 500 pounds organic loading per acre per day). This mixing action tends to blend the aerated upper pond layers with the deoxygenated lower layers. By this natural mixing action, aerobic conditions are maintained throughout the pond without the reliance on the algae-bacteria symbiotic relationship.

Another advantage of pond depths less than 5 feet is that the mobile forms of algae usually have no particular advantage over other free-swimming or suspended organisms. Unless the water gets very still, allowing these mobile microorganisms to migrate toward the light zone at the water surface, these organisms will be intermingled with the lowest layers as well as the upper layers. The mixing tends to break up the development of thick, obnoxious algae blooms which block out light energy to bottom layer organisms which, in turn, tend to promote a well-balanced pond flora and fauna that can be reasonably expected to stabilize the pond influent wastes to a high degree of efficiency.

Several climatic conditions can create problems for this mode, even at low organic loadings. Wind shear can create rolling wavers over the pond surface, particularly if the wind is blowing directly down a channelized segment. These waves can stir up bottom sediments and add relatively large quantities of organic and inorganic suspended matter to the pond effluent. These suspended solids usually have a significant BOD_5 associated with them as well. The growth of aquatic plants to the shallow bottom can create problems with flow control and sedimentation rates.

5.1.2.2. Facultative Pond Mode – 7 to 10 Feet

At a depth of approximately 7 feet, the distance from the water surface to the pond bottom is sufficiently great to essentially preclude reoxygenation of the pond bottom under all but the most turbulent of operating conditions. Due primarily to the absence of vertical mixing currents under most operational conditions, the ponds begin to stratify into three distinct zones. These zones are related to the thermal stratification of water with depth to an extent. However, the best explanation for the existence of these zones is related to the aerobic conditions found at the different depth zones.

A surface zone will form immediately after the quiescent settling of wastewater commences. This zone will contain the highest dissolved oxygen down to 18 to 24 inches in depth. Microbiological activity will be concentrated on photosynthesis and/or bacterial respiration in this zone. Much of the wastewater stabilization of soluble organic matter will occur in this upper-most zone.

From 2 to perhaps 5 or 6 feet, a profile of pond dissolved oxygen with depth will show a tendency toward decreasing D.O. with depth over this range. This zone is usually termed the “Transition” Zone, presumably as a reflection of its intermediate position between the aerobic “surface” zone and the anaerobic “benthic” zone. Microorganisms found in this zone will be facultative organisms undergoing inorganic substrate respiration typically utilizing nitrate, carbonate, or sulfate as an oxygen source for organic energy utilization. This zone is also characteristically quiescent, and the physical removal mechanism of sedimentation tends to dominate over the biokinetic utilization of organic substrate. Occasionally, some upwards mobility can be observed through this zone but, generally the mixing action characterizing the surface zone action characterizing the surface zone is absent here.

The lower zone in this depth range usually occupies the bottom-most two or perhaps three feet. This zone is sometimes the “benthic” zone or the “bottom” zone. It is characterized by bottom-dwelling organisms that are either strict anaerobes or facultative adaptive organisms. The bottom sediments provide the source of volatile solids preferred as substrate by these bottom-dwellers. Generation of soluble volatile acids, gases such as carbon dioxide, ammonia, and methane, and inert stabilized sludge solids characterize this zone activity. Being temperature sensitive, these bottom-dwellers tend to slow their work in the winter months and may be stimulated by warming weather in the springtime. This stimulation may result in bottom sediment turn-over floating sludge, malodors, or cloudy effluent from the bottom stabilization zone.

Because of the mixed population of microorganisms in a facultative pond, coupled with a larger volume of pond storage utilized (resulting strictly from the increased depth of operation), the facultative pond can typically handle higher organic loadings than the oxidation pond discussed above.

5.1.3. Optimization of Hydraulic Detention Time

As mentioned earlier, the objective of the operation of the CSO ponds is to maximize the hydraulic detention time in the ponds. This strategy serves two useful purposes:

1) It maximizes sludge detention time and therefore increases the organic removal;
2) It “spreads out” surges in flow to the ponds by utilizing the available pond volume as a flow damping treatment unit.

Each pond has a point of inflow where the influent wastewater is introduced into the treatment pond. The wastewater begins a period of travel. By the time the original wastewater reaches the effluent structure, it has been subjected to extensive sedimentation and biological oxidation reactions to reduce the waste load to the receiving waters. The sluice gates in each of the pond effluent structures can be moved up or down to vary the water surface elevation in the pond. To do this, the top of the sluice gate acts as a broad-crested rectangular weir obeying a modified weir equation. By monitoring sluice gate position and pond level, a discharge rate may be computed.

Figure 5-2 shows the locations of the effluent sluice gates.

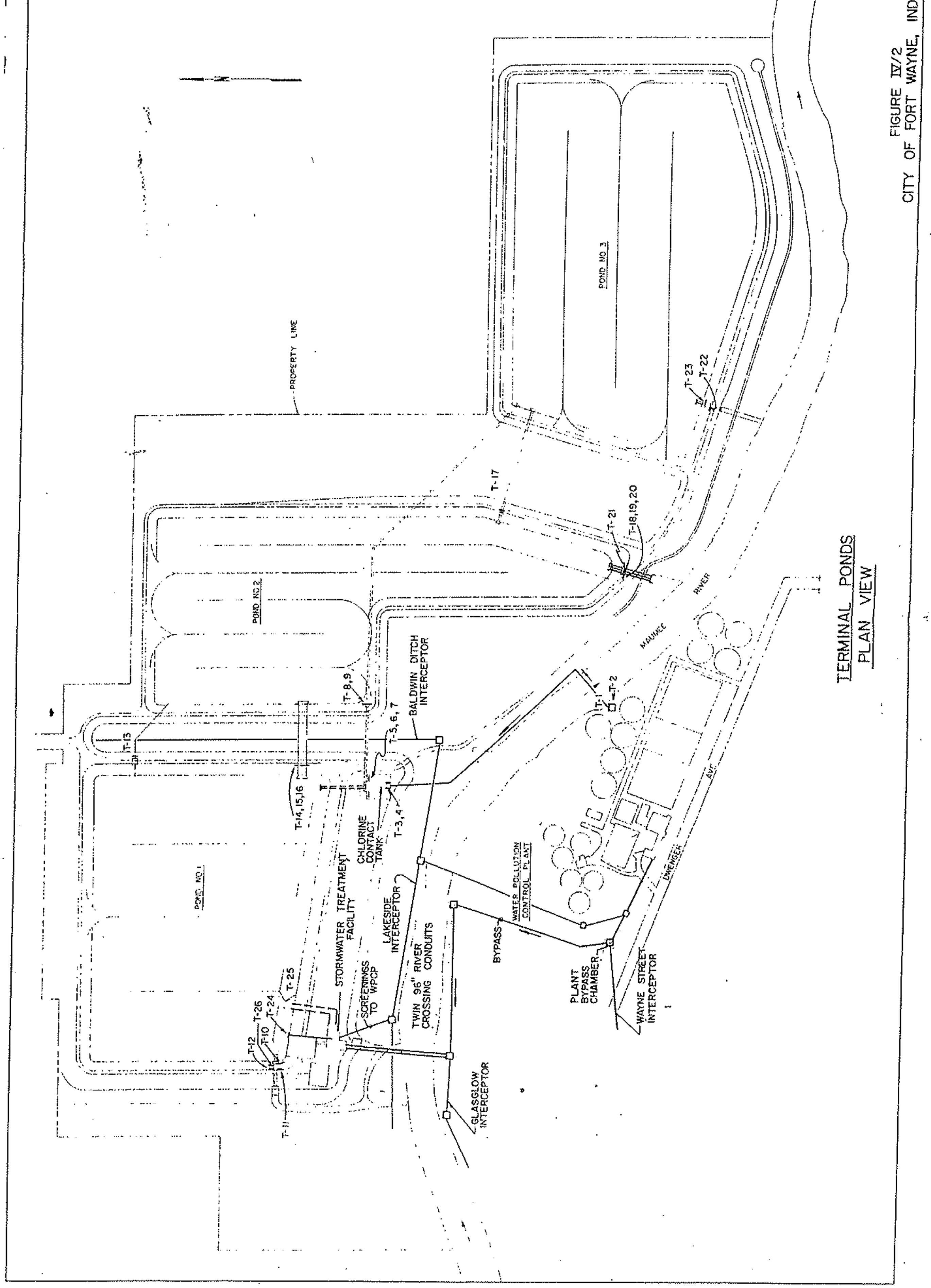
The sluice gates are provided with electric operators and manual hand cranks. The gates are operated locally.

5.1.4. CSO Pond Flow Routing

To maximize CSO pond performance, it is desirable to operate the ponds in tandem. This technique utilizes the gravity head differential between two ponds to transfer the wastewater from one pond to another. There are several process considerations for multiple pond operation. Such requirements as pond depth and hydraulic detention time, prevention of short circuiting, pond levee maintenance, alternative flow routing, and holding volume of ponds. The water surface level in each terminal pond is monitored to regulate the detention time in the pond. Vertical adjustment of the sluice gates allows the plant operators to adjust the level in the CSO ponds.

Extended detention times in the pond system are possible by operating the ponds in series. Through the use of the channelization sheet piling flow control structures, the flow is

Figure 5-2



IV/3

controlled in each pond by permitting flow in a predetermined direction only. Other means are installed to control flow direction in the ponds.

5.1.5. Operation of CSO Ponds During River Flood Stage

During periods of high water, the levees for the CSO ponds can be subject to high level flood waters which might undermine portions of the levees surrounding the ponds. Since this condition is not likely to persist indefinitely, a temporary procedure should be implemented when the Weather Bureau warns of flood conditions on the Maumee River.

Briefly, this procedure involves using the CSO Facility pumps to raise the water surface in the ponds to a level that approximately equals the maximum anticipated crest of the river. If the hydrostatic water surface on each side of the levee is the same, the likelihood of undermining the levee is greatly reduced. Because this procedure will only be necessary when wet weather causes flooding, the necessity of using the CSO Facility pumps for control of CSOs is likely.

5.2. CSO FACILITY MAINTENANCE

5.2.1. Preventative Maintenance

Each facility was designed for a specific set of site conditions. Therefore the facility has a unique set of components and unique set of maintenance requirements.

Establishing the preventative maintenance program started during the design and constructions of the facility. Layout and equipment selection was made with maintenance in mind. At the end of construction an O&M manual was prepared and delivered to those who have O&M responsibilities.

In the WPC Utility the Maintenance area of the WPCP Group has responsibility for maintenance of facilities. Upon receiving the O&M manuals parts, maintenance procedures, and maintenance frequency information was entered into the CMMS. The CMMS then becomes a reference for parts and automatically generates work orders for preventative maintenance. The initial maintenance procedures and schedules have been refined by actual experience.

Preventative procedures and schedules are kept in the WPCP Group's CMMS.

5.2.2. Emergency/Reactive Maintenance

Plant operators monitor the status sensors and alarms for the equipment used in the CSO facility. When they detect an emergency situation they normally use a walkie talkie to contact the maintenance supervisor and create a work request in the CMMS. Emergency procedures manuals are maintained at the three plant operator's stations.

The maintenance supervisor assesses the situation and normally uses a walkie talkie to notify a work leader of the situation. The maintenance supervisor then converts the work request into a work order assigning the work to a specific crew. The maintenance supervisor also notifies the person responsible for regulatory notifications if necessary.

The work leader assembles the required crew and equipment and performs the required repairs. After the work is completed the activities are recorded in the CMMS.

5.2.3. Maintenance Management System

As discussed in Section 3 the WPCP Group uses a CMMS to inventory equipment and their parts, maintain maintenance procedures, establish maintenance schedules, prioritize work request, produce work orders, and record maintenance history.

5.2.4 The Maintenance Process

<u>Request for Maintenance Work</u>
The request can come from other WPC Utility Groups, other WPCP Sections, WPC Utility Contractors, City Departments as well as from homeowners. The "Request for Service" is entered into the CMMS database and referred to a Supervisor. The information entered is:

Who requested the work,
What type of work is to be done,
Where is the work to be performed (address),
When the request was made, and

Why the work is being requested.

Assigning the Work

The Supervisor can review the current work order request to determine the type of work required and the priority of the work. The supervisor can then assign the work to the appropriate crew.

Databases

The WPCP Group utilizes a CMMS to handle work orders.

Information from each complaint or work order is entered into the maintenance database. Maintenance datebase fields are as follows:

- Work Order Tracking Number
- Date Work Order Created
- Crew to be assigned to Work Order
- Problem Location
- Date/Time Service Request Received
- Employee who Received the Request
- Priority
- Map area
- Department responsible for work
- Comments to instruct crew

This information is saved as a pending job. Maintenance work can then be assigned by type of work and/or other considerations.

Once the maintenance work order is completed the data from the work sheets is entered into a data base. This database is able to compute job cost.

5.3 REGULATORY REPORTING

The City is authorized to discharge combined sewage overflows from Outfalls 002 and 003. The City is required to monitor effluent limitations according to the issued National Pollutant discharge Elimination System (NPDES) permit No. IN0032191, effective December 1, 2004. Discharges from the aforementioned outfalls are reported on Monthly Report of Operations (MRO) and Discharge Monitoring Reports (DMR). These two forms are submitted on the 28th of each month.

Pond 1 (Outfall 003) and Pond 2 (Outfall 002) take in combined sewer flows in excess of the mechanical treatment plant capacity. Samples are taken when discharges occur. The following table lists the parameters and limits for Outfall 002 and Outfall 003 effluent.

The City is currently working with IDEM to characterize the Ponds as CSO storage facilities that would function primarily as temporary storage of CSO flows. The CSO would be bled back to the WPCP when capacity is available. Upon completion of this change and construction of the bleedback facilities, the outfalls for Pond 1 (003) and Pond 2 (Outfall 002) would be considered the same as the other CSO outfalls in Attachment "A" of the NPDES permit and no water quality parameters will be required to be monitored.

Parameter	Monthly Average	Weekly Average	Measurement Frequency	Sample Type
Influent Flow	Report (MGD)	Report (MGD)	Daily (when discharge occurs)	24-Hr. Total
Effluent Flow	Report (MGD)	Report (MGD)	Daily (when discharge occurs)	24-Hr. Total
$CBOD_5$	25 mg/l	40 mg/l	Daily (when discharge occurs)	Grab
TSS	30 mg/l	45 mg/l	Daily (when discharge occurs)	Grab
Parameter	**Daily Minimum**	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
pH	6.0	9.0	Daily (when discharge occurs)	Grab
Parameter	**Monthly Average**	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
E. coli (April 1-Oct. 31)	125 col/100 ml	235 col/100 ml	Daily (when discharge occurs)	Grab

The effluent flow shall be reported in hours of duration and shall not exceed one-third (1/3) of the receiving stream flow.

Record and report, on the MRO, the average rate of discharge from the pond and the stream flow during the discharge period.

6. CSS PUMPING OPERATION AND MAINTENANCE PROGRAM

As is seen from the discussion in Section 3, the WPCP Group is involved in a number of wide-ranging activities including but not limited to operating and maintaining the wastewater treatment plant, the package treatment plant, the biosolids facilities, CSO treatment facilities, pumping stations and mechanical regulators.

For purpose of clarity, it should be stated that the discussion presented in Section 3 covers all the activities of the WPCP Group. The following topics emphasize aspects of the WPCP Group's activities associated with the CSS Pumping Facilities:

Area	Section
Operations	6.1
Maintenance	6.2

This plan will be subject to modification by the Director of the WPC Utility to account for changes in circumstances such as changes in the configuration of WPC Utility facilities, the purchase of new equipment, changes in regulatory requirements, the development of new technologies, or changes in industrial standards/best management practices.

6.1. CSS PUMPING FACILITIES OPERATION

6.1.1. CSO Pump Stations

Upstream regulators regulate how much flow goes to the treatment plant to prevent overloading the treatment plant. When flows exceed the capacity of the interceptor or what can be treated at the treatment plant, excess flows are directed to the rivers.

These regulators were designed with two outlets to the river. One allowed overflows to flow into the river by gravity. However, if the river stage was high flow couldn't get into the river and basement and street flooding occurred. Pump stations were built to solve this problem. When the river stage was high, overflows went to the pump stations and were pumped into the river.

The sluice gates on the gravity overflow pipes have been closed to force all overflows through the pump stations. The pump flow rates are measured and pump run times are used to determine the start, duration, and volume of the overflows. This simplifies the task of trying to measure flows in submerged gravity discharge pipes at these locations.

The pumps are sized by the engineers that design the stations. Control algorithms are determined by the design engineers, but are often fine tuned by the Maintenance Area of the WPCP Group. Pump alarm and operating data is sent to the WPCP via radio where it is stored in a database. Alarm signals are monitored by the WPCP Group's Operations area. If pump station problems are observed, this group requests maintenance services from the WPCP Maintenance area. Emergency operating procedures for a variety of situations are located in the control rooms of the WPCP.

Pump operational data is reviewed and analyzed by the WPCM Group. They also prepare monthly CSO reports.

6.1.2. Dry Weather Pump Stations

The dry weather pump stations serve the same purpose as a regular collection system pump station. It lifts dry weather flow from a low elevation to a higher elevation so that is can flow by gravity to the treatment plant.

The pumps are sized by design engineers to handle peak dry weather flow plus whatever additional flow the downstream sewer and treatment facilities can handle. Control algorithms are determined by the design engineers, but are often fine tuned by the Maintenance Area of the WPCP Group. Pump alarm and operating data is sent to the WPCP via radio where it is stored in a database. Alarm signals are monitored by the WPCP Group's Operations area. If pump station problems are observed, this group requests maintenance services from the WPCP Maintenance area. Emergency operating procedures for a variety of situations are located in the control rooms of the WPCP.

6.2. CSS PUMPING FACILITIES

6.2.1. Preventative Maintenance

A schedule listing the preventative maintenance (PM) and inspection frequency is maintained for each station. PM activities typically include, but are not limited to the following:

- Check operation of pumps

- Report pump run times when applicable
- Check floats or float sticks, clean as necessary
- Check wet well and clean when necessary
- Change charts and check ink levels when applicable
- Check for unusual vibration, bearing heat, belt wear, pipe leaks etc.

Records of all PM activities are kept on file in a computerized maintenance management system (CMMS).

6.2.2. Emergency/Reactive Maintenance

Plant operators monitor the status sensors and alarms for the equipment used in the CSS pump stations. When they detect an emergency situation they normally use a walkie-talkie to contact the maintenance supervisor and create a work request in the CMMS. Emergency procedures manuals are maintained at the three plant operator's stations.

The maintenance supervisor assesses the situation and normally uses a walkie-talkie to notify a work leader of the situation. The maintenance supervisor then converts the work request into a work order assigning the work to a specific crew. The maintenance supervisor also notifies the person responsible for regulatory notifications if necessary.

The work leader assembles the required crew and equipment and performs the required repairs. After the work is completed the activities are recorded in the CMMS.

6.2.3. Maintenance Management System

As discussed in Section 3 the WPCP Group uses a CMMS to inventory equipment and their parts, maintain maintenance procedures, establish maintenance schedules, prioritize work request, produce work orders, and record maintenance history.

6.2.4. The Maintenance Process

Request for Maintenance Work

The request can come from other WPC Utility Groups, other WPCP Sections, WPC Utility Contractors, City Departments as well as from homeowners. The "Request for Service" is entered into the CMMS database and referred to a Supervisor. The information entered is:

Who requested the work,
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Why the work is being requested.

Assigning the Work

The Supervisor can review the current work order request to determine the type of work required and the priority of the work. The supervisor can then assign the work to the appropriate crew.

Databases

The WPCP Group utilizes a CMMS to handle work orders.

Information from each complaint or work order is entered into the maintenance database. Maintenance datebase fields are as follows:

- Work Order Tracking Number
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- Priority
- Map area
- Department responsible for work
- Comments to instruct crew

This information is saved as a pending job. Maintenance work can then be assigned by type of work and/or other considerations.

Once the maintenance work order is completed the data from the work sheets is entered into a data base. This database is able to compute job cost.

7. MECHANICAL REGULATOR OPERATION AND MAINTENANCE PROGRAM

As is seen from the discussion in Section 3, the WPCP Group is involved in a number of wide-ranging activities including but not limited to operating and maintaining the wastewater treatment plant, the package treatment plant, the biosolids facilities, CSO treatment facilities, pumping stations and mechanical regulators.

For purpose of clarity, it should be stated that the discussion presented in Section 3 covers all the activities of the WPCP Group. The following topics emphasize aspects of the WPCP Group's activities associated with the mechanical regulators:

Area	Section
Operations	7.1
Maintenance	7.2

This plan will be subject to modification by the Director of the WPC Utility to account for changes in circumstances such as changes in the configuration of WPC Utility facilities, the purchase of new equipment, changes in regulatory requirements, the development of new technologies, or changes in industrial standards/best management practices.

7.1. MECHANICAL REGULATOR OPERATION

7.1.1. Float Actuated Gate – Mechanical Regulator

The principle of these regulators is fairly simple. A dam high enough to divert the dry weather maximum flow is built in the subbasin sewer. Just up stream from this dam an opening is built in the subbasin sewer that allows dry weather flow to be directed to the WPCP for treatment. A movable shutter or shear gate is located in this opening. A cast iron float is located in a separate chamber. The water level in this chamber is regulated by a tell tale pipe connected to the subbasin sewer. The float raises and lowers with the chambers (subbasin sewer's) water level. The float is connected to the above shear gate and is the force which raises or lowers it.

With low flow in the subbasin sewers the float is down, the shutter or gate is up and the entire flow is diverted to the WPCP interceptor. In times of rain as the flow in the subbasin sewers rises the float also rises, the gate starts to close and the flow diverted to the interceptor is reduced. If the flow in the city sewer continues to rise, the float may rise high enough to close the gate completely and all flow goes to the river.

The two ways in which these regulators can be adjusted are as follows:

* Remove Fillers – Many of the regulators have fillers inserted in the throat of the gate to cut down the size of the opening. This also cuts down the amount of flow thru the gate. At such time as it is necessary to increase the flow, this can be done by removing a filler plate.

* Change Float Stops – The flow thru the regulator can be increased by raining the stops on the float supports. This increases the head on the opening before the gate starts to close. Whenever any change is made in the level of the float stops, the wire cable between the gate and the shaft must also be adjusted to keep the cable taut.

The regulators are the only connection between the subbasin sewers and the sewage treatment plant interceptor and as such must be closely watched and carefully guarded. If all the regulators are closed, no sewage reaches the treatment plant. If all the regulators are wide open, and excessive amount of flow will reach the plant during storms. To insure the correct flow at the plant at all times the regulators must be properly adjusted and regularly inspected.

7.1.2. Float Switch Actuated Hydraulic Gate – Mechanical Regulator

These regulators operate similar to the float actuated gate - mechanical regulators. The main differences are that the gates are controlled by float switches rater than floats and the gates are hydraulically operated rather than mechanically operated.

7.2. MECHANICAL REGULATOR MAINTENANCE

Without constant attention two problems can occurred. First sticks, rags, debris etc. may clog the gate opening and force the dry weather sewage into the river. Second during storms such debris may be caught under the gate and hold it open thus allowing an excess storm flow to enter the interceptor.

Both of these conditions are undesirable, unnecessary, and indicate an inefficient management of the treatment plant and its system of interceptors. Both types of regulators require regular operational inspections and maintenance. This includes the cleaning out of openings to the gate on the subbasin side and cleaning out tell-tale pipes. In addition to operational inspections and maintenance by WPCP, the City WPCM department also inspects regulators daily as part of its monitoring program for CSO events.

Float actuated gate – mechanical regulators require the following additional activities:

- Flush out float chambers to keep free of deposits.
- See if gates slide evenly over their seats.
- Lubricate the two shaft bearings, the two gate bearings, and the rope at least twice a year.

Float switch actuated – mechanical regulators require the following additional maintenance activities.

- Clean off the float switches.
- See if gates slide evenly over their seats.
- Check electrical connections
- Check the level of hydraulic fluids.
- Lubricate all moving parts.

APPENDIX A

Appendix A

Water Pollution Control Plant
Equipment List

Vehicle ID#	Year	Description	Model #	Serial #
15151	1995	Ford - Cheryl	Taurus Wagon	1FALP57U8SG205340
18152	1998	Ford - Jim	Taurus	1FAFP57U4WG207301
20509	2000	Ford - Brian	F-250	1FTNY2116YEC11028
20510	2000	Ford - IPS	Express 1500	1GCFG15W411140850
21511	2001	Ford	F-350	1FDSW35L11EA87208
22019	2002	Ford - Maintenance	F-250	1FTNX21LX2ED27579
22025	2002	Ford - Route Truck	F-350	1FDSX31L22ED27578
22026	2002	Ford - Route Truck	F-350	1FDWX37F72ED27577
25123	1995	Ford	F-250	2FTHF25H6SCA31681
25306	1995	Ford - IPS	E-250	1FTJE34H8SHA91644
25312	1995	Jeep - Chris	Cherokee	1J4FJ67SL663322
26508	1996	Ford - Parts Truck	F-250	1FTH25H2TEB13872
26510	1996	Chevrolet - Maintenance	C-2500	1GCGK24R5TZ187779
36512	2006	Ford - Dump Truck	F-450	1FDXF46P56EC94415
37165	1987	Navistar	Sewer Jet	1HTLVUXN3HHA4786
39115	1999	International - Dump Truck	4900	1HTSDAAR8XH665274
48183	1998	Navistar	Vactar	1HTGMAAR8WH5451
51060	2001	Case - Backhoe	580M	JJG0308838
55241	1995	Grove - Crane	RT528C	82276
60108	1990	Sreco - Hydraulic Pump		13430
75061	2005	Genie - Lift	45/25	Z452505-24303
85038	1975	Mudcat Dredger		
87040	1977	Ford Tractor		C51000
		Volvo - Loader	L-30	BW5657-401
		Godwin - Hydraulic Pump	HS-150	4311422
		Godwin - Hydraulic Pump	HS-150	2226636
		Olympian Generator	D50P2	OLY00000LNPF03764
		Olympian Generator	D50P6	OLY00000JNNS01412
		Cushman - Utility Vehicle	Type G	898789
		Gator - Gas 2 x 4 - Utility Vehicle		
		Gator - Diesel 6 x 4 - Utility Vehicle		W006X4D033837
		Gator - Diesel 6 x 4 - Utility Vehicle		W006X4009237
		Kubota - Utility Vehicle		
		Kubota - Utility Vehicle	RTV-900G-K	KRTV900A41018131

EXHIBIT A-3

City Utilities
2006 Budget
Expenses by Cost Center (excluding interest and depreciation)

	2003 Actual	2004 Actual	2005 Budget	2006 Submitted	% incr decr
Direct Expenses					
Wastewater					
Plant					
Biosolids	1,012,896	1,122,581	1,051,929	954,373	
Operations	1,547,221	1,526,900	1,959,678	1,796,772	
Maintenance	761,794	669,322	654,716	741,995	
Laboratory	300,886	288,498	264,876	245,848	
Administrative	894,087	892,030	862,113	980,557	
Industrial Pre-Treatment	194,375	203,324	228,015	265,530	
Combined Storm Stations	302,911	484,648	643,310	640,822	
Flood Control	14,846	8,885	40,344	40,565	
Electrical	383,878	389,525	345,471	344,868	
Capital Labor	28,503	33,692	-	-	
Total Plant	5,441,399	5,619,403	6,050,452	6,011,330	-0.6%
Maintenance					
Sanitary Maint.	1,030,495	1,115,431	1,165,828	1,492,489	
Combined Maint.	1,670,051	1,715,348	2,189,067	1,901,906	
General Expense	605,224	668,179	735,405	787,206	
Capital Labor	8,644	10,753	-	-	
Total Maint	3,314,414	3,509,711	4,090,300	4,181,601	2.2%
Engineering					
Planning & Design	765,157	913,588	1,035,127	759,490	
Capital Labor	65,523	29,705	-	-	
Total Engineering	830,680	943,293	1,035,127	759,490	-26.6%
Administrative Expenses					
CILT	1,475,904	1,583,512	1,504,227	1,793,085	
Bad Debts	341,112	572,992	465,000	465,000	
Outside Services	215,621	261,745	306,700	228,500	
Miscellaneous	189,502	283,804	166,248	-	
Building Rent	122,886	128,120	130,471	132,400	
Total Administrative Expenses	2,345,025	2,830,172	2,572,646	2,618,985	1.8%
Total Direct Expenses	11,931,517	12,902,579	13,748,525	13,571,406	-1.3%
Reconcile to G&A expenses:					
Deduct Capital Labor	(102,670)	(74,150)	(175,981)	(225,934)	
Deduct Capital Burden	(71,668)	(123,111)	(89,850)	(147,784)	
Deduct 50% of shared CSO	(1,107,708)	(1,230,358)	(1,601,428)	(1,470,016)	
Deduct Lime disposal costs	-	-	(369,000)	(380,072)	
Add 50% of meter related expenses	369,979	407,241	631,035	908,920	
Add Shared Administrative Costs	3,812,551	3,776,677	4,091,201	4,321,168	
Miscellaneous	-		-	-	
G&A Expenses	14,832,000	15,658,878	16,234,502	16,577,688	

Wastewater Expenses (in $millions)

		2003	2004	2005	2006
Direct	WPC Plant	5.249	5.325	5.607	5.566
	Sewer Maintenance	3.444	3.734	4.055	4.143
	Transfer Combo to Storm	(1.108)	(1.230)	(1.601)	(1.470)
	Transfer Meters in from Water	0.370	0.407	0.631	0.909
	Sewer Admin	0.861	1.176	1.068	0.824
	Sewer CILT	1.476	1.584	1.504	1.793
	Sewer Planning and Design	0.728	0.887	0.879	0.492
Shared	Shared Admin	3.813	3.777	4.091	4.321
		14.832	15.659	16.235	16.578

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SEWER UTILITY
574 COMP ENGINEERING
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4111	SALARIES & WAGES,REGULAR LABOR	-	-	136,318	166,502	30,184
4131	PERF - EMPLOYERS SHARE	-	-	10,161	11,290	1,129
4132	FICA - EMPLOYERS SHARE	-	-	11,958	12,795	837
4134	HEALTH & LIFE INSURANCE	-	-	21,000	23,550	2,550
4136	UNEMPLOYMENT COMPENSATION	-	-	78	82	4
4138	CLOTHING ALLOWANCE	-	-	150	300	150
413A	PERF - EMPLOYEES/PD BY CITY	-	-	4,690	5,018	328
4140	PRODUCTIVITY BONUS	-	-	-	750	750
4800	W O LABOR	-	-	(27,934)	(16,549)	11,385
TOTAL 4100		-	-	156,421	203,738	47,317
4291	SMALL TOOLS		-	100	200	100
TOTAL 4200		-	-	100	200	100
4314	CONSULTANT SERVICES	-	-	300,000	50,000	(250,000)
4317	INSTRUCTIONAL SERVICES	-	-	1,500	1,500	-
431J	TECHINICAL SERVICES	-	-	200	500	300
431K	SEMINAR FEES	-	-	1,700	2,400	700
4324	TRAVEL EXPENSES	-	-	2,400	3,900	1,500
4333	BULEPRINTING	-	-	300	-	(300)
4342	LIABILITY INSURANCE	-	-	-	4,519	4,519
4367	MAINT AGREEMNT FOR SOFTWARE	-	-	1,700	1,800	100
4391	SUBSCRIPTION & DUES	-	-	250	250	-
4392	LICENSES	-	-	-	200	200
4808	W O BURDEN	-	-	(19,554)	(11,584)	7,970
TOTAL 4300		-	-	288,496	53,485	(235,011)
GRAND TOTAL		-	-	445,017	257,423	(187,594)

SEWER UTILITY
574 SPLT ENGINEERING
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4111	SALARIES & WAGES,REGULAR LABOR	-	27,173	-	96,578	96,578
4125	OVERTIME PREMIUM		-	-	2,516	2,516
4126	EDUCATIONAL INCENTIVE		-	-	1,000	1,000
4131	PERF - EMPLOYERS SHARE	-	2,829	-	6,807	6,807
4132	FICA - EMPLOYERS SHARE	-	3,068	-	7,715	7,715
4134	HEALTH & LIFE INSURANCE	-	-	-	15,700	15,700
4136	UNEMPLOYMENT COMPENSATION	-	-	-	48	48
4138	CLOTHING ALLOWANCE	-	-	-	300	300
413A	PERF - EMPLOYEES/PD BY CITY	-	1,213	-	3,025	3,025
4140	PRODUCTIVITY BONUS		408	-	750	750
480O	W O LABOR	-	-	-	(76,213)	(76,213)
TOTAL 4100		-	34,690	-	58,226	58,226
4214	SAFETY SUPPLIES	7,742	-	-	-	-
TOTAL 4200		7,742	-	-	-	-
4314	CONSULTANT SERVICES	-	41,249	85,848	37,200	(48,648)
431J	TECHINICAL SERVICES	-	-	-	200	200
431K	SEMINAR FEES	-	-	-	1,000	1,000
4324	TRAVEL EXPENSES	-	-	-	600	600
4333	BULEPRINTING	58	-	-	-	-
4342	LIABILITY INSURANCE	1,587	2,989	1,437	-	(1,437)
4392	LICENSES	-	-	-	400	400
4399	OTHER SERVICES & CHARGES	-	-	-	100	100
4808	W O BURDEN	-	-	-	(53,349)	(53,349)
TOTAL 4300		1,645	44,238	87,285	(13,849)	(101,134)
GRAND TOTAL		9,387	78,928	87,285	44,377	(42,908)

SEWER UTILITY
574 SRRD ENGINEERING
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4111	SALARIES & WAGES,REGULAR LABOR	23,150	36,233	98,691	102,856	4,165
4112	BONUS	463	434	-	-	-
4125	OVERTIME PREMIUM		-	-	2,000	2,000
4131	PERF - EMPLOYERS SHARE	3,555	3,692	6,415	7,128	713
4132	FICA - EMPLOYERS SHARE	3,617	3,698	7,550	8,079	529
4134	HEALTH & LIFE INSURANCE	6,500	6,500	14,000	15,700	1,700
4136	UNEMPLOYMENT COMPENSATION	25	25	49	51	2
4137	WORKMANS COMPENSATION	1,461	-	-	-	-
4138	CLOTHING ALLOWANCE	-	152	-	450	450
413A	PERF - EMPLOYEES/PD BY CITY	1,521	1,582	2,961	3,168	207
4140	PRODUCTIVITY BONUS		-	-	750	750
4800	W O LABOR	(17,572)	(11,847)	(78,953)	(64,723)	14,230
TOTAL 4100		22,721	40,471	50,713	75,459	24,746
4213	COMPUTER SUPPLIES	-	-	-	500	500
4247	INSTRUCTIONAL SUPPLIES	-	-	500	500	-
4291	SMALL TOOLS	92	110	50	-	(50)
TOTAL 4200		92	110	550	1,000	450
4317	INSTRUCTIONAL SERVICES	-	-	1,000	1,000	-
431J	TECHINICAL SERVICES	-	-	300	400	100
431K	SEMINAR FEES	-	835	1,600	1,600	-
4321	FREIGHT,EXPRESS & DRAYAGE	4	7	-	-	-
4324	TRAVEL EXPENSES	-	220	2,000	2,000	-
4326	MILEAGE	-	-	400	-	(400)
4333	BULEPRINTING	222	133	150	-	(150)
4342	LIABILITY INSURANCE	1,457	1,498	1,455	3,013	1,558
4391	SUBSCRIPTION & DUES	-	-	800	800	-
4808	W O BURDEN		-	(23,107)	(45,306)	(22,199)
TOTAL 4300		1,683	2,694	(15,402)	(36,493)	(21,091)
GRAND TOTAL		24,496	43,275	35,861	39,968	4,105

SEWER UTILITY
574 SSCD ENGINEERING
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4111	SALARIES & WAGES,REGULAR LABOR	80,632	100,397	50,685	-	(50,685)
4112	BONUS	463	434	-	-	-
4131	PERF - EMPLOYERS SHARE	7,648	7,899	4,595	-	(4,595)
4132	FICA - EMPLOYERS SHARE	8,117	8,415	5,407	-	(5,407)
4134	HEALTH & LIFE INSURANCE	13,000	13,000	7,000	-	(7,000)
4136	UNEMPLOYMENT COMPENSATION	52	52	35	-	(35)
4138	CLOTHING ALLOWANCE	-	-	150	-	(150)
413A	PERF - EMPLOYEES/PD BY CITY	3,274	3,385	2,121	-	(2,121)
4140	PRODUCTIVITY BONUS	463	434	-	-	-
4800	W O LABOR	(19,522)	(8,946)	(3,534)	-	3,534
TOTAL 4100		94,126	125,069	66,459	-	(66,459)
4213	COMPUTER SUPPLIES	9	-	-	-	-
4299	OTHER MATERIALS & SUPPLIES	-	60	-	-	-
TOTAL 4200		9	60	-	-	-
4314	CONSULTANT SERVICES	55,567	332,150	100,000	-	(100,000)
4317	INSTRUCTIONAL SERVICES	-	-	500	-	(500)
431J	TECHINICAL SERVICES	144	-	200	-	(200)
431K	SEMINAR FEES	60	300	1,400	-	(1,400)
4324	TRAVEL EXPENSES	12	891	2,200	-	(2,200)
4331	PRINTING OTHR THN OFFICE SUPPL	293	27	-	-	-
4333	BULEPRINTING	296	86	100	-	(100)
4342	LIABILITY INSURANCE	-	-	2,873	-	(2,873)
4367	MAINT AGREEMNT FOR SOFTWARE	1,432	1,553	-	-	-
4391	SUBSCRIPTION & DUES	72	52	150	-	(150)
4392	LICENSES	-	100	-	-	-
4808	W O BURDEN	-	-	(2,707)	-	2,707
TOTAL 4300		57,876	335,159	104,716	-	(104,716)
GRAND TOTAL		152,010	460,288	171,175	-	(171,175)

SEWER UTILITY
574 SWPD ENGINEERING
2006 BUDGET COMPARISON

	2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
					-
TOTAL 4100	-	-	-	-	-
					-
TOTAL 4200	-	-	-	-	-
4314 CONSULTANT SERVICES	542,162	310,259	140,000	150,000	10,000
TOTAL 4300	542,162	310,259	140,000	150,000	10,000
GRAND TOTAL	542,162	310,259	140,000	150,000	10,000

SEWER UTILITY
531 PLANT OPERATIONS
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4111	SALARIES & WAGES,REGULAR LABOR	1,767,119	1,878,903	1,952,906	1,958,361	5,455
4112	BONUS	45,315	64,702	-	-	-
4115	PARTTIME,TEMP & SEASONAL WAGES	-	5,068	16,551	16,065	(486)
4125	OVERTIME PREMIUM	178,354	154,799	159,300	163,800	4,500
412L	LONGEVITY PAY	18,978	19,464	21,523	19,616	(1,907)
4131	PERF - EMPLOYERS SHARE	145,861	153,737	143,633	146,670	3,037
4132	FICA - EMPLOYERS SHARE	153,953	161,987	170,310	167,456	(2,854)
4134	HEALTH & LIFE INSURANCE	325,000	305,500	343,000	390,800	47,800
4136	UNEMPLOYMENT COMPENSATION	932	932	1,002	992	(10)
4137	WORKMANS COMPENSATION	21,427	38,050	38,050	36,496	(1,554)
4138	CLOTHING ALLOWANCE	2,094	4,115	6,000	10,000	4,000
413A	PERF - EMPLOYEES/PD BY CITY	24,790	24,503	18,161	17,874	(287)
4140	PRODUCTIVITY BONUS	-	-	41,000	33,000	(8,000)
4802	HYDRANTS	(20,334)	(15,156)	-	-	-
4803	METER INVENTORY	(107,697)	(108,146)	-	-	-
4805	TRANSFER 50% OF COMB SEW/STORM		-	(186,280)	(186,684)	(404)
4800	W O LABOR	(36,164)	(135,222)	(44,240)	(45,416)	(1,176)
TOTAL 4100		2,519,628	2,553,235	2,680,916	2,729,030	48,114
4212	STATIONARY & PRINTED FORMS	990	853	1,000	1,000	-
4213	COMPUTER SUPPLIES	1,511	2,382	1,500	3,000	1,500
4214	SAFETY SUPPLIES	8,691	7,125	8,500	7,000	(1,500)
4216	HOMELAND SECURITY SUPPLIES	3,541	-	-	-	-
4219	OTHER OFFICE SUPPLIES	8,081	9,075	8,250	10,000	1,750
4220	OFFC FURN/EQUIP UNDER 500	9,461	3,950	6,000	10,750	4,750
4221	PIPE, CASTINGS, FITTINGS	10,639	13,540	12,000	15,500	3,500
4231	GASOLINE	10,470	11,704	12,000	13,000	1,000
4232	DIESEL FUEL / FUEL OIL	37,169	51,073	46,000	92,000	46,000
4233	OIL	5,154	7,282	9,000	13,200	4,200
4234	TIRES	-	-	-	500	500
4242	ANIMAL SUPPLIES	790	633	1,000	1,000	-
4244	LABORATORY SUPPLIES	28,610	42,583	34,000	53,700	19,700
4245	LANDSCAPING & GREENHSE SUPPLIE	830	173	2,000	2,000	-
4246	HOUSEHOLD & CLEANING SUPPLIES	3,084	4,995	4,000	7,000	3,000
4247	INSTRUCTIONAL SUPPLIES	895	3,106	1,700	1,000	(700)
4248	CHEMICALS	1,491	1,476	5,800	10,800	5,000
4252	SODA ASH	-	-	100	100	-
4255	CHLORINE	34,227	37,278	60,000	80,000	20,000
425A	FERRIC CHLORIDE	113,459	97,173	80,000	108,000	28,000
4261	BLDG EQUIP REPAIR PARTS	9,058	28,830	18,000	14,000	(4,000)
4263	OTHER EQUIP REPAIR PARTS	110,273	63,692	83,800	88,000	4,200
4271	GRAVEL	5,503	5,951	8,500	9,000	500
4277	CEMENT & CONCRETE	-	-	250	500	250
4278	LUMBER	500	793	250	750	500
4291	SMALL TOOLS	10,333	16,786	15,300	12,300	(3,000)
4292	HARDWARE	1,552	4,842	4,100	6,750	2,650
4293	PAINT	1,181	2,906	4,600	5,750	1,150
4299	OTHER MATERIALS & SUPPLIES	5,134	3,773	2,400	7,850	5,450
4807	TRANSFER 50% OF COMB SEW/STORM		-	(15,625)	(18,700)	(3,075)
TOTAL 4200		422,625	419,978	414,425	555,750	141,325

SEWER UTILITY
531 PLANT OPERATIONS
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4311	LEGAL SERVICES	-	-	-	-	-
4312	MEDICAL SERVICES	2,647	7,274	4,000	4,000	-
4313	GARAGE SERVICES	-	-	-	-	-
4314	CONSULTANT SERVICES	3,490	780	-	-	-
4315	APPRAISALS & INSPECTIONS	459	530	1,400	1,400	-
4316	RECREATIONAL SERVICES	-	-	-	-	-
4317	INSTRUCTIONAL SERVICES	14,773	20,445	35,000	38,000	3,000
4319	VETERINARY SERVICES	219	1,089	800	-	(800)
431B	GARAGE OVERHEAD	-	-	-	-	-
431F	FALSE ALARM FEES	-	-	-	-	-
431J	TECHINICAL SERVICES	-	-	200	200	-
431K	SEMINAR FEES	4,132	7,015	12,100	8,700	(3,400)
431P	LAB SERVICES	17,786	15,020	30,800	28,000	(2,800)
431Q	RADIO SHOP SERVICES	676	33	500	500	-
431S	SOFTWARE TRAINING	520	-	1,000	-	(1,000)
431W	CAR WASH SERVICES	-	139	100	100	-
4321	FREIGHT,EXPRESS & DRAYAGE	322	1,749	400	900	500
4322	POSTAGE	939	1,153	1,200	1,400	200
4323	TELEPHONE & TELEGRAPH	26,372	24,985	30,000	30,000	-
4324	TRAVEL EXPENSES	2,258	6,190	20,000	12,300	(7,700)
4326	MILEAGE	1,063	409	2,100	2,100	-
432C	CELL PHONE	11,024	11,578	8,000	10,000	2,000
4331	PRINTING OTHR THN OFFICE SUPPL	-	57	250	250	-
4332	PUBLICATION OF LEGAL NOTICES	675	2,059	500	1,000	500
4333	BULEPRINTING	193	3	100	500	400
4341	PROPERTY INSURANCE	108,213	108,472	113,835	99,646	(14,189)
4342	LIABILITY INSURANCE	59,868	64,445	67,721	66,512	(1,209)
4345	AUTOMOBILE INSURANCE	2,997	3,439	3,197	1,789	(1,408)
4351	ELECTRICITY	931,353	901,111	1,247,000	1,007,000	(240,000)
4352	NATURAL GAS	12,877	18,601	28,500	107,575	79,075
4353	WATER	29,347	37,765	27,000	45,000	18,000
4354	SEWAGE	3,128	2,379	3,000	35,000	32,000
4356	SOLID WASTE DISPOSAL	-	-	20,000	30,000	10,000
4358	HAZARDOUS WASTE DISPOSAL	940	430	1,300	1,100	(200)
4359	STORM WATER SEWER	2,289	2,298	2,152	2,152	-
4363	CONTRACTED BUILDING REPAIRS	122,687	103,879	96,000	103,000	7,000
4365	JANITORIAL & LAUNDRY SERVICES	70,174	59,241	70,000	60,000	(10,000)
4369	CONTRACTED SERVICES	802,215	870,241	787,100	655,500	(131,600)
436A	MAINT AGREEMNT FOR HARDWARE	2,290	2,748	3,200	3,500	300
436N	GARAGE SERVICES-NON TARGET	1,961	1,009	4,844	4,840	(4)
436S	CONTRCTD SERVICES-homeland sec	835	-	-	-	-
436T	GARAGE CONTRACT - TARGET	31,150	30,289	40,867	64,006	23,139
4374	OTHER EQUIPMENT RENTAL	10,450	20,012	18,200	14,700	(3,500)
4377	CC BUILDING PARKING	16	-	-	-	-
4391	SUBSCRIPTION & DUES	1,405	1,513	1,500	2,200	700
4392	LICENSES	24,690	24,737	25,100	25,450	350
4399	OTHER SERVICES & CHARGES	15	859	-	18,150	18,150
439E	EXTRAORDINARY SERVICES	-	-	-	-	-
4808	W O BURDEN		-	(30,567)	(30,883)	(316)
4813	TRANSFER 50% OF COMB SEW/STORM		-	(119,750)	(120,488)	(738)
4814	LIME SLUDGE COST TRANSFER		-	(369,000)	(380,072)	(11,072)
TOTAL 4300		2,306,448	2,353,974	2,189,649	1,955,027	(234,622)
GRAND TOTAL		5,248,701	5,327,187	5,284,990	5,239,807	(45,183)

SEWER UTILITY
532 MAINTENANCE
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4111	SALARIES & WAGES,REGULAR LABOR	1,203,595	1,397,953	1,519,265	1,831,603	312,338
4125	OVERTIME PREMIUM	59,319	80,497	57,500	57,500	-
412L	LONGEVITY PAY	7,765	7,269	10,017	10,285	268
4131	PERF - EMPLOYERS SHARE	95,507	106,877	107,668	132,344	24,676
4132	FICA - EMPLOYERS SHARE	101,358	113,075	126,717	149,990	23,273
4134	HEALTH & LIFE INSURANCE	256,206	286,000	301,000	376,800	75,800
4136	UNEMPLOYMENT COMPENSATION	664	664	768	871	103
4137	WORKMANS COMPENSATION	17,531	31,970	31,970	31,417	(553)
4138	CLOTHING ALLOWANCE	12,947	11,497	22,000	25,000	3,000
413A	PERF - EMPLOYEES/PD BY CITY	40,878	45,804	49,694	58,819	9,125
4140	PRODUCTIVITY BONUS	23,927	25,041	34,650	37,950	3,300
4800	W O LABOR	(653,325)	(815,037)	(21,320)	(23,033)	(1,713)
4802	HYDRANTS	(106,269)	(110,906)	-	-	-
4803	METER INVENTORY	(808,374)	(727,865)	-	-	-
4805	TRANSFER 50% OF COMB SEW/STORM		-	(585,529)	(624,013)	(38,484)
TOTAL 4100		251,729	452,839	1,654,400	2,065,533	411,133
4212	STATIONARY & PRINTED FORMS	575	772	1,200	1,200	-
4213	COMPUTER SUPPLIES	3,088	-	1,250	1,250	-
4214	SAFETY SUPPLIES	9,336	12,985	17,000	18,000	1,000
4219	OTHER OFFICE SUPPLIES	3,934	3,546	3,000	3,000	-
4220	OFFC FURN/EQUIP UNDER 500	2,289	978	3,000	3,000	-
4221	PIPE, CASTINGS, FITTINGS	45,902	26,019	106,000	106,000	-
4231	GASOLINE	23,504	28,678	20,500	25,625	5,125
4232	DIESEL FUEL / FUEL OIL	27,271	35,427	29,500	36,875	7,375
4241	MEDICAL & SURGICAL SUPPLIES	-	-	350	300	(50)
4245	LANDSCAPING & GREENHSE SUPPLIE	2,795	5,389	4,800	6,200	1,400
4246	HOUSEHOLD & CLEANING SUPPLIES	455	2,675	3,000	3,500	500
4247	INSTRUCTIONAL SUPPLIES	1,102	339	2,000	2,000	-
4248	CHEMICALS	57,189	21,039	36,000	36,000	-
4261	BLDG EQUIP REPAIR PARTS	1,651	334	1,700	1,700	-
4262	VEHICLE REPAIR PARTS	71	677	2,000	1,000	(1,000)
4263	OTHER EQUIP REPAIR PARTS	39,161	37,636	46,500	46,500	-
4271	GRAVEL	15,463	19,582	26,500	26,500	-
4272	BITUMINOUS MATERIALS	499	2,058	6,500	7,000	500
4277	CEMENT & CONCRETE	15,240	29,825	33,500	33,500	-
4278	LUMBER	(10)	-	1,900	1,400	(500)
4291	SMALL TOOLS	7,147	6,575	9,500	8,500	(1,000)
4292	HARDWARE	419	410	1,000	650	(350)
4293	PAINT	956	543	400	400	-
4299	OTHER MATERIALS & SUPPLIES	1,980	610	1,400	1,400	-
4807	TRANSFER 50% OF COMB SEW/STORM		-	(97,850)	(99,229)	(1,379)
TOTAL 4200		260,018	236,097	260,650	272,271	11,621

SEWER UTILITY
532 MAINTENANCE
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4312	MEDICAL SERVICES	6,722	7,737	7,200	5,800	(1,400)
4317	INSTRUCTIONAL SERVICES	5,765	3,500	2,600	500	(2,100)
431J	TECHINICAL SERVICES	-	96	400	400	-
431K	SEMINAR FEES	723	1,160	3,300	3,300	-
431Q	RADIO SHOP SERVICES	603	974	2,000	2,800	800
431Y	WATER METER TRANSFER	-	-	818,867	908,920	90,053
4321	FREIGHT,EXPRESS & DRAYAGE	19	-	250	150	(100)
4322	POSTAGE	196	329	600	350	(250)
4323	TELEPHONE & TELEGRAPH	3,547	3,065	2,500	2,500	-
4324	TRAVEL EXPENSES	58	6,610	7,500	6,500	(1,000)
4326	MILEAGE	-	-	325	125	(200)
432C	CELL PHONE	3,714	3,709	2,200	2,600	400
4331	PRINTING OTHR THN OFFICE SUPPL	84	45	100	225	125
4332	PUBLICATION OF LEGAL NOTICES	1,230	238	1,000	800	(200)
4333	BULEPRINTING	1,109	140	1,250	2,200	950
4341	PROPERTY INSURANCE	5,296	5,366	5,862	936	(4,926)
4342	LIABILITY INSURANCE	38,648	53,954	57,642	57,438	(204)
4345	AUTOMOBILE INSURANCE	12,689	17,868	18,783	10,315	(8,468)
4351	ELECTRICITY	9,379	10,096	9,400	10,000	600
4352	NATURAL GAS	6,037	12,756	21,000	23,100	2,100
4353	WATER	1,606	1,999	2,100	3,000	900
4354	SEWAGE	352	926	450	2,800	2,350
4356	SOLID WASTE DISPOSAL	5,017	11,877	29,700	29,700	-
4361	CONTRCTD BLDG & STRUCT REPAIR	16,695	6,091	12,000	6,000	(6,000)
4362	CONTRCTD VEHICLE REPAIRS	1,488	-	-	-	-
4363	CONTRACTED BUILDING REPAIRS	400	706	2,500	2,000	(500)
4364	CONTRD. GROUND & SURFACE RPR.	201,953	276,424	190,000	185,000	(5,000)
4365	JANITORIAL & LAUNDRY SERVICES	5,060	5,257	8,500	8,500	-
4369	CONTRACTED SERVICES	734,505	549,740	890,404	532,200	(358,204)
436A	MAINT AGREEMNT FOR HARDWARE	218	100	500	800	300
436N	GARAGE SERVICES-NON TARGET	12,105	19,028	9,500	9,500	-
436R	RIGHT OF WAY CUT PERMITS	9,925	6,770	7,000	7,000	-
436T	GARAGE CONTRACT - TARGET	131,880	132,036	151,510	158,108	6,598
4374	OTHER EQUIPMENT RENTAL	5,036	14,754	18,000	18,500	500
4375	OTHER RENTAL	2,446	1,954	2,800	2,800	-
4377	CC BUILDING PARKING	32	-	300	300	-
4391	SUBSCRIPTION & DUES	741	660	700	700	-
4392	LICENSES	-	250	325	325	-
4399	OTHER SERVICES & CHARGES	778	-	-	250	250
4808	W O BURDEN		-	(13,915)	(15,662)	(1,747)
4813	TRANSFER 50% OF COMB SEW/STORM		-	(596,394)	(420,902)	175,492
TOTAL 4300		1,226,055	1,156,215	1,678,759	1,569,878	(108,881)
GRAND TOTAL		1,737,801	1,845,150	3,593,809	3,907,682	313,873

SEWER UTILITY
533 ADMINISTRATION
2006 BUDGET COMPARISON

		2003 ACTUAL	2004 ACTUAL	2005 APPROVED	2006 REQUESTED	INCREASE (DECREASE)
4139	UTILITIES PENSION-EMPYR	797	(2,527)	-	-	
TOTAL 4100		797	(2,527)	-	-	-
TOTAL 4200		-	-	-	-	-
4311	LEGAL SERVICES	153,101	166,013	160,000	140,000	(20,000)
4314	CONSULTANT SERVICES	39,901	72,204	125,000	80,000	(45,000)
431C	AUDIT FEES	17,729	19,455	13,200	-	(13,200)
431D	BAD DEBT EXPENSE	318,556	522,400	440,000	440,000	-
4341	PROPERTY INSURANCE	9,089	36,946	10,248	9,162	(1,086)
4342	LIABILITY INSURANCE	-	346	-	-	-
4369	CONTRACTED SERVICES	168,663	169,534	156,000	-	(156,000)
4371	BUILDING RENTAL	116,930	127,717	130,471	132,400	1,929
4375	OTHER RENTAL	777	782	-	-	-
4383	PAYMENT OF AGENT FEES-BONDS	4,890	4,072	8,500	8,500	-
4399	OTHER SERVICES & CHARGES	392,535	432,834	25,000	25,000	-
439A	OPERATING TRANSFER OUT	1,475,904	1,583,512	1,504,227	1,793,085	288,858
439E	EXTRAORDINARY SERVICES	2,573	101,598	-	-	-
TOTAL 4300		2,700,648	3,237,414	2,572,646	2,628,147	55,501
GRAND TOTAL		2,701,445	3,234,887	2,572,646	2,628,147	55,501

EXHIBIT A-4

Wa...

CITY OF FORT WAYNE

GRAHAM RICHARD, MAYOR

March 1, 2007

VIA CERTIFIED MAIL

Mr. Allan Batka
Environmental Engineer
Compliance Section (WC-15J)
USEPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

Re: 2006 Annual Report of the City of Fort Wayne, Indiana (the "City")

Dear Mr. Batka:

This letter is to serve as the City's 2006 Annual Report submitted in compliance with Administrative Order No. V-W-03-AO-07 (the "Order") which the City understands supersedes and replaced the annual reporting requirement of Administrative Order No. V-W-96-AO-04. As with the City's prior Annual Reports, this Annual Report details the City's implementation of its Combined Sewer System Operational Plan (the "CSSOP") which was submitted to the United Stated Environmental Protection Agency ("USEPA") and the Indiana Department of Environmental Management ("IDEM") for approval on September 1, 1996, and provides updates regarding other ongoing sewer system activities of the City. As USEPA is aware, the City currently is working to significantly amend the previously submitted CSSOP.

Also similar to the previous Annual Reports submitted to your office, this Annual Report is organized to group each of the proposed CSSOP activities within one of the 6 overall strategies, which were also presented in the CSSOP. Specifically, the 6 strategies are as follows: (1) Involve the Public, (2) Control What Enters the Collection and Wastewater Treatment System, (3) Maintain the Collection and Wastewater System to Minimize Service Disruption, (4) Operate the Collection and Wastewater Treatment System so that the Maximum Conveyance and Treatment Capabilities are Utilized, (5) Determine if Applied Efforts Achieve the CSSOP's Goals, and (6) Determine if Additional or Revised Efforts are needed to Achieve the Established Goals. Past reports indicated that the objectives of each of the 6 strategies were either (a) adequately addressed by implemented programs, (b) in need of enhancement, or (c) under development. As demonstrated by this and prior Annual Reports, implemented programs adequately address each of the 6 strategies. Nonetheless, in accordance with the Order, the City intends to continue its submission of Annual Reports to your office demonstrating its continuous implementation until the closing of the Order.

STRATEGY 1: INVOLVE THE PUBLIC

The CSSOP identifies all of the following objectives to be achieved through this strategy.

- Involve the public in deciding how pollution reduction will be accomplished, as well as periodic updates on currently established programs.
- Ensure that water quality issues important to the public are addressed.
- Educate the public on the various aspects of the collection system so they will become familiar with its terminology and function.
- Gain public confidence.
- Educate the public about what goes into the nation's water through CSOs.

All of these objectives have been adequately addressed through the following activities, which have either been fully completed or, where appropriate, are being carried out through ongoing programs of the City.

1. SEWER ADVISORY GROUP: The Sewer Advisory Group ("SAG") is the successor to the Sewer Task Force ("STF"), a forum for citizens to participate with City Utility officials in selection of priorities and alternatives of sewer related issues. The SAG also serves to keep the City accountable for commitments made in order to gain support for a sewer revenue increase. Meetings are held on a bimonthly basis, or as needed. A committee of this kind was not required in Phase I, but the City felt it is necessary to involve the public as early as possible in the planning process. Prior agendas and minutes of SAG/STF are available upon request.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification) and the LTCP requirement for "Public Participation."
   CHANGES FOR 2007: None
   LEVEL OF IMPLEMENTATION: Fully implemented.
   PERFORMANCE MEASURE: 2006 agendas and meeting minutes on file.

2. BOARD OF PUBLIC WORKS: The City Board of Public Works (the "BPW") must give approval to capital expenditures. The BPW consists of three members appointed by the Mayor, one of which is a citizen. Meetings are taped and broadcast on public access television.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification)
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented.
   PERFORMANCE MEASURE: 2006 agendas and meeting minutes on file.

3. EDUCATIONAL FLYER/PROGRAM: The City's Public Information Office has developed informational fliers which include the following topics: (1) CSO impacts on Designated Uses; (2) Health Risks; (3) The Nature of Combined Sewer Systems and Why they Overflow; (4) Legal Requirements; and (5) Potential Costs for CSO

Abatement. Through the Allen County Partnership for Water Quality (ACPWQ): produced and distributed brochures on "Green Landscaping" and "Combined Sewer Overflows." These were distributed through ACPWQ website at www.acwater.org at the Partnership booth at the Three Rivers Festival, Allen County Fair and Black Expo, at the Fort Wayne booth at National Night Out, Camp Scott open house and in Fort Wayne utility and public works office. Three new "Water Matters" articles were developed for use by neighborhood associations in their newsletters and made them available on the Partnership website. Pet Waste, Responsible Auto Maintenance and Stormwater Friendly Lawn Care were the new topics in 2006.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification).
CHANGES FOR 2007: Possible development of other program presentations specific to development of the LTCP, if needed is determined.
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: The distribution of informational fliers and program presentations at area neighborhood association and other public meetings as well as at a citizen's request.

4. GREAT AMERICA CLEAN UP: Educating the public on the nature of CSOs, their impacts, and the associated health risks is an important step to meeting the City's objectives. A "Great America Clean-up" event, sponsored by the City's Solid Waste Management Department, emphasizes general environmental issues and incorporates CSO education. Traditional activities include neighborhood trash pick-ups, flower planting, and graffiti removal. This year, the program included the "Riverbank Clean-up." A total of 3,429 individuals comprising of 153 groups participated in the cleanup. The City collected 76.45 tons of material from the 153 sites or projects during the cleanup. This forum increased citizens' awareness of CSO impacts and pollution control.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Degree of public participation. The number of volunteers and material collected increased in 2006 from 2005.

5. CSO HOTLINE: The "CSO Hotline" provides recorded messages to the public about Combined Sewer Overflow and Water Quality issues. The CSO Hotline is updated in the spring, summer and fall on a weekly basis to provide the public with current known receiving water conditions including cautions about body contact during wet weather events. The CSO Hotline can be accessed at (260) 427-2297, which goes through an automated telephone system, Teloquent, which is managed by the Data Control Department. In addition to the CSO Hotline, the City has developed an enhanced and comprehensive CSO notification procedure that includes an automated email/telephone notification system to directly advise citizens of CSO

discharges. Citizens seeking direct notification of CSO events can receive individual notice (via email or, if necessary, telephonically) by either calling 260-427-1255 or through the City's website at: www.cityoffortwayne.org/new/water/where_cso.htm. The City issues a media release annually each March instructing individuals how to register for such notifications.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification).
CHANGES FOR 2007: None planned
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: The number of calls received on the CSO Hotline and the number of information registration request received for direct CSO notification. The City received 222 calls to the CSO Hotline and no requests for direct CSO notifications in 2006.

6. <u>CSO SIGNS</u>: Notice signs were installed at each CSO Outfall and in many river access areas. Additional signs are also being installed in neighborhoods as requested by neighborhood organizations. Signs are checked during outfall and regulator inspections and repaired or replaced as necessary. As part of these enhanced CSO notification procedures (discussed above) the City will post additional CSO signage at the following public locations within the City's municipal jurisdiction: public access points, including boat ramps, bridges, parks, fishing spots, school yards, greenways and parkways, or any potentially affected waters most likely to provide public access. Additionally, records are kept of all CSO sign locations, dates the signs were erected, and the name and address of all public and private property owners that provide public access to affected waterways advertising the availability of CSO signage.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification).
   CHANGES FOR 2007: None planned
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Completion of installation.

7. <u>WATER RESOURCE EDUCATION</u>: As discussed in previous Annual reports, the City is a major funding partner in the Allen County Partnership for Water Quality (ACPWQ), a water resource education partnership between the City, the City of New Haven and Allen County. This partnership and its Water Resource Education Specialist is tasked with helping the public become more aware of water resources issues involving storm water, septic tanks, CSOs, SSOs, agricultural run-off, etc. In the past year, the ACPWQ has interacted with residents through: neighborhood association meetings; classroom lessons; conference presentations; booths at the Three Rivers Festival, Earth Day events, Sol Fest and Allen County 4-H Fair. A new Water Resource Education Specialist started work in February 2006. The ACPWQ produced and distributed brochures on "Stormwater Pollution – A Reference Guide for Homeowners" and "Household Hazardous Waste." These were distributed

through the Partnership for Water Quality website at www.acwater.org, at the Partnership booth at the Three Rivers Festival, Allen County Fair and Black Expo and in Fort Wayne utility and public works offices. Fort Wayne City Utilities has created power point presentations on Combined Sewers, Drinking Water quality and Stormwater that can be presented to public by City staff. Each presentation has an accompanying brochure and table top display. Through the Board meetings of the Partnership for Water Quality, Fort Wayne coordinated its public education programs with those of other entities in Allen County including the Allen County Surveyor's Office, City of New Haven, St. Joseph River Watershed Initiative, Maumee River Basin Commission, Allen County Department of Health and Allen County Soil and Water Conservation District. The Partnership for Water Quality held one Project WET teacher training workshops involving a total of 16 teachers in February 2006. Using an EPA grant, the Partnership has created eight Project WET lesson plan kits that may be checked out for use by teachers and has created a library of water resource education material including books, CDs, DVDs and videos. The Partnership also participated in a professional educators' workshop and a home school expo in Fort Wayne to let teachers know about Project WET and the resources that are available through the Partnership.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #8 (Public Notification).
CHANGES FOR 2007: Produce and distribute two additional brochures on different topics.
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: The number of residents reached with education and outreach. Project WET reached 16 teachers. Over 3,200 people were reached through festival and fair demonstrations.

STRATEGY 2: CONTROL WHAT ENTERS THE COLLECTION & WASTEWATER TREATMENT SYSTEM

Ongoing programs established under the following enumerated activities, as restated below, adequately address all of the objectives of this strategy.

- Reduce the amount of public-produced pollutants that enter the system;
- Reduce the amount of industrial-produced pollutants that enter the system; and
- Reduce the rate at which stormwater enters the system.

1. THE CATCH BASIN & INLET CLEANING PROGRAM: The Catch Basin and Inlet cleaning program addresses approximately 15,551 known structures in the collections system. All structures are scheduled to be cleaned within a 2 ½ year period. City Water Pollution Control Maintenance cleaned 5,987 catch basin and inlet structures. Much of this work is accomplished through the use of the City's two combination vacuum trucks.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #6 (Control of Solid & Floatable Materials).
CHANGES FOR 2007: None planned
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: Number of structures cleaned per year: 5,987 structures were cleaned and 3,517.76 tons of material was removed in 2006.

2. THE TOX-AWAY PROGRAM: Tox-Away Day gives county residents the opportunity to discard various toxic products in an environmentally safe way. Allen County provides the data for this program. Information for 2006 is not yet available from the organization. This Allen County program met the 2005-programming goal of one weekend. A total of 1,015 household or 801 automobiles participated in Tox-Away Day. A total of 36,515 pounds of hazardous material was collected.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #7 (Pollution Prevention).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Documentation of event. Records are on file.

3. HAZARDOUS SPILL RESPONSE: The Allen County Emergency Management Agency ("ACEMA") met 2006 programming goals of protecting the public from harmful spills. Most incidents were again related to transportation leaks/traffic accidents and occurrences at fixed facilities. The Hazmat team was dispatched 5 times in 2006 to address spills that may have been previously characterized as Level II/III spills. A total of 1201 incidents occurred where one or more response units responded to a Hazmat type call (such may have been previously characterized as Level I spills). The ACEMA no longer classifies incidents as a Level I, II or III.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #7 (Pollution Prevention).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: The protection of public from harmful spills. The ACEMA responded to 1201 hazmat incidents in 2006.

4. INDUSTRIAL PRETREATMENT PROGRAM: Thirty-four Significant Industrial Users, 18 Contract Customers and 10 Non-Major dischargers are monitored from strategic sampling points at least once per quarter. Quarterly and annual compliance reports are submitted to USEPA and IDEM as required.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #3 (Pretreatment Program Review).

CHANGES FOR 2007: None planned.
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: Completion of quarterly sampling for all program users. All sampling was completed as scheduled for 2006.

5. STREET SWEEPING: Street sweeping reduces the amount of debris entering combined and storm sewers by collecting it prior to entry. The goal of citywide and weekly downtown sweeping was met in 2006.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #6 (Control of Solid & Floatable Materials).
   CHANGES FOR 2007: None planned
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Swept Citywide and downtown in 2006 for a total of 14,696 curb miles and 2,400 tons of material was collected. The sidewalk dirt is swept into the street and the sweeper collects it.

6. RECYCLING: This program provides biweekly curbside recycling collection to over 78,790 residential homes (This includes the annexation of Aboite in January 2006). The program is open to all residential customers living in dwellings of up to 4 units (there is no added cost to participate in the program).

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #7 (Pollution Prevention).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURES: Documentation of program. This City activity met its 2006 goal by collecting 10,081 tons of material.

7. INFLOW REMOVAL: The Wastewater Facilities Master Plan (1995) identified areas of cost effective inflow removal. Several projects continue to be underway to remove inflow. A total of 450 manhole inspections were completed as part of contracts for sewer televising.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #2 (Maximum storage).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Number of manholes inspected (450) and a list of rehabilitation projects (on file).

8. PILOT DOWNSPOUT DISCONNECTION PROGRAM: The data from this pilot program proved inconclusive and the program has been discontinued. However, a "how to" video was produced by the City which describes and demonstrates how to disconnect downspouts. This video is available from the City's Public Information

Office. Also, a pamphlet was developed on the disconnection of downspouts. A video was developed from the program and is used when speaking about CSO issues at neighborhood meetings.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #2 (Maximize storage).
CHANGES FOR 2007: None planned.
LEVEL OF IMPLEMENTATION: Completed.
PERFORMANCE MEASURE: Report and video on pilot program were completed.

STRATEGY 3: MAINTAIN THE COLLECTION AND WASTEWATER SYSTEM TO MINIMIZE SERVICE DISRUPTIONS

Ongoing programs established under the following enumerated activities, as restated below, <u>adequately address</u> all of the objectives for this strategy:

- Keep the sewer system clean
- Keep the mechanical facilities operating properly; and
- Keep the sewers operating properly and structurally sound.

1. <u>SEWER EVALUATION PROGRAM (SEP)</u>: The long-term goal of the SEP is to evaluate all the combined and sanitary sewers within 12 years. The City has just completed the program's tenth year. The Sewer Evaluation Program went through major changes in 2006. Any sanitary or combined sewer pipe that was 8" – 15" was proofed by in-house crews. Pipe that was 16" or larger was televised by outside contractors. This evaluation program was spread over a 12 year cycle. In mid-2006, the City decided to bring all televising in-house for 2007 and to emphasize televising, rather than proofing, for SEP evaluations. The City has also purchased a new televising truck and a new combination jet/vac truck so all this work can be done in-house.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
   CHANGES FOR 2007: The City will do all televising in-house.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Linear feet assessed. A total of 72,050 LF were proofed and 78,028 LF were televised in 2006.

2. <u>ROOT REMOVAL PROGRAM</u>: This activity includes areas of known root problems and is scheduled for removal. The amount of linear feet cleaned of roots in 2006 was 133,607. The growth of this program comes from the SEP. Mechanical saws and chemical foam are the methods used to de-root smaller diameter pipe. Larger diameter pipe requires the use of equipment that the City does not have, therefore this type of work is contracted out as needed.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
CHANGES FOR 2007: None planned.
LEVEL OF IMPLEMENTATION: Detailed documentation for cleaning on file.
PERFORMANCE MEASURE: Linear feet of roots removed: 133,607 LF cleaned in 2006.

3. RESTAURANT DISCHARGE SAMPLING: A total of 263 compliance checks for oil and grease were conducted in 2006. To perhaps enhance the benefits of this program, the 2006 compliance checks were focused to occur on weekends when restaurant activity believed to be at its peak. Five new samplers have been purchased to allow a greater volume of weekend compliance checks in the future.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
   CHANGES FOR 2007: Program goal for 2007 is 500 sampling events
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Completion of scheduled inspections.

4. DEGREASING PROGRAM: This activity includes areas of known grease build-up and includes schedules for removal. Approximately 520,710 linear feet of sewer lines are cleaned by hydraulic jetting or a chemical enzyme repeatedly during the year on cycles ranging from daily dripping on enzymes to seven through 180 hydraulic jetting cycles. In 2005, Fort Wayne began using enzymes to assist in the fight against grease build-up inside the collection system. Using enzymes has enabled Fort Wayne to reduce the amount of hydraulic flushing enabling these crews to be more productive in other areas.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation and regular maintenance).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Linear feet cleaned (520,710 LF) and the required frequency of cleaning to maintain desired level of service. Over the last several years a decrease in frequency has been recorded while maintaining the same level of service.

5. SEWER REPAIR & REPLACEMENT: Sewer pipes and structures found to be in need of repair and replacement are prioritized for work and completed. This is done through the SEP and the tracking of defects (using software) found in televising. There were 3 projects designed and 3 projects bid in 2006. In 2006, a total of 4 catch basins were replaced with precast concrete. There were also 20 catch basins and or inlets that were sealed to prevent further decay and help prevent infiltration. Street

Engineering also replaces catch basins and inlets annually by inspecting these structures and replacing the ones that are in poor shape before street improvement projects begin. There were 40,800 LF of sewer repair bid in 2006. No work was done on the force mains in 2006.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation and regular maintenance).
CHANGES FOR 2007: The City anticipates that three projects will be designed and three projects will be bid in 2007. This includes a total of 50,000 (+/-) LF of sewer rehabilitated.
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: Number of repairs completed and underway. Approximately 40,800 LF of sewer was rehabilitated in 2006.

6. CSO OUTFALL & FLAPGATE INSPECTION: The City conducts CSO inspections in accordance with the Order according to an agreed-upon schedule.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #5 (Prohibition of dry weather overflows).
   CHANGES FOR 2007: None planned
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Completion of all inspections required by the Order. All required inspections were accomplished in 2006 (each outfall was inspected at least 260 times in 2006 for a total of 11,960 inspections).

7. CSO OUTFALL & FLAPGATE REPAIR: Repairs are made in response to problems discovered during routine inspections.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
   CHANGES FOR 2007: CSO outfall and flapgate repairs will be done based on need.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Number of reported dry-weather discharges: 2 in 2006 (2 in 2005). Number of flapgate repairs: zero in 2006 (zero in 2005).

8. REGULATOR INSPECTIONS: Regulator inspections have historically been divided into two groups, Mechanical (complex mechanical parts) and Passive (few or no moving parts). The City has 54 regulators which are inspected week days and after wet weather events by the City's CSO inspectors. The mechanical aspects of the regulators are scheduled for preventative maintenance once every 6-weeks by the City's Water Pollution Control Plant Maintenance Department.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #5 (Prohibition of dry weather overflows).
CHANGES FOR 2007: The daily CSO outfall inspections (described above) are to include inspections of regulators. The City is evaluating the need and possible frequency of additional inspections.
LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
PERFORMANCE MEASURE: Number of inspections accomplished. Preventative maintenance was completed on the 33 mechanical regulators 7 times each in 2006. The combined 54 passive (non-mechanical) and mechanical regulators were inspected approximately 260 times in 2006.

9. REGULATOR MAINTENANCE: The WPCP maintenance route crew utilizes three mechanics and electrical support. The maintenance route crew is responsible for inspections and maintenance of all mechanical regulators. The frequency of preventative maintenance will be six-week rotations. They also respond immediately to any and all reported discharges or plugging. They are also responsible for all sanitary stations and flood control pumping stations.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #5 (Prohibition of dry weather overflows)
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Accomplishment of all scheduled and necessary maintenance inspections and work orders. In 2006 there were 363 preventative work orders completed, one minor repair and zero emergency repairs.

10. LIFT STATION INSPECTION/ROUTINE MAINTENANCE: Sanitary lift stations are inspected visually a minimum of twice a week. Telemetry is used to monitor on a 24-hour basis by operations at the Water Pollution Control Plant. Process information (pump on, pump off, failed pump, high wet well, power outage) is displayed to the plant operator by telemetry (SCADA) into a software program called Intellutions and is stored historically by another software program called I Historian. These applications assist both operations and maintenance in determining if anomaly needs to be addressed immediately or scheduled for a repair. Daily work includes preventative maintenance activities such as: mowing, painting, cleaning, greasing and oil level checks, pump impellor condition, radio telemetry signal checks and generator inspections. Wet well preventative maintenance include, level control cleaning, removing any built up grease by use of vacuum truck and removing any foreign floating objects that could harm pumps or plug lines.

    ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
    CHANGES FOR 2007: None planned.
    LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.

PERFORMANCE MEASURE: Number of preventative maintenance work orders completed in 2006: 994.

11. LIFT STATION MAJOR MAINTENANCE: In 2006 there were no major repairs. The WPC Plant Maintenance route crew and electrical support logged 448 minor repairs.

    ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
    CHANGES FOR 2007: Installing upgraded pump control monitoring devices in six stations called Multismart controller. Two stations (Flaugh Ditch, Lawton) will be renovated with new pumps and controls.
    LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
    PERFORMANCE MEASURE: Number of emergency repairs: Eight in 1998, one in 1999, zero in 2000, zero in 2001, three in 2002, two in 2003, two in 2004, zero in 2005 and zero in 2006.

12. PROACTIVE WPCP MAINTENANCE/REPAIR: The Water Pollution Control Plant Maintenance Department dedicates two full time mechanics along with a percentage of the electrical department's time to preventative maintenance tasks. In 2006, 46% of recorded work orders were devoted to preventative maintenance and 13% were dedicated to plant improvements for a combined total of 59% to proactive maintenance activities. Maintenance staff is continuing efforts in inventory and asset control activities. Maintenance continues to work with operations departments in 2006 Total Productive Maintenance (TPM) to increase equipment effectiveness in the present and future. TPM was developed by the City Utility Director to better implement a teamwork philosophy of Operations and Maintenance departments working together to increase the productivity of projects. New construction of our future primaries is off to a great start in 2006. Gaseous Chlorine is no longer used for disinfection, sodium hypochlorite is being used in its place.

    ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & maintenance).
    CHANGES FOR 2007: None planned.
    LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
    PERFORMANCE MEASURE: In 2006 there were 18,782 preventative maintenance work orders completed. There were no emergency repairs in 2006. This resulted in a decrease of downtime.

13. PROACTIVE WPCP EQUIPMENT REPLACEMENT: A long-term schedule for the repair and replacement of WPCP equipment was implemented in 2000 and is managed by the City's Capital Task Force.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
CHANGES FOR 2007: Aeration Blower upgrades and renovations, plant water pump project, Motor Control Center replacements, Dechlor Facility completion and start up, new Hypochlorite Facility startup.
LEVEL OF IMPLEMENTATION: The primary project was given notice to proceed and construction will take place over the next three years. The City's Capital Task Force is continuing to look at the plant's needs on a quarterly basis.
PERFORMANCE MEASURE: Whether there is an increase or decrease (no change in 2006) in downtime of process equipment.

14. SIPHON CLEANING PROGRAM: This program includes scheduled inspections of the upstream and downstream structures and are cleaned when needed.

    ADDRESSES MINIMUM CONTROL NUMBER: NMC #1 (Proper operation & regular maintenance).
    CHANGES FOR 2007: None planned.
    LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
    PERFORMANCE MEASURE: Number of blockages in the barrels of the siphons: two blockages in 2006.

STRATEGY 4: OPERATE THE COLLECTION & WASTEWATER TREATMENT SYSTEM SO THAT THE MAXIMUM CONVEYANCE AND TREATMENT CAPABILITIES ARE UTILIZED

Ongoing programs established under the following enumerated activities, as restated below, adequately address all the objectives of this strategy:

- Maximize the rate of flow to, and through, the WPCP during and after wet weather events;
- Utilize the existing collection system's storage and capacity to maximize flows to the WPCP and minimize CSO discharge volume; and
- Maximize the use and treatment capabilities of the stormwater ponds.

1. STRESS TESTING: The testing was completed in 1996 and a report was completed in 1997. The report is being used to facilitate the development of the LTCP.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #4 (Maximizing flow to treatment plant for treatment).
   CHANGES FOR 2007: Planning and possible operational changes based on results.
   LEVEL OF IMPLEMENTATION: Completed.
   PERFORMANCE MEASURE: Completion of report and use in LTCP development.

2. XP-SWMM MODELING: The interceptor and sub-basin portions of the model were completed in May 1998.

ADDRESSES MINIMUM CONTROL NUMBER: NMC #2 (Maximization of Storage in the Collection System) and NMC #4 (Maximizing Flow to Treatment Plant for Treatment).
CHANGES FOR 2007: None planned.
LEVEL OF IMPLEMENTATION: The model was approved for LTCP alternative analysis.
PERFORMANCE MEASURE: Report on equalization capabilities.

3. REGULATOR & WEIR ADJUSTMENTS: All Mechanical Regulators are regularly inspected. The City had a study done to assess the potential of using trunk sewers for in-system storage. Several potential locations for in-system storage were identified in the study. In several instances, the study recommends, simple weir adjustments which are being implemented as soon as the work can be scheduled. The study has been completed. The City has raised four weirs as a result of the study.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #2 (Maximize storage).
   CHANGES FOR 2007: No changes are scheduled for 2007. The system will continued to be monitored and changes will be made if appropriate.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Improvement of pipe storage capacity.

4. CSO POND OPERATIONS: The CSO Ponds are operated to collect and detain excess combined sewage flows.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #2 (Maximum storage).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Effective use of the CSO Ponds.

STRATEGY 5: DETERMINE IF APPLIED EFFORTS ACHIEVE THE CSSOP'S GOAL.

Ongoing programs established under the following enumerated activities, as restated below, adequately address all objectives of this strategy:

- Know the water quality of the St. Joseph River, St. Mary's River, and Maumee River as coming into and leaving Fort Wayne's Combined Sewer Area.
- If detrimental impacts continue to be observed: know the impacts on the receiving stream's water quality as a result of CSO occurrences during and following wet-weather events.

The above objectives, which implement this strategy, address the 9th of the NMCs. The ninth NMC is, in essence, a transitional activity or phase between the NMCs and the LTCP. The activities described below to meet these objectives thus serve dual purposes: to meet the monitoring requirements of the ninth NMC and to provide foundational water quality data and stream modeling capabilities needed for evaluation of the effectiveness of control alternatives during development of the LTCP. The results of these activities are included in the CSO Long Term Control Plan Technical Component, which was submitted to USEPA and IDEM in December 1999 and in the final draft of the LTCP submitted by the City to USEPA and IDEM on July 31, 2001.

1. STREAM QUALITY SURVEY: This was a dry-weather water quality survey of the Maumee River, the St. Mary's River, and the St. Joseph River. Data was collected to complete the CE-Qual-Riv1 dry weather model.

   ADDRESSES MINIMUM CONTROL NUMBER: This activity addresses NMC #9 (Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Complete
   PERFORMANCE MEASURE: Use of data to facilitate the identification of baseline water quality.

2. RIVER MONITORING PROGRAM: The river monitoring program has been a program of the City for many years and, in prior Annual Reports, was described as part of the Stream Quality Survey. The program consists of weekly sampling during the recreational season from April 1st to October 31st (approximately 31 weeks) and monthly sampling during the winter months. Samples are collected from two sites on each of the three rivers in coordination with IDEM.

   ADDRESSES MINIMUM CONTROL NUMBER: NMC #9 (Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls).
   CHANGES FOR 2007: None planned.
   LEVEL OF IMPLEMENTATION: Fully implemented as an ongoing program.
   PERFORMANCE MEASURE: Weekly river sampling during the recreation season and monthly sampling during the winter months. All sampling was completed as scheduled for 2006.

STRATEGY 6: DETERMINE IF ADDITIONAL OR REVISED EFFORTS ARE NEEDED TO ACHIEVE THE ESTABLISHED GOAL.

The City's ongoing activities adequately address this strategy and have facilitated the development of the LTCP and attainment of CSSOP technology based objectives. The scope of additional control efforts, based on water quality impacts, will be determined through the long-term control planning process and the previously discussed CSSOP amendment. The CSO Impact Characterization will assist the City in determining which activities are effective and what new efforts are necessary to further meet the goals of the CSSOP as well as the LTCP. Always intended to be a dynamic document, the City is currently working to amend the CSSOP.

COMBINED SEWER CAPACITY IMPROVEMENT PROGRAM

The City continues to implement its Combined Sewer Capacity Improvements Program ("CSCIP"). This program addresses the public's request for relief from basement and street back-ups and helps to reduce CSOs. This program manages the development, design, and construction or maintenance plans designed to increase capacity or correct problems in the combined sewer sub-basins based on recommendations from the STF. Combined sewer capacity in each sub-basin will be upgraded to a 25-year storm or higher. The program is based on achieving objectives within 14 years. The program has been in place for 7 years. The utility will be seeking a 3rd rate increase to fund the program in 2007. Concurrent development of this program and the Combined Sewer Overflow Program included several elements of the LTCP such as: Characterization, Monitoring and Modeling (see Strategies 1 & 5); Public Participation (see Strategy 1); Evaluation of Alternatives; and cost/performance considerations. City Utilities recognizes the relationship between the CSCIP and the CSO Program, in particular the development of the LTCP, and has set a priority on maintaining close coordination between the two programs.

If you have any questions regarding this report, the City's CSO control efforts generally or the CSCIP, please contact me to discuss at your convenience.

The undersigned, being the Director of Public Works and Utilities for the City of Fort Wayne, hereby certifies that all the above and foregoing statements are true and accurate to the best of my knowledge and belief. Should I find, at any time following submission of this document that any portion of this letter is false or incorrect, I agree to promptly notify both USEPA Region 5 and IDEM of said discrepancy.

UTILITY ADMINISTRATION

Gregory A. Meszaros
Director of Public Works and Utilities

cc: Attachment: Dry weather overflow list

Mr. Mark Stanifer, IDEM (via certified mail)
Mr. Terry Ressler, IDEM
Mr. Graham Richard, Mayor
Members of the Common Council
Members of the Board of Public Works
Members of the Sewer Advisory Group
Ms. Cecilia Case, Counsel to City Utilities
Mr. Mark Becker, Deputy Mayor
Mr. Mark Gensic, Manager of Planning & Design Services
Ms. Brandi Wallace, Water Quality Regulatory Compliance Specialist
Ms. Mary Jane Slaton, Program Manager of Water Resources
Mr. Mike Thornson, Stormwater Engineering Program Manager
Mr. Daniel Deeb, Schiff Hardin LLP
Mr. Larry Kane, Bingham McHale, LLP
Ms. Cheryl Cronin, Superintendent of WPC Plant
Mr. Jeff Morris, Superintendent of WPC Maintenance/Stormwater Maintenance
Mr. Timothy A. Manges, City Attorney

ATTACHMENT 1
2006 DWO STATUS REPORT

The following two dry weather events were encountered in 2006.

STRUCTURE #	DATE	PROBLEM/ACTION TAKEN
K15-009	10/10/06	This site is monitored and visually checked daily as required by the Order. The overflow started after the 10/8/06 daily visual inspection due to a float being stuck. A crew repaired the float so that the gate would fully open and not restrict the flow.
O19-041	9/14/06	This manhole became plugged due to a large amount of grease in the line. The City cleared the blockage and added the line to its 6-week cleaning program.

CH2\ 1715545.1

2.0 MAXIMIZATION OF STORAGE IN THE COLLECTION SYSTEM

2.1 OVERVIEW

The 2nd NMC is titled "Maximization of Storage in the Collection system". EPA's NMC Guidance explains that this NMC means "making relatively simple modifications to the CSS to enable the system itself to store wet weather flows." .

CSOs can be reduced by eliminating bottlenecks and obstructions in the collection system that cause upstream overflows before the WPCP is at capacity. CSOs can also be reduced by maximizing storage in the collection system. The City's WPCP was designed to treat sewage at a peak maximum rate of approximately 60 million gallons per day (MGD). Were it possible (it is not) for the WPCP to treat at a constant rate of 60 MGD for 24 hours a day, 365 days a year, the WPCP could theoretically treat approximately 21,900 million gallons (MG) of flow per year.

The City's collection system has delivered as average of approximately 43 MGD of sewage to the WPCP. Given the WPCP's design peak capacity of 60 MGD, the WPCP would, theoretically, treat up to an average of 17 MGD (60 MGD – 43 MGD) of wet weather runoff each day, or 6,205 MG of wet weather runoff each year.

Unfortunately, neither sewage nor wet weather runoff are produced at a constant rate. The City's challenge during wet weather events is to utilize as much of the WPCP capacity as possible. One important means to help the City meet this challenge is the storage of flows when flow to the WPCP is greater than its capacity and by releasing stored flow to the WPCP when flow to the WPCP is less than its capacity.

This Chapter will describe how the major components of the collection system operate, provide information on bottlenecks and obstructions, and analyze the feasibility of utilizing storage in the collection system to store peak wet weather flows. Other measures associated with NMC No. 2, including collection system inspection, tide gate maintenance and repair and removal of obstructions to flow are addressed in Chapter 1.

2.2 OPERATION OF THE COLLECTION SYSTEM

Originally trunk sewers, highlighted in orange in Exhibit B-1, were built to transport the combined sewage from combined sewer subbasins directly to receiving waters. The boundaries of the combined sewer subbasins are outlined in yellow on Exhibit B-1.

When the WPCP was constructed a series of interceptors was built to transport dry weather flow. Exhibit B-1 shows the major interceptor sewers. The interceptors (or section of interceptors) that transport combined sewage to the WPCP are highlighted in green.

Regulators were constructed to convey combined sewage from subbasin trunk sewers to the interceptor sewers. The regulators were also constructed to control the volume of combined sewage that flows to the interceptor system. This was done to protect the biological processes at the WPCP. Regulators are shown on the Exhibit B-1 as yellow dots. They are labeled with the City's 6-digit structure identification number.

During some wet weather events, interceptor capacity can be exceeded. Flows of combined sewage that does not get into an interceptor are routed to a receiving water through a permitted CSO outfall. The City's CSO outfalls are indicated by a large black dot on Exhibit B-1 and labeled with the City's NPDES Permit number for that location.

Exhibit B-1 shows the City's sewer system as it was in 1940. Exhibit B-2 shows the same system in 2005. Note that the 2005 system remains comprised of combined sewer subbasins, subbasin trunk sewers, regulators, interceptor sewers and the WPCP.

2.3 ELIMINATION OF BOTTLENECKS AND OBSTRUCTIONS

Perhaps the City's foremost means to identify and eliminate bottlenecks within its CSS are its inspection and maintenance programs (see Chapter 1). CSO outfalls and regulators are inspected daily and also on weekends in connection with any wet weather events. These inspections, in addition to other scheduled inspections, proactive preventative maintenance, and other activities enable to City to identify system constraints (e.g. flow obstructions) and promptly effect solutions.

Ineffective pump stations are a common collection system bottleneck in many systems. All of the City's interceptors that carry combined sewage flow by gravity to the WPCP - there are no pump stations in the interceptor system. All of the combined sewer subbasins are served by gravity trunk sewers. No combined sewage is pumped to the regulators.

Combined sewage is pumped from a regulator to an interceptor in only one subbasin (O10-101). The pumps in this subbasin are sized to pump the maximum amount of combined sewage (more than peak dry weather flows) that the downstream interceptor can handle. These pumps have been provided with an alternate power supply (2^{nd} electrical feed) to mitigate against an overflow being caused by a power failure. In addition, comminutors have been installed to improve reliability and prevent damage to the pumps from debris.

Another common collection system bottlenecks are undersized pipes – pipes which flow to smaller downstream pipes. Pipe capacities for both the interceptor sewers and trunk sewers were analyzed during the development of the City's electronic sewer model. All trunk sewers increase in size and capacity as they approach regulators or interceptors. All interceptor sewers increase in size and capacity as they approach the WPCP.

Finally, regulators are engineered bottlenecks in many collection systems. Regulators are designed to impose a maximum limit on the flow to the WPCP. The maximum limitation is created by the size of the opening to the interceptor and by gates that reduce the opening size. All but five of the City's mechanical regulator gates are chained fully open to allow maximum flow to the interceptor (in allowing the maximum flow, the potential for CSOs is not significantly increased.) Those that are not chained fully open are set to operate at maximum capacity. This maximizes the flow that can get into the interceptors without rebuilding the regulator. The City recognizes that maximizing flow to the interceptor reduces the potential for inline storage in the subbasins but at the same time (as described in Section 2.4.2 below) acknowledges that many trunk sewers are too shallow to present additional storage capacity without creating a greater risk of basement backups and flooding. A CSS modeling study was performed as part of Section 2.4 to evaluate the potential of partially closing some of regulator gates. Results are located in Exhibit B-3.

2.4 UTILIZATION OF COLLECTION SYSTEM STORAGE

The first step in maximizing collection system storage capacity is identifying the locations of potential storage. Storage can be found on the ground above the collection system, in collection pipes, and in collection system tanks or ponds.

The second step in maximizing collection system storage capacity is identifying and analyzing possible modifications that increase the utilization of in-system storage. The analysis considers the amount of storage available, the risk of upstream (street, basement) flooding, and the increase in O&M requirements should be analyzed.

2.4.1 Ground Above the Collection System

One of the steps in developing projects for the City's Combined Sewer System Capacity Improvement Program (CSSCIP) has been to identify potential solutions to capacity problems through public brainstorming workshops and the City's Sewer Advisory Group. One option evaluated at these workshops for solutions to capacity issues in each basin is utilizing public streets and/or parking areas for temporary wet weather storage. More than half of the entire combined sewer subbasin area has been through this process. To date, no locations have been identified where street storage has presented an acceptable community solution. Each subbasin studied has a final report summarizing the findings of the evaluation.

2.4.2 Collection Pipes

The City's interceptor sewers have the capacity to deliver more than 120 million gallons of flow per day to its WPCP. Average daily flow to the WPCP is in the range of 40 to 48 MGD. This suggests that there is ample available storage in the interceptor sewers. This storage is currently used automatically.

The combined sewer subbasin trunk sewers are another potential location for storage of peak flows. The trunk sewers in the 2005 version of the City's sewer system are highlighted on Exhibit B-2 in orange. Trunk sewers, however, are often not as deep as interceptor sewers. In-line storage in truck sewers, consequently, represents a greater potential to cause flooding in basements, yards, and streets. Nonetheless, the City conducted a study done to assess the potential of using trunk sewers for in-system storage. A copy of the study can be found at Exhibit B-3. Several potential locations for in-system storage were identified in the study. In several instances, the study recommended weir adjustments which have since been implemented as noted in Exhibit B-6. Many other recommendations of the study, however, entail significant engineering and high costs well exceeding the scope of an NMC. .

2.4.3 Collection System Tanks and CSO Ponds

Pumps are used at 5 of the City's CSO discharge points to pump the overflow into the receiving waters. General information on these pump stations can be found at Exhibit A-2. If the wet wells associated with these pumps are kept dewatered during dry weather, the wet wells could be used to capture and store small overflows. The volume of each of the five pump station wet wells that could potentially be dewatered back to the interceptor is approximately:

Griswold Pump Station	0.016 MG
Nebraska Pump Station	0.018 MG,
Brown Street Pump Station	0.057 MG
Morton Street CSO Pump Station	0.062 MG
Third Street Pump Station	0.097 MG

The City is working to rehabilitate and replace dewatering pumps in these wet wells to allow use of the wet wells for storage. The dewatering pumps are also being re-routed to pump to interceptor sewers rather that the receiving water. By the end of 2007, four of these five CSO discharge stations will have dewatering pumping systems installed in their wet wells.

Due to the low frequency of discharges at the Griswold station, it will not be effective to install a dewatering pump system in its wet well. Instead, access improvements to the wet well have been performed so that the wet well can be vacuumed out. The installation of these dewatering systems is expected to lower the number of CSO events at these locations, as well as reduce the overflow volume of some of the CSO events. Following completion of this work and observation of the results, the CSS model will be updated to incorporate these dewatering capabilities.

The City's collection system contains 2 large ponds that are currently used to detain combined sewage flows from the Glasglow regulator and Wayne Street Interceptor overflow in excess of WPCP capacity. The ponds are currently without operating facilities to return their combined sewage flows to the WPCP. The City studied how much combined sewage could be returned to the WPCP if appropriate facilities existed in the future. A copy of this study can be found at Exhibit B-4. Conceptual designs for return structures were developed by Donohue & Associates Inc. in 2004. A section of their report showing the design and calculations of the associated costs are shown at Exhibit B-5. The study makes it clear that significant engineering and costs would be required to construct the requisite return facilities. Return facilities, therefore, will not be implemented as an NMC. Through its LTCP, however, the City will be constructing initial improvements in 2008 which will then allow the limited dewatering of flows captured by the ponds to the WPCP. Improvements allowing a higher volume of dewatering will be scheduled as LTCP improvements in connecting with improvements to the WPCP itself.

2.5 TIDE GATE INSPECTIONS

Tide gates that do not seal or operate properly can admit significant volumes of water back into the collection system. The City has a tide gate inspection and maintenance program as described in Exhibit A-1 WPCM O&M Plan. In addition to the maintenance activities at Exhibit A-1, the City works to inspect tide gates in connection with the daily monitoring of the City's CSO monitoring program.

2.6 RETARDING INFLOWS - INFILTRATION & INFLOW REDUCTION

Sewer systems can experience significant impacts from inflow and infiltration (I&I) of rain water and ground water. The 1995 Wastewater Master Plan identified areas where high priority and cost effective inflow removal was recommended. The City has hired a sewer program manager with responsibilities that include I&I reduction in the sewer collection system. This program manager helps monitor the City's goal of performing wet weather inspections on 450 manholes each year, as well as coordinating flow monitoring in areas where I&I impacts are suspected. Manhole rehabilitation and sewer pipe CIPP lining projects are developed by the program manager and used to reduce sources of I&I in the public portion of the sewer collection system. The City also has developed a video and pamphlet on downspout disconnection for property owners to reduce private I&I and has conducted a pilot downspout disconnection project.

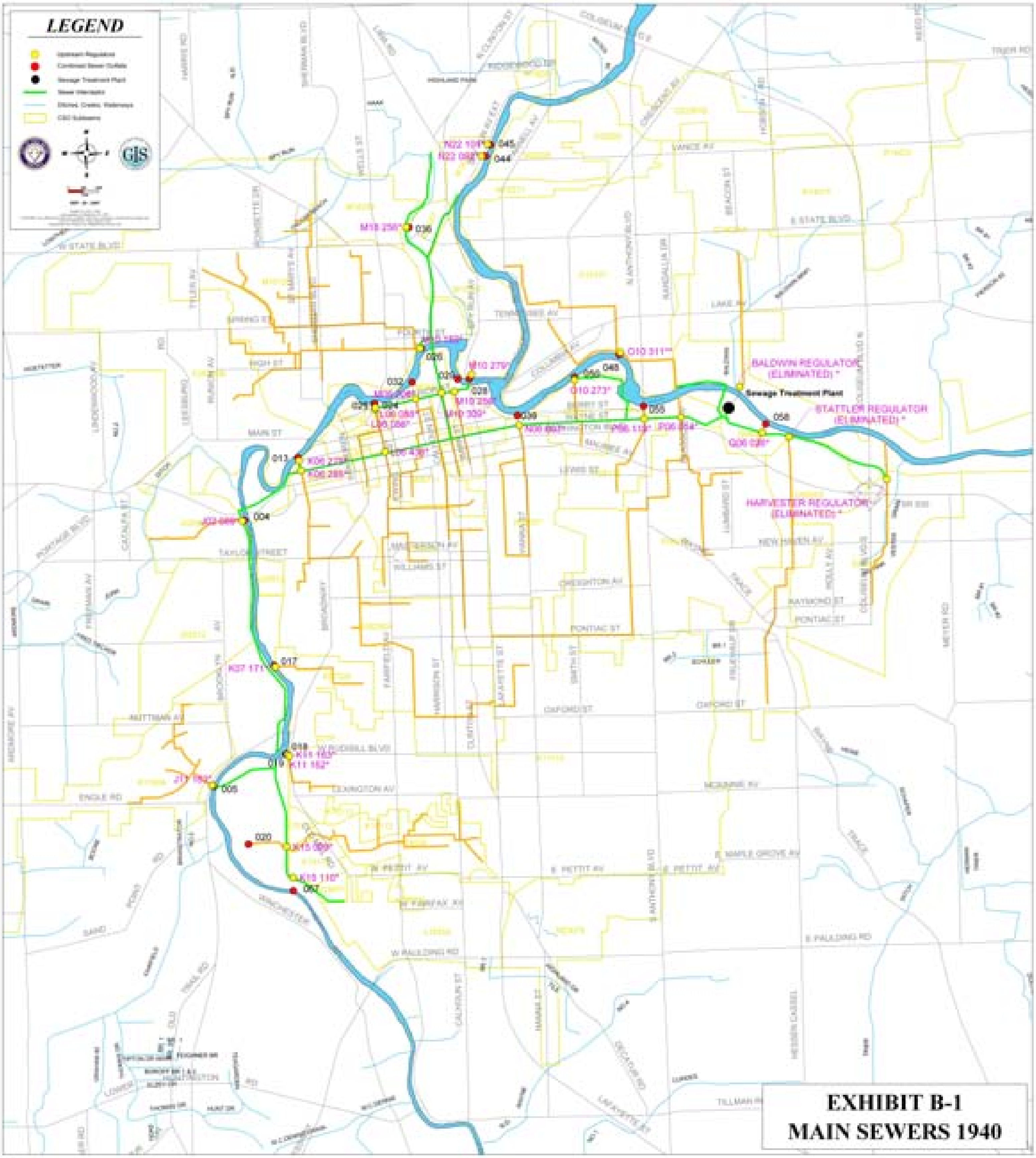
2.7 RECORDKEEPING

A project list of weir adjustment activities to date is shown at Exhibit B-6. At the end of each calendar year this list will be updated with a status report describing the progress of the various projects. The progress reports will be kept in Exhibit B-7.

DIRECTORY FOR APPENDIX B
(Items Presented in Order of Appearance in Appendix B)

Item	Description
Exhibit B-1	MAIN SEWERS 1940
Exhibit B-2	POTENTIAL INLINE STORAGE LOCATIONS
Exhibit B-3	COMBINED SEWER SYSTEM INLINE STORAGE ASSESSMENT STUDY
Exhibit B-4	CSO PONDS NOS. 1&2 RECYCLE STUDY
Exhibit B-5	WPCP CSO TERMINAL PONDS NOS. 1&2 RECYCLE STUDY
Exhibit B-6	PROJECT LIST
Exhibit B-7	RECORDKEEPING

EXHIBIT B-1



LEGEND
BALDWIN REGULATOR (ELIMINATED) *
Sewage Treatment Plant
STATTLER REGULATOR (ELIMINATED) *
HARVESTER REGULATOR (ELIMINATED) *
O10 311*
O10 273*
M10 279*
M10 256*
M10 300*
N06 060*
P06 110*
P06 054*
G06 026*
K06 279*
K06 288*
L06 436*
L06 089*
L06 058*
M06 046*
N22 104*
N22 092*
M15 258*
K07 171*
K11 163*
K11 162*
J11 162*
K15 110*
MAIN ST
TAYLOR STREET
OXFORD ST
PONTIAC ST
E STATE BLVD
W STATE BLVD
LAKE AV
VANCE AV
NEW HAVEN AV
LEXINGTON AV
E PETTIT AV
W PETTIT AV
E PAULDING RD
W PAULDING RD
TILLMAN RD
ENGLE RD
EXHIBIT B-1
MAIN SEWERS 1940

EXHIBIT B-2

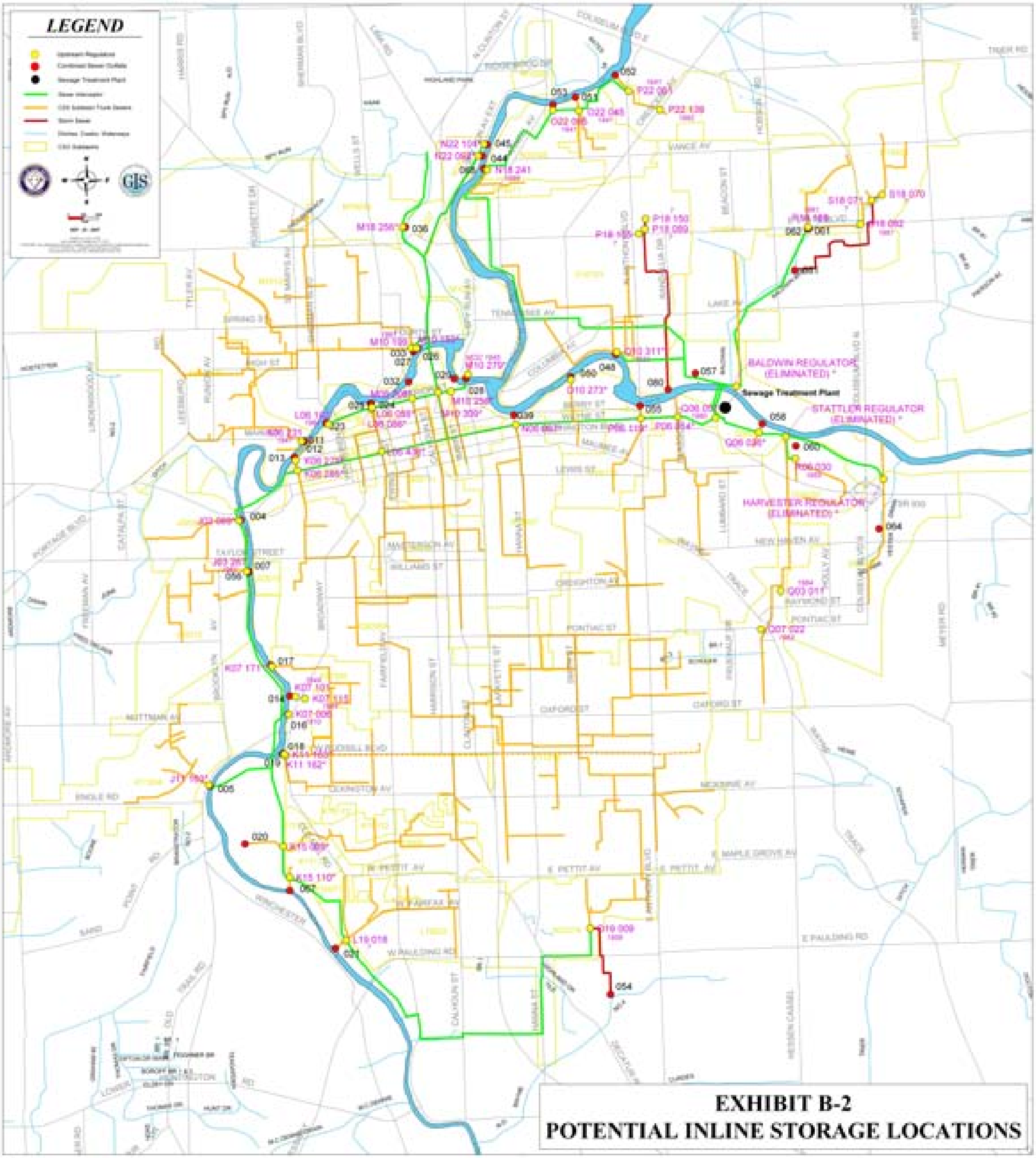

LEGEND
EXHIBIT B-2
POTENTIAL INLINE STORAGE LOCATIONS
BALDWIN REGULATOR (ELIMINATED) *
STATTLER REGULATOR (ELIMINATED) *
HARVESTER REGULATOR (ELIMINATED) *
Sewage Treatment Plant

EXHIBIT B-3

COMBINED SEWER SYSTEM INLINE STORAGE ASSESSMENT STUDY

TECHNICAL MEMORANDUM NO. 1.2

CITY OF FORT WAYNE, INDIANA

NOVEMBER 2004 (Technical Memorandum No. 1)

Revised: MARCH 2005 (Technical Memorandum No. 1.1)

Revised: AUGUST 2005 (Technical Memorandum No. 1.2)

Revised: SEPTEMBER 2007

1.0 STUDY OBJECTIVES

The Environmental Protection Agency (EPA) and the Indiana Department of Environmental Management (IDEM) have established Nine Minimum Controls (NMCs) that Combined Sewer Overflow (CSO) communities should employ to optimize operation of the collection system and reduce overflows. The Nine Minimum Controls form the basis for the City of Fort Wayne's Combined Sewer System Operational Plan (CSSOP). Maximum use of collection system storage is one of the NMCs. Under NMC requirements, maximizing use of the collection system for storage can include incorporating relatively simple modifications to the collection system to store wet weather flows to reduce CSO discharges, if those modifications do not create hydraulic or system flooding concerns.

The overall goal of this project is to perform an assessment of the inline storage capacity of the trunk sewers that serve the combined sewer subbasins in Fort Wayne. The assessment will identify the subbasins whose combined trunk sewers have the ability to store ample wet weather flows without causing any detrimental surcharges or basement flooding, and the resulting benefit in terms of reduction in overflow volume. The first phase of this effort is to assess the potential for inline storage using simple screening methodologies, and identify critical locations in the subbasins that control the allowable surcharge. The second phase of this study investigates the operation of the inline storage, and the impact of the filling/dewatering process, through annual model simulations. These simulations provide estimates of reductions in annual overflow volumes with assumed inline storage. The third and final phase predicts the reductions in number of annual overflow events and overflow volumes with increase in weir heights at regulators of selected subbasins. This technical memorandum presents the methodology used to perform these three phases, the details of the evaluation using XP SWMM modeling, and results of the evaluation.

2.0 METHODOLOGY USED TO ASSESS POTENTIAL FOR INLINE STORAGE

The following method was used to evaluate the storage potential for the combined trunk sewers in subbasins:

Step 1. Identify subbasins with trunk sewer sizes larger than 36 inches in diameter. The subbasins with smaller trunk sewer sizes (i.e. less than or equal to 36-inch diameter) were eliminated from further evaluation. It was assumed that subbasins that have trunk sewer size less than 36-inch diameter are not likely to have viable inline storage volume to store adequate wet weather flows.

Step 2. For the subbasins that have trunk sewer sizes greater than 36-inch diameter, the full volume of trunk sewers greater than 36-inch diameter was calculated.

Step 3. Using results from completed annual continuous model simulations (performed as part of the LTCP development by Malcolm Pirnie in 2001 using XP SWMM), the maximum total annual volume that could be stored in the trunk sewers was estimated. Using the model-predicted overflow hydrographs, the volume of each overflow event was calculated and compared to the available in-line storage. If the overflow volume was less than the available storage, then the event was assumed to be captured in its entirety. If the overflow volume was more than the available storage, then the portion in excess of the available storage was assumed to overflow. It was also assumed that the full storage volume was available for each storm event, i.e., dewatering of the storage was not accounted for.

This methodology intentionally provides an estimate of the maximum total annual volume that could be stored. A maximum estimate was desired because the estimated stored volumes were subsequently used in Step 4 to eliminate basins that were clearly not candidates for inline storage. Two assumptions cause the estimate to represent the maximum total annual volume that could be stored:

- First, as noted above, dewatering of storage was not accounted for. Therefore, in a situation with back-to-back overflow events, it was assumed that the full inline storage volume was available for both events. In reality, the full volume may not be available for the second event, if the overflow from the first event is still being dewatered from storage.
- Second, it was assumed that the full inline storage volume could be used. In reality, the surcharge necessary to fill the full inline storage volume may be unacceptable, i.e., cause basement flooding conditions in the subbasin.

Step 4. If the estimated maximum total annual stored volume is less than 20 percent of the total annual overflow volume, then the associated subbasin was eliminated from further evaluation. This 20 percent cut off point was based on engineering judgment; given that the estimate of benefit in the screening step is conservatively maximized (see above), a 20 percent threshold is considered appropriate

Step 5. The subbasins identified above (trunk sewers greater than 36 inches in diameter [Step 1] and meeting the 20 percent criteria [Steps 2, 3 & 4]) are considered viable candidates for inline storage. However, fully assessing the estimated benefit (in terms of reduction in annual overflow volume) from inline storage must also account for the maximum allowable hydraulic grade lines in each subbasin, and the impact from the filling/dewatering process on the capture of sequential overflow events. Step 5 used a design storm analysis to provide a first indication of the wet-weather conditions that trigger an unacceptable hydraulic grade line condition in the trunk sewers under existing conditions.

Step 6. The previous step studied the effect of a single rain event on the combined sewer system of the above identified subbasins. As part of Step 6, annual model simulations were performed on these subbasins, incorporating dynamic controls to induce inline storage while maintaining HGL set points.

Step 7. The changes to the annual overflow volumes and the number of annual overflow events from existing conditions were documented.

Step 8. Subbasins with the ability to pass large rainfall events, and hence the potential ability to store relatively significant volumes were selected as part of Step 8. Annual model simulations were again performed, incorporating increased weir heights as a simpler method of inducing inline storage while maintaining HGL set points.

Step 9. The changes to the annual overflow volumes and the number of annual overflow events from existing conditions were again documented.

3.0 ASSESSMENT OF INLINE STORAGE POTENTIAL

The City of Fort Wayne has a total of 40 combined sewer subbasins. Out of the 40, 38 subbasins were analyzed for inline storage potential in their respective combined trunk sewers. Subbasins M10120 and Q14025A were not included in the inline storage assessment study because the subbasin models were not calibrated and construction of sewer separation projects has been completed.

3.1 SUBBASINS ELIMINATED BASED ON TRUNK SEWER DIAMETER SIZE (STEP 1)

From the total of 38 subbasins, 13 subbasins were eliminated based on the criteria set by Step 1 (Section 2). Table 3-1 lists the subbasins that were eliminated and the largest trunk sewer diameter for the corresponding subbasin.

TABLE 3-1

SUBBASINS ELIMINATED BASED ON TRUNK SEWER DIAMETER SIZE

Subbasin	Largest Diameter of Trunk Sewer
J02089	30-inch
K15112	24-inch
K19071	18-inch
L06079	18-inch
M14007	12-inch
M18256	24-inch
M18261	21-inch
N22005	24-inch
O06017	36-inch
O22061B	24-inch
Q06002	24-inch
Q06049	24-inch
S02008	24-inch

3.2 SUBBASINS ELIMINATED BASED ON ANNUAL STORED OVERFLOW VOLUME (STEPS 2 TO 4)

Table 3-2 lists the subbasins that were eliminated based on the criteria set by Steps 2 through 4 (Section 2) and the total assumed annual stored overflow volume for these subbasins as percent of the total annual overflow volume.

TABLE 3-2

SUBASINS ELIMINATED FOR LACK OF STORAGE CAPACITY

Subbasin	Total Assumed Annual Stored Overflow Volume as Percent of the Total Annual Overflow Volume
M10237	13%
O22092	12%
M18271	15%
R14075	15%
N23078	14%

3.3 CANDIDATE SUBBASINS FOR INLINE STORAGE ASSESSMENT STUDY

Twenty subbasins remained after the two screening steps described above and so were identified as "candidate" subbasins for a full assessment of inline storage. Table 3-3 lists the candidate subbasins and their corresponding trunk sewer diameter sizes.

TABLE 3-3

CANDIDATE SUBBASINS AND ASSOCIATED TRUNK SEWER DIAMETERS

Subbasin	**Trunk Sewer Diameters**
J03012	42-inch to 60-inch
K06290A	72-inch
K06290B	60-inch to 72-inch
K07026	42-inch
K11004	54-inch to 66-inch
K11010	72-inch to 126-inch
K15009	42-inch to 72-inch
L06078	42-inch to 48-inch
L06086	48-inch
L06087/L06438	42-inch to 72-inch
L19252	48-inch to 66-inch
M06044	42-inch
M06711	42-inch to 60-inch
M10250	42-inch to 48-inch
N06007	60-inch
O10101	42-inch to 66-inch
P06014	48-inch to 96-inch
P06119	48-inch
R14033	42-inch to 48-inch

3.4 ESTABLISHING HGL SET POINTS FOR CANDIDATE SUBBASINS

As noted above, assessing the benefit of inline storage requires definition of the HGL set points necessary to protect the subbasin from unacceptable surcharge. Knowledge of the local system combined with XP SWMM model results were used to identify the HGL set points. The set points are made up of two measures:

- First, the locations where the set points are applied. These are manholes that are predicted to exhibit the worst surcharging during simulated design storms.
- Second, the depth set point that must be maintained. This depth set point was defined based on:

  1). For sewers where the depth of pipe crown is greater than 8 feet from grade: Maintain 8 feet of freeboard.

  2). For sewers where the depth of pipe crown is less than 8 feet from grade: Maintain non-surcharged conditions.

For the remainder of this Technical Memorandum, any discussion of HGL set points refers to the HGL set points identified through the above procedure.

3.5 DESIGN STORM ANALYSIS

As an initial indicator of the benefit from inline storage, Malcolm Pirnie performed design storm simulations for the candidate subbasins under existing conditions. The synthetic design storms used for this analysis were defined during the City's LTCP development. The design storms return periods, durations, and rainfall depths are as follows:

1) 3-month, 6-hour storm (1.04 inches)
2) 6-month, 6-hour storm (1.31 inches)
3) 9-month, 6-hour storm (1.49 inches)
4) 1-year, 6-hour storm (1.62 inches)

5) 2-year, 6-hour storm (1.89 inches)
6) 5-year, 6-hour storm (2.28 inches)
7) 10-year, 6-hour storm (2.64 inches)
8) 25-year, 6-hour storm (3.22 inches)

For each subbasin, the smallest design storm that violated the HGL set points described in Section 3.4 was identified. This design storm is referred to as the critical, or threshold, design storm. It is important to recognize that these simulations were performed assuming existing conditions, i.e., no inline storage. Therefore, they identify the largest design storm for which some level of inline storage can be used. They do not identify the largest design storm that can be fully captured using inline storage.

3.6 RESULTS OF DESIGN STORM ANALYSIS

As presented in Sections 3.4 and 3.5, the HGL set points and the threshold design storm that violated the set points were determined for each candidate subbasin. The XP SWMM model simulation results for these subbasins are presented in Table 3-4 under two scenarios:

1) For Sewers with Diameter ≥ 42-inch Only (Trunk Sewers) – This section of the table presents the results based on the critical HGL set point identified in the 42-inch or greater diameter trunk sewers in the subbasin. Under this scenario, the critical HGL set point may still be violated in smaller-diameter tributary systems within the subbasins.
2) For Entire Subbasin (Trunk Sewers and Sewers with Diameter < 42-inch) – This section of the table presents the results based on the critical HGL set point identified for any sewer in the subbasin (including the sewers that are less than 42-inch diameter in size). There could be possible local bottleneck points in the

smaller diameter sewers which would surcharge or flood for a smaller storm even though the trunk sewers have the capacity to handle a much larger storm.

The model results presented in Table 3-4 indicate the following assuming an HGL set point in the 42-inch or greater diameter sewers:

- Five subbasins (Subbasins K11004, L06078, L06086, N06007 and L19252) do not violate the critical HGL set points under existing conditions even during a 25-year, 6-hour design storm.
- Eight subbasins (Subbasins K07026, K15009, L06087/L06438, K06290B, M06711, M10250 and P06014) do not violate the critical HGL set points under existing conditions during a 10-year, 6-hour design storm.
- Subbasin M06044 does not violate the critical HGL set points under existing conditions during a 5-year, 6-hour design storm.

The 25-year and 10-year design storms indicate the varying degree of risk (basement backups & flooding) associated with them. It should be noted while interpreting the above results, that the subbasins that are predicted to have storage potential for a 25-year storm would provide storage for a 10-year storm at a lesser risk level.

TABLE 3-4

FORT WAYNE CSSOP INLINE STORAGE ASSESSMENT STUDY

THRESHOLD DESIGN STORMS

SUBBASIN[1]	FOR SEWERS WITH DIAMETER ≥42-INCH ONLY (TRUNK SEWERS)			FOR ENTIRE SUBBASIN (TRUNK SEWERS AND SEWERS WITH DIAMETERS <42-INCH ONLY)		
	Set Point Node	Set Point HGL Elevation[2]	Threshold Design Storm	Set Point Node	Set Point HGL Elevation[2]	Threshold Design Storm
J03012	J03113	746.39	6-Month, 6-Hour	J03113	746.39	6-Month, 6-Hour
K07026	K07171.2	746.57	25-Year, 6-Hour	K07006	758.87	9-Month, 6-Hour
K11004	--	--	>25-Year, 6-Hour	--	--	>25-Year, 6-Hour
K15009	L15302	767.18	25-Year, 6-Hour	L15256	768.90	2-Year, 6-Hour
L06078	--	--	>25-Year, 6-Hour	--	--	>25-Year, 6-Hour
L06086	--	--	>25-Year, 6-Hour	--	--	>25-Year, 6-Hour
L06087/L06438	L02415	761.70	25-Year, 6-Hour	L02415	761.70	25-Year, 6-Hour
L19252	--	--	>25-Year, 6-Hour	--	--	>25-Year, 6-Hour
M06044	M10309	748.19	10-Year, 6-Hour	M10309	748.19	10-Year, 6-Hour
M06711	M06673	755.90	25-Year, 6-Hour	M06673	755.90	25-Year, 6-Hour
M10250	M10256.2	752.01	25-Year, 6-Hour	M10256.2	752.01	25-Year, 6-Hour
O10101	N14106	742.77	5-Year, 6-Hour	O18246	753.32	< 3-Month, 6-Hour

TABLE 3-4 (Continued)

FORT WAYNE CSSOP INLINE STORAGE ASSESSMENT STUDY

THRESHOLD DESIGN STORMS

SUBBASIN[1]	FOR SEWERS WITH DIAMETERS ≥42-INCH ONLY (TRUNK SEWERS)			FOR ENTIRE SUBBASIN (TRUNK SEWERS AND SEWERS WITH DIAMETERS <42-INCH ONLY)		
	Set Point Node	Set Point HGL Elevation[2]	Threshold Design Storm	Set Point Node	Set Point HGL Elevation[2]	Threshold Design Storm
P06014	P06073	760.00	25-Year, 6-Hour	P06073	760.00	25-Year, 6-Hour
P06119	P06124	759.40	5-Year, 6-Hour	P06124	759.40	5-Year, 6-Hour
R14033	S18071	783.36	5-Year, 6-Hour	S18071	783.36	5-Year, 6-Hour
K06290A	K03101	751.11	5-Year, 6-Hour	K03101	751.11	5-Year, 6-Hour
K06290B	K10389	750.96	25-Year, 6-Hour	K10381	758.00	25-Year, 6-Hour
N06007	N02071	--	>25-Year, 6-Hour	N02206	780.00	5-Year, 6-Hour
K11010	K11099	774.00	NA[3]	K11099	774.00	NA[3]

1) Subbasins with trunk sewer diameter greater than 36-inch and storage volume greater than 20 % of annual overflow storage volume

2) Set point HGL equal the larger of the ground elevation minus 8' or the pipe crown elevation

3) Subbasin K11010 contains several manholes at the down stream end of the basin with little to no cover. Therefore, under any design storm the minimum 8' freeboard rule is violated. Due to the flooding that occurs at the downstream end, the set point HGL cannot be reached

- Four subbasins (Subbasins K06290A, R14033, P06119 and O10101) do not violate the critical HGL set points under existing conditions during a 2-year, 6-hour design storm.
- Subbasin J03012 does not violate the critical HGL set points under existing conditions during events smaller than a 6-month, 6-hour storm.
- Subbasin K11010 contains several manholes at the downstream end of the basin with little or no cover. Therefore, under any design storm the minimum 8-feet freeboard is violated as the sewer experiences surcharged conditions.

The overall conclusions derived from the model results are that 13 subbasins are predicted to have the inline capacity to store some of the overflows from virtually all storms, even storms equivalent to 25-year and 10-year design storms. The model also predicts that certain sections of sewers with diameter less than 42-inch in Subbasins K07026, K15009, O10101 and N06007 experience unacceptable surcharge conditions for smaller design storms. This indicates that even though the larger diameter trunk sewers in these subbasins could have the capacity to store some of the overflows from events smaller than or equal to the threshold storms, certain sections of the sewers that are less than 42-inch diameter in size experience capacity issues (surcharged or flooding conditions) for such storms.

As noted earlier, it is important to recognize that these results identify the threshold events that violate the HGL set points under existing conditions, i.e., with no inline storage. Therefore, they identify the largest design storm for which some level of inline storage can be used; they do not identify the largest design storm that can be fully captured using inline storage. Since available inline storage volume will depend on the actual flow conditions in the sewer, the sequence of storm events through the year, and the need to dewater the stored flow after events, a continuous annual simulation incorporating inline storage is necessary to fully assess the benefit in terms of reduction in overflow volume.

3.7 ANNUAL MODEL SIMULATION DESCRIPTION – INLINE STORAGE

In order to further evaluate the impact of inline storage, Malcolm Pirnie performed a typical annual continuous simulation for each of the subbasins shown in Table 3-4. The annual continuous rainfall event for this analysis was defined during the City's LTCP development. The goals of the simulation included the following:

- Run continuous simulations incorporating dynamic control to maintain HGL set points.
- Document changes in *annual overflow volumes* from continuous simulation results for existing conditions.
- Document changes in the *number of annual overflow events* from continuous simulation results for existing conditions.
- Document the *maximum 6-hour design storm* that can successfully be stored without producing an overflow event.

3.8 ANNUAL CONTINUOUS SIMULATION MODEL RESULTS – INLINE STORAGE

The results from the annual continuous simulation were analyzed for several key comparisons as noted in Section 3.7. The model results presented in Table 3-5 compare the total overflow volume under existing conditions (no inline storage) and with inline storage controls. As expected, when storage controls are in place, the total overflow volume decreases. It should be noted that subbasin J03012 was removed from this portion of the analysis as this subbasin reported no overflow under existing conditions.

Table 3-6 presents the annual number of overflow events under existing conditions and with inline storage controls. In most subbasins the presence of inline storage controls reduces the number of annual overflow events, as expected. But, in two subbasins (Subbasins K07026 and O10101) the number actually increases, although as shown in Table 3-5, the total volumes decrease.

TABLE 3-5 FORT WAYNE CSSOP - INLINE STORAGE ASSESSMENT STUDY OVERFLOW VOLUME COMPARISON				
Subbasin	**Under Existing Conditions**		**With Storage Controls**	
	Overflow Link	**Total Overflow Volume (MG)**	**Overflow Link**	**Total Overflow Volume (MG)**
K07026	LK07171.0	13.50	LK07171.0	9.75
K11004	LJ11163.0	20.98	LJ11163.0	16.40
K15009	LK15009.0	26.96	LK15009.0	18.33
L06078	LL06102.0	2.31	LL06102.0	1.74
L06086	LL06086.1	0.06	LL06086.1	0.00
L06087/L06438	LL06087.2	15.57	LL06087.2	1.20
L06087/L06438	LL06203	31.93	LL06203	11.13
L19252	LL19018.0	17.07	LL19018.0	6.91
M06044	LM10309.0	1.10	LM10309.0	0.94
M06711	LM06706.1	2.52	LM06706.1	0.39
M10250	LM10256.0	0.85	LM10256.0	0.76
O10101	L010311.0	30.01	L010311	20.25
O10101	L010312.0	56.24	L010312	40.29
P06014	LP06014.0	57.22	LP06014.0	33.13
P06119	LP06119.0	34.05	LP06119.0	24.01
R14033	LS18082.0	11.76	LS18082.0	10.23
K06290A	LK06285.0	62.92	LK06285.0	35.01
K06290B	LK06231.0	22.92	LK06231	14.67
N06007	LN06007.2	21.41	LN06022d	9.64

TABLE 3-6 FORT WAYNE CSSOP - INLINE STORAGE ASSESSMENT STUDY ANNUAL NUMBER OF OVERFLOW EVENTS COMPARISON				
Subbasin	**Under Existing Conditions**		**With Storage Controls**	
	Overflow Link	**Annual Number of Overflow Events**	**Overflow Link**	**Annual Number of Overflow Events**
K07026	LK07171.0	41	LK07171.0	54
K11004	LJ11163.0	58	LJ11163.0	56
K15009	LK15009.0	65	LK15009.0	23
L06078	LL06102.0	20	LL06102.0	13
L06086	LL06086.1	1	LL06086.1	0
L06087/L06438	LL06087.2	27	LL06087.2	3
L19252	LL19018.0	72	LL19018.0	15
M06044	LM10309.0	7	LM10309.0	4
M06711	LM06706.1	10	LM06706.1	3
M10250	LM10256.0	11	LM10256.0	3
O10101	L010311.0	43	L010311	23
O10101	L010312.0	46	L010312	47
P06014	LP06014.0	38	LP06014.0	12
P06119	LP06119.0	53	LP06119.0	38
R14033	LS18082.0	18	LS18082.0	12
K06290A	LK06285.0	40	LK06285.0	16
K06290B	LK06231.0	34	LK06231	19
N06007	LN06007.2	34	LN06022d	7

These increases in events are due to the simplified configuration of the storage controls in the model, and the dewatering methodology utilized by the model. In implementation, it is expected that more sophisticated control mechanisms and logic could eliminate these increases in activation.

It is important to note that the annual results for existing conditions (no inline storage) shown in Tables 3-5 and 3-6 are based on new simulations performed as part of the current effort. Because of this, these existing condition results are not identical to the existing condition results presented in the City's 2001 LTCP. The existing condition simulations were re-run as part of the current effort for two reasons:

- First, the XP-SWMM model has improved since 2001. Because the current XP-SWWM version is required to simulate the dynamic controls for the inline storage scenario, the existing condition baseline had to be re-run with this same model version for a consistent comparison.
- Second, several of the subbasin models have been improved since 1999 (the period of the original LTCP modeling) through the City's CSCIP program. These improvements were incorporated in the current analysis, and so required re-running of the existing condition baseline.

Table 3-7 documents the maximum design storm that each subbasin can store completely (i.e., eliminate overflow) using inline storage, with dynamic controls in place and operated to maintain the defined HGL set points. This scenario is much different than the one summarized in Table 3-4; Table 3-4 presents the maximum 6-hour design storm that can be passed through the existing system without violating the HGL set point, while Table 3-7 presents the maximum 6-hour design storm that can be stored completely with dynamic controls in place without violating the HGL set point. Note the largest design storm that can be stored is a 3-month, 6-hour event in subbasins L06087/L06438 and M06711. Five subbasins (Subbasins L06086, M06044, M10250, N06007 and R14033) can store a 1-month, 6-hour design storm. The remaining subbasins can not store even a 1-month, 6-hour design storm. These results are not surprising; note that even a 1-month event will be equaled or exceeded only 12 times per year, meaning that there are approximately 110 smaller events per year in Fort Wayne. The decrease in annual overflow volume through inline

TABLE 3-7 FORT WAYNE CSSOP - INLINE STORAGE ASSESSMENT STUDY MAXIMUM DESIGN STORM STORED WITH STORAGE CONTROLS		
Sub-basin	**Overflow Link**	**Maximum Design Storm**
K06290A	LK06285.0	<1-month, 6-hour
K06290B	LK06231	<1-month, 6-hour
K07026	LK07171.0	<1-month, 6-hour
K11004	LJ11163.0	<1-month, 6-hour
K15009	LK15009.0	<1-month, 6-hour
L06078	LL06102.0	<1-month, 6-hour
L06086	LL06086.1	1-month, 6-hour
L06087/L06438	LL06087.2	3-month, 6-hour
L19252	LL19018.0	<1-month, 6-hour
M06044	LM10309.0	1-month, 6-hour
M06711	LM06706.1	3-month, 6-hour
M10250	LM10256.0	1-month, 6-hour
N06007	LN06022d	1-month, 6-hour
O10101	L010311	<1-month, 6-hour
O10101	L010312	<1-month, 6-hour
P06014	LP06014.0	<1-month, 6-hour
P06119	LP06119.0	<1-month, 6-hour
R14033	LS18082.0	1-month, 6-hour

storage is achieved through capture of many small events, rather than capture of any significant portion of larger events.

3.9 ANNUAL MODEL SIMULATION DESCRIPTION – RAISED WEIRS

In order to evaluate an alternative method of inducing inline storage, overflow weir heights were increased for select subbasins. This analysis assessed the potential benefit of simple passive storage controls implemented by raising fixed weir crests. Subbasins were selected based on the results presented in Table 3-4, as these results are strong indicators of the potential for inline storage using passive controls. Only those subbasins with 10-year, 6-hour and 25-year, 6-hour threshold design storms were included in this analysis, as the ability to pass these large events through the existing system without violating the established HGL set points suggests that there may be inline storage capacity for the multitude of small events that occur in a typical year. Subbasins in Table 3-4 with a smaller threshold design storm would likely have very limited benefits and therefore were not included in this portion of the study.

Each overflow weir was evaluated to calculate the maximum potential increase in weir height that did not compromise the regulators ability to pass the identified threshold design storm, i.e., did not result in a violation of the established upstream HGL set point during the design storm. The maximum increase in weir height is presented in Table 3-8. Then, a typical annual continuous simulation with the increased weirs for each of the subbasins was performed. As mentioned in Section 3.7, the typical annual rainfall record for this analysis was defined during the City's LTCP development. The goals of the simulation included the following:

- Run continuous simulations incorporating increased weir heights while maintaining HGL set points.
- Document changes in *annual overflow volumes* from continuous simulation results for existing conditions.

- Document changes in the *number of annual overflow events* from continuous simulation results for existing conditions.

TABLE 3-8
FORT WAYNE CSSOP – INLINE STORAGE ASSESSMENT STUDY
MAXIMUM POTENTIAL INCREASE IN WEIR HEIGHTS

Subbasin	Overflow Link	Weir Link	Existing Weir Height (ft) (Above Manhole Invert)	Maximum Proposed Increase In Weir Height (ft)
K07026	LK07171.0	LK07171.W	1.60	0.10
K11004	LJ11163.0	LJ11163.1	0.83	1.50
K15009	LK15009.0	LK15009.W	0.66	2.04
L06078	LL06102.0	LL06102.W [1]	1.08	1.54
L06086	LL06086.1	LL06086.W	1.16	1.00
L06087/L06438	LL06087.2	LL06087.W	1.00	1.19
L19252	LL19018.0	LL19018.W	0.77	0.70
M06711	LM06706.1	LM06706.W	1.33	0.86
M10250	LM10256.0	LM10256.W	1.00	0.38
P06014	LP06014.0	LP06014.W	1.06	5.34
K06290B	LK06231.0	LK06231.W	2.50	0.50
N06007	LN06007.2	LN06007.W	2.00	3.98

1 - Regulator L06102 has a sliding aluminum plate mechanism to direct the wet weather flows.

3.10 ANNUAL CONTINUOUS SIMULATION MODEL RESULTS – RAISED WEIRS

The results from the annual continuous simulation were analyzed for several key comparisons as noted in Section 3.9. The model results presented in Table 3-9 compare the total overflow volume under existing conditions (no raised weirs) and with weir raised. As expected, when the weirs are raised, the total overflow volume decreases.

Table 3-10 presents the annual number of overflow events under existing conditions and with raised weirs. In most subbasins the presence of passive weir storage controls reduces the number of annual overflow events, as expected. But, in four subbasins (Subbasins K07026, L06086, M06711 and K06290B) the number remains the same, although as shown in Table 3-9, the total overflow volumes decrease.

In addition, the HGL set point goals identified in Table 3-4 were maintained in all subbasins. The increased weir heights did not negatively impact upstream HGL conditions.

TABLE 3-9
FORT WAYNE CSSOP – INLINE STORAGE ASSESSMENT STUDY
TOTAL ANNUAL OVERFLOW VOLUME COMPARISON

	Under Existing Conditions		With Weirs Raised		
Subbasin	**Overflow Link**	**Total Annual Overflow Volume (MG)**	**Overflow Link**	**Total Annual Overflow Volume (MG)**	**% Reduction in Total Annual Overflow Volume**
K07026	LK07171.0	13.50	LK07171.0	No Change	0
K11004	LJ11163.0	20.98	LJ11163.0	18.64	11
K15009	LK15009.0	26.96	LK15009.0	19.51	28
L06078	LL06102.0	2.31	LL06102.0	1.21	47
L06086	LL06086.1	0.06	LL06086.1	0.03	54
L06087/L06438	LL06087.2	15.57	LL06087.2	12.84	18
L19252	LL19018.0	17.07	LL19018.0	14.51	15
M06711	LM06706.1	2.52	LM06706.1	2.00	21
M10250	LM10256.0	0.98	LM10256.0	0.85	13
P06014	LP06014.0	57.22	LP06014.0	42.93	25
K06290B	LK06231.0	22.92	LK06231	19.86	13
N06007	LN06007.2	21.41	LN06022d	11.93	44

TABLE 3-10

FORT WAYNE CSSOP – INLINE STORAGE ASSESSMENT STUDY

ANNUAL NUMBER OF OVERFLOW EVENTS COMPARISON

Subbasin	Under Existing Conditions		With Weirs Raised		
	Overflow Link	Annual No of Overflow Events	Overflow Link	Annual No of Overflow Events	% Reduction in Annual No of Overflow Events
K07026	LK07171.0	42	LK07171.0	No Change	0
K11004	LJ11163.0	58	LJ11163.0	48	17
K15009	LK15009.0	65	LK15009.0	34	48
L06078	LL06102.0	20	LL06102.0	17	15
L06086	LL06086.1	1	LL06086.1	No Change	0
L06087/L06438	LL06087.2	27	LL06087.2	18	33
L19252	LL19018.0	72	LL19018.0	47	35
M06711	LM06706.1	10	LM06706.1	No Change	0
M10250	LM10256.0	11	LM10256.0	6	45
P06014	LP06014.0	38	LP06014.0	31	18
K06290B	LK06231.0	34	LK06231	No Change	0
N06007	LN06007.2	34	LN06022d	9	74

4.0 COMBINED SEWER INLINE STORAGE TECHNOLOGIES

Inline storage uses the excess volume in the combined trunk sewer to store peak flows resulting from storm runoff. The stored flows will be gradually released as the trunk sewer regains adequate capacity.

The degree to which the existing trunk sewer system can be used for storage is a function of: pipe size; pipe or channel gradient (relatively flat sewers provide the most storage capacity without susceptibility to flooding low areas); suitable locations for installation of control devices; and the reliability of installation control.

4.1 INLINE STORAGE SYSTEMS

The following sections describe some of the available technologies that could provide inline storage in Fort Wayne's combined trunk sewers

A) Inline Storage Devices

Various devices have been used for storage in sewers, including throttle valves, inflatable dams, gates and weirs. The following devices may be apt for Fort Wayne's inline storage efforts:

1. Inflatable Dams

Inflatable dams are popular storage control measures whereby a rubberized fabric device is inflated and deflated to control flows and maximize storage in designated points in the combined sewer system. Inflatable dams are usually activated by automatic sensors that measure flow levels at specified points in the system. Generally very little maintenance is required for inflatable dams but periodic maintenance of the air and water supply connection to the inflatable dam is necessary.

2. Gates

Motor or hydraulically operated sluice gates can be used to store flows inside the sewer. These gates could be installed at potential storage locations in the trunk sewer. The installed gates can be activated by automatic flow sensors that measure flow levels at specified points in the system. Generally very little maintenance is required for gates but periodic cleaning and lubrication is essential for trouble free performance.

B) Control Concepts

There are two types of concepts that have been used for controlling the mechanical storage devices. They are:

1. Reactive Control

Reactive control is a concept where a dynamic control (gate or inflatable dam) reacts to a defined set point. For example, gates or inflatable dams could be attached to flow sensors that could provide the trigger to shut a gate or inflate a dam once the flow rises to a particular level in the trunk sewer and open the gate or deflate a dam as a controlling upstream HGL set point is reached.

Implementing a Reactive Control system can be relatively simple and cost effective. The operation and maintenance is also relatively easy, but would require additional resources in Fort Wayne's maintenance division. Hence, Reactive Control system is a viable inline storage concept that may be considered for implementation in Fort Wayne.

2. Predictive Control

Predictive control is a concept where a computer system with predictive models adjusts set points and flows within the sewer systems (which in our case is the trunk sewer). This control system operates the gates or inflatable dams at optimal variable set points prior to actual rainfall conditions, based on predictions a few hours in advance from collection system models. Because it can constantly readjust its control set points according to updated field information, this control system is the most sophisticated and potentially the most efficient to control and minimize overflow and surcharges in the existing system.

Implementing a Predictive Control system can be relatively complex and costly compared to Reactive Control. The operation and maintenance is also complex. If a Predictive Control system were to be implemented, new modeling staff with adequate technical expertise, in addition to new maintenance staff, will be needed to operate this complex system.

The sophistication of a "Predictive Control" system is unlikely to offer a cost effective solution unless there is a. large in-line storage capacity. Hence the concept of "Predictive Control," though more efficient, may not be viable for implementation in Fort Wayne.

C) Other Measures to Maximize Inline Storage Potential – Raising Weir Heights at Regulators

Other measures such as raising existing weir heights when implemented alongside or in lieu of the above described storage devices and controls would augment inline storage in trunk sewers of Fort Wayne's Combined Sewer System**.** Raising weir heights at existing CSO regulators provides a passive means to induce storage in the combined sewer system. The modeling study (explained in sections 3.9 and 3.10) indicates that increasing weir heights results in inline storage for select subbasins.

4.2 TECHNICAL CONCLUSIONS

Increasing weir heights at CSO regulators has the potential to be a feasible, cost effective solution to reduce overflows, but provides desirable benefits only in select subbasins. Inflatable Dams and Sluice Gates are two mechanical devices that have been used widely for inline storage in many cities. These two devices would be viable for Fort Wayne's inline storage efforts. The Capital and O&M costs are comparable for both devices. The decision to choose either one of these needs to be made based on the conditions at the proposed location of installation and any local factors that impact operation and maintenance requirements.

A Reactive Control system may be viable for Fort Wayne. This would be cost effective compared to the sophisticated Predictive Control system. Periodic sewer maintenance through flushing and storage at pump station wet wells could serve as effective secondary measures that could augment the primary inline storage efforts

5.0 OVERALL CONCLUSIONS

The analysis presented above provides valuable information related to the potential for inline storage in Fort Wayne's combined sewer subbasins. With this comprehensive technical evaluation completed, it is appropriate to re-visit the decision process completed by the City during development of the CSO LTCP in 1998. During this decision process, the project team considered the possibility of storing wet-weather flow in major trunk sewers. Assessing this possibility in terms of the components required for in-line storage proceeded as follows:

- It was recognized in 1998 that many trunk sewers do have the physical capacity for storage, e.g., the Rudisill Avenue Trunk Sewer. The current analysis confirms this.
- No trunk sewers had the type of flow control required to induce dynamic storage in 1998, nor do they today. Viable technologies for these controls have been identified as part of the current analysis and are described above. While the City could install these controls, the capital cost associated with the installations is arguably enough on its own to push potential trunk sewer storage beyond NMC

implementation. However, it could be considered as part of LTCP implementation.

- The model study (sections 3.9 & 3.10) indicates that there may be value in a pilot study to demonstrate the effect of increased weir heights on the inline storage potential in select subbasins. In 2005, the City acted on this potential benefit and implemented a pilot program by raising the fixed weir heights at six regulators. The six pilot regulators control flows discharged at CSOs 5, 17, 36, 39, 62, and 68. The City continues to monitor these locations to establish quantitative trends in overflow reduction. However, even before quantification, it is self-evident that a benefit in terms of overflow reduction has been realized.
- At the time of LTCP development, the City did not have the staff available to operate in-system flow controls to induce storage in trunk sewers. Furthermore, the City was hesitant at that time to commit to developing those resources. Since then, the City has shown the desire and ability to add wet-weather program staff, although it still must be done judiciously.

The most important factor in the City's 1998 decision process was that political and community leaders were (and continue to be) very sensitive to basement flooding concerns in the combined sewer subbasins. Therefore, while technically feasible (although likely beyond NMC implementation), using trunk sewers for storage of wet-weather flows was considered likely to be unacceptable to the community in 1998. Whether or not this controlling political factor has changed is a judgment that must be made by the City as part of deciding on implementation of inline storage.

EXHIBIT B-4

TECHNICAL MEMORANDUM

SUBJECT: CSO Ponds Nos. 1 & 2 Recycle Study

PREPARED BY: Patrick W. Callahan, P.E.

DATE PREPARED: 6/2004

1. PURPOSE AND SCOPE

This technical memorandum presents information addressing the releases of combined sewage from Ponds Nos. 1 & 2 and the capacity of the Water Pollution Control Plant (WPCP) during these releases. The purpose of this memorandum is to identify the potential benefits of returning the combined sewage stored in the ponds to the WPCP for treatment.

2. EXISTING CONDITIONS

The Wayne Street Interceptor conveys combined sewage to the City of Fort Wayne's WPCP through an 84-inch pipe. The flow from the Wayne Street Interceptor passes a Diversion Chamber before entering the WPCP. When the WPCP cannot take the entire flow from the Wayne Street Interceptor the flow backs up and surcharges the interceptor. When this interceptor surcharge exceeds 3 feet the flow is diverted to a pump station that can pump it into Ponds Nos. 1 & 2. The combined sewer overflows (CSOs) from the Glasgow regulator also enter this pump station and mix with the Wayne Street Interceptor flows. Thus, CSO flow is pumped into the Ponds after flow is maximized to the WPCP, storage in the Wayne Street Interceptor is maximized and the CSOs from the Wayne Street Interceptor and Glasgow Regulator begin to discharge to the pump station. One exception to this situation would where there is significant local rainfall in the Glasgow regulator subbasin, without rainfall in the remainder of the system. While physically possible, this rainfall pattern would be highly unusual.

The combined sewer overflows flow can be pumped into Pond 1, which can hold 152 million gallons. Pond 1 is connected to Pond 2, which can hold 138 million gallons, by a channel to the south and a 58" x 91" elliptical pipe to the north. A minimum of 5 ft of water is kept in the ponds to control odor and prevent fish kills in the ponds. This reduces the available capacity in each pond to 87.5 million gallons in Pond 1 and 90.6 million gallons in Pond 2. This loss in capacity is significant and of concern to the City, but operational experience has proven the necessity for a 5' minimum depth. The City has used Solar Bees that circulate the water at depth between the aerobic and anaerobic zone to help keep the D.O. levels high, therefore reducing odor in Ponds 1& 2. Even with these preventative measures in place, Pond 2 often experiences algae blooms that cause odor issues. The City also maintains a spray system for deodorizing the air. This is system is utilized when odor is bad in an effort to mask the odor. It is assumed that the majority of the fish enter the collection system through the outfalls and are pumped into the ponds during wet weather, or through the CSO pump station gates when the river level is high. The D.O levels in Pond 2 are such that a fish could survive. As part of the LTCP, the City proposes to construct improvements to Ponds that will allow the Ponds to be more effectively used. The overall intent of these improvements will be to reduce the amount of grit and debris getting into the ponds as well as improve the City's ability to clean and maintain the Ponds. It is believed that with these improvements the ponds that the current 5' minimum depth may be reduced.

Currently, before combined sewage overflows are pumped into Pond 1, the gates between Pond 1 and Pond 2 are closed. Pond 1 is filled before any new overflows are put into Pond 2. If the volume of new overflows is small enough, all new overflows are stored in Pond 1. If the volume of new overflows is too large to store in Pond 1, overflows are released to Pond 2 after Pond 1 is full.

Overflows are held in Pond 1 as long as possible to allow the larger solids to settle. Overflows are then distributed equally between Ponds 1 & 2 and held as long as possible to allow bacteria to die off. When the solids and bacteria reach permit limits the flow is discharged into the Maumee River. If a wet weather even, that requires overflows to be pumped into Pond 1, occurs before the above process is completed, partially treated overflows may have to be discharged to the Maumee River to make room for new overflows.

3. PLANNING PARAMETERS

This study addresses short term operations of and modifications to the ponds. Long term operations of and modifications to the ponds is addressed in the City's CSO LTCP. Because of this the WPCP will be assumed to have a capacity of 60 million gallons per day (MGD) and the recorded discharges from the ponds during 2002 and 2003 will be assumed to be representative of the future short term operation of the ponds.

4. POND NOS. 1 & 2 DISCHARGE DATA RESULTS

The dates and volumes of discharges from the ponds were obtained from the MRO reports. The volume of WPCP influent for the same dates was also obtained from the MRO reports. The influents were subtracted from 60 to determine the remaining capacity in the WPCP. The potential for recycling is the smaller of the remaining WPCP capacity or the amount discharged from the ponds. These calculations made for both 2002 and 2003. See Attachments 1 and 2.

The benefits of recycling were expressed as reduction in discharge volume per year and reduction in discharge days. See Attachment 3.

Table 4.1

2002 - 60MGD CAPACITY							
	Pond #1	Pond #2	Total Pond	WPCP Plant	Remaining	Potential for	Potential
	Discharges	Discharges	Discharges	Influent Flow	Capacity	Recycling	Discharge
Date	MG	MG	MG	MG	MG	MG	MG
1/29/2002	37.2		37.2	49.86	10.14	10.14	27.06
2/1/2002	110.5		110.5	48.22	11.78	11.78	98.72
2/2/2002	38.8		38.8	55.89	4.11	4.11	34.69
2/3/2002	48		48	58.62	1.38	1.38	46.62
2/4/2002	46.2		46.2	43.28	16.72	16.72	29.48
2/5/2002	24.1		24.1	40.90	19.10	19.4	4.7
2/6/2002	20.3		20.3	40.51	19.49	19.48	0.82
2/7/2002	4.4		4.4	46.79	13.21	4.4	0
3/3/2002	4.24		4.24	67.54	-7.54	0	4.24
3/4/2002	10		10	67.55	-7.55	0	10
3/5/2002	6.55		6.55	60.22	-0.22	0	6.55
3/6/2002	6.55		6.55	59.47	0.53	0.53	6.02
3/7/2002	6.55		6.55	57.92	2.08	2.08	4.47
3/8/2002	3.82		3.82	56.20	3.80	3.8	0.02
3/30/2002		28.53	28.53	59.92	0.08	0.08	28.45
3/31/2002		32.39	32.39	53.21	6.79	6.79	25.6
4/1/2002		22.34	22.34	59.38	0.62	0.62	21.72
4/2/2002		39.58	39.58	58.99	1.01	1.01	38.57
4/3/2002		49.43	49.43	59.20	0.80	0.8	48.63
4/4/2002		23.98	23.98	61.40	-1.40	0	23.98
4/10/2002		88.81	88.81	66.20	-6.20	0	88.81
5/12/2002		41.6	41.6	66.52	-6.52	0	41.6
5/13/2002		38.3	38.3	66.48	-6.48	0	38.3
5/18/2002		11.1	11.1	68.87	-8.87	0	11.1
6/11/2002		66.9	66.9	48.99	11.01	11.01	55.89
6/12/2002		30.2	30.2	45.45	14.55	14.55	15.65
7/15/2002		12.4	12.4	42.14	17.86	12.4	0
7/16/2002		13.3	13.3	40.92	19.08	13.3	0
9/10/2002		5.34	5.34	40.83	19.17	5.34	0
9/11/2002		8.88	8.88	40.23	19.77	8.88	0
9/12/2002		8.88	8.88	40.74	19.26	8.88	0
9/13/2002		7.99	7.99	41.59	18.41	7.99	0
9/14/2002		15.1	15.1	42.37	17.63	15.1	0
9/15/2002		6.22	6.22	40.60	19.40	6.22	0

9/16/2002		4.97	4.97	40.82	19.18	4.97	0
9/17/2002		7.75	7.75	39.17	20.83	7.75	0
9/18/2002		8.18	8.18	39.04	20.96	8.18	0
9/19/2002		6.46	6.46	39.42	20.58	6.46	0
9/20/2002		9.81	9.81	54.15	5.85	5.85	3.96
9/21/2002		7.69	7.69	53.69	6.31	6.31	1.38
9/22/2002		7.69	7.69	40.81	19.19	7.69	0
9/23/2002		8.82	8.82	41.35	18.65	8.82	0
9/24/2002		6.67	6.67	42.40	17.60	6.67	0
9/25/2002		21.83	21.83	40.32	19.68	19.68	2.15
9/26/2002		5.17	5.17	40.98	19.02	5.17	0
10/2/2002		7.88	7.88	41.74	18.26	7.88	0
11/12/2002		29.73	29.73	51.92	8.08	8.08	21.65
11/13/2002		8.13	8.13	46.68	13.32	8.13	0
			1,059.26	2,409.49	470.51	318.43	740.83
			22.07	50.20	9.80	6.63	

Table 4.2

2003 - 60 MGD CAPACITY							
	Pond #1	Pond #2	Total Pond	WPCP Plant	Remaining	Potential for	Potential
	Discharges	Disgharges	Discharges	Influent Flow	Capacity	Recycling	Discharge
Date	MG	MG	MG	MG	MG	MG	MG
3/13/2003		63.60	63.60	60.36	-0.36	0.00	63.60
3/19/2003		16.45	16.45	59.10	0.90	0.90	15.55
3/20/2003		73.97	73.97	59.42	0.58	0.58	73.39
3/24/2003		86.62	86.62	59.05	0.95	0.95	85.67
3/25/2003		4.49	4.49	59.88	0.12	0.12	4.37
3/26/2003		23.92	23.92	57.79	2.21	2.21	21.71
3/27/2003		8.33	8.33	57.25	2.75	2.75	5.58
3/28/2003		30.42	30.42	55.37	4.63	4.63	25.79
3/29/2003		24.00	24.00	59.06	0.94	0.94	23.06
3/30/2003		4.11	4.11	58.38	1.62	1.62	2.49
3/31/2003		15.56	15.56	56.68	3.32	3.32	12.24
4/5/2003	1.00		1.00	62.87	-2.87	0.00	1.00
4/8/2003		135.90	135.90	64.75	-4.75	0.00	135.90
4/30/2003		13.88	13.88	47.77	12.23	12.23	1.65
5/6/2003		11.16	11.16	62.75	-2.75	0.00	11.16
5/7/2003		136.93	136.93	64.79	-4.79	0.00	136.93
5/10/2003		106.06	106.06	62.81	-2.81	0.00	106.06
5/11/2003		63.20	63.20	60.30	-0.30	0.00	63.20
5/12/2003		59.18	59.18	61.14	-1.14	0.00	59.18
5/13/2003		101.31	101.31	60.26	-0.26	0.00	101.31
5/16/2003		106.19	106.19	63.08	-3.08	0.00	106.19
5/17/2003		5.19	5.19	64.65	-4.65	0.00	5.19
5/28/2003		18.38	18.38	49.69	10.31	10.31	8.07
5/29/2003		15.56	15.56	48.66	11.34	11.34	4.22
5/30/2003		6.69	6.69	49.49	10.51	6.69	0.00
6/23/2003		24.50	24.50	42.52	17.48	17.48	7.02
6/25/2003		18.43	18.43	40.45	19.55	18.43	0.00
7/7/2003		67.13	67.13	59.76	0.24	0.24	66.89
7/8/2003		83.10	83.10	58.44	1.56	1.56	81.54
7/9/2003		90.89	90.89	58.45	1.55	1.55	89.34
7/10/2003		109.13	109.13	56.04	3.96	3.96	105.17
7/11/2003		117.46	117.46	55.40	4.60	4.60	112.86
7/12/2003		101.08	101.08	56.33	3.67	3.67	97.41
7/13/2003		74.29	74.29	57.30	2.70	2.70	71.59
7/14/2003		35.41	35.41	53.92	6.08	6.08	29.33
7/29/2003		57.99	57.99	62.66	-2.66	0.00	57.99
7/30/2003		45.83	45.83	58.11	1.89	1.89	43.94

7/31/2003		17.63	17.63	58.27	1.73	1.73	15.90
8/8/2003		61.99	61.99	60.44	-0.44	0.00	61.99
8/9/2003		29.53	29.53	62.35	-2.35	0.00	29.53
8/10/2003		22.12	22.12	57.44	2.56	2.56	19.56
8/19/2003		21.88	21.88	46.66	13.34	13.34	8.54
8/20/2003		18.21	18.21	48.36	11.64	11.64	6.57
9/2/2003		120.15	120.15	61.21	-1.21	0.00	120.15
9/16/2003		17.45	17.45	54.96	5.04	5.04	12.41
9/17/2003		12.14	12.14	48.80	11.20	11.20	0.94
9/18/2003		10.54	10.54	47.75	12.25	10.54	0.00
10/9/2003		19.28	19.28	46.80	13.20	13.20	6.08
10/10/2003		18.70	18.70	46.64	13.36	13.36	5.34
10/13/2003		43.24	43.24	44.53	15.47	15.47	27.77
12/23/2003		107.50	107.50	60.21	-0.21	0.00	107.50
12/26/2003		39.10	39.10	60.92	-0.92	0.00	39.10
			2,516.80	2,930.07	189.93	218.83	2,297.97
			48.40	56.35	3.65	4.21	44.19

Table 4.3

	60 MGD Plant	
	2002	**2003**
Discharge Days	48	52
Potential Reduction		
Days	19	3
%	40%	6%
Pond Discharges (MG)	1,059	2,517
Potential Reduction		
Volume (MG)	318	219
%	30%	9%

EXHIBIT B-5

TECHNICAL MEMORANDUM

TO: Mark Gensic, City of Fort Wayne

FROM: Ken Sedmak, Project Manager, Donohue & Associates, Inc.

SUBJECT: WPCP CSO Terminal Ponds Nos. 1 & 2 Recycle Study
Donohue Project Number 10725.000

PREPARED BY: Stacy Jones, Donohue & Associates, Inc.
Amber Smith, Donohue & Associates, Inc.

DATE PREPARED: September 17, 2007

1.0 PURPOSE AND SCOPE

This technical memorandum presents information addressing the pumping facilities associated with combined sewer overflow (CSO) and the terminal ponds north of the Water Pollution Control Plant (WPCP).

As a part of discharge permit negotiations, the City of Fort Wayne (City) as well as the Indiana Department of Environmental Management (IDEM) requested an evaluation to estimate the amount of flow and cost of returning terminal pond water to the WPCP after a CSO event. By constructing a CSO Bleedback Facility, the WPCP will be able to return CSO pond water back to the WPCP for further wastewater treatment when there is available plant capacity. This facility will also lower the water elevations in the terminal ponds which will allow for additional storage of CSO water during a wet-weather event. This facility is one of the key components of the City's long term control plan.

Workshop No. 1 was held on June 25, 2004 with City and Donohue personnel to discuss issues and requirements for the WPCP CSO Terminal Ponds Nos. 1 & 2 Recycle Study. A copy of the notes from Workshop No. 1 is included with this memorandum as Attachment 3.

The purpose of this technical memorandum (TM) is to summarize the results from the City of Fort Wayne's Monthly Report of Operation (MRO) data analysis and provide conceptual layouts and costs for three conveyance alternates to return terminal pond water back to the WPCP. It is important to note that all calculations and analysis were based on limited MRO data provided by the City.

2.0 EXISTING CONDITIONS

The City of Fort Wayne has a combined sewer system that has a Combined Sewer Overflow (CSO) Treatment Facility located on the north side of the Maumee River across from the Water Pollution Control Plant (WPCP). Raw wastewater flows to the plant through two 84-inch interceptors, the Wayne Street Interceptor and the North Maumee Interceptor. The Wayne Street Interceptor is a combined sewer and the North Maumee Interceptor is a sanitary sewer. The flow from the Wayne Street Interceptor passes a Diversion Chamber before connecting with the North Maumee Interceptor prior to entering the WPCP. When flow into the WPCP exceeds plant capacity, flow is diverted from the Wayne Street Interceptor to the Diversion Chamber and flows to the CSO Treatment Facility. The CSO Treatment Facility consists of a CSO Pump Station and two large terminal ponds. Terminal Ponds Nos. 1 and 2 were constructed in the 1970's. CSO is pumped from the CSO pump station into Terminal Pond No. 1, which holds 87.5 million gallons, and flows through an interconnection channel into Terminal Pond No. 2, which holds 90.6 million gallons.

Chlorine solution from the WPCP may be added to the CSO for odor control (This is not used because it is not effective in controlling odors). The CSO is pumped to Pond No. 1, overflows to Pond No. 2, and is ultimately discharged from Pond No. 2 to the Maumee River. Effluent disinfection at Pond No. 2 discharge does not exist. The flow is not metered, therefore, volumes are determined based upon fill and draw and not flow through. There is no facility to return stored CSO in the ponds to the interceptor sewer system for treatment at the plant. Although conveyance facilities are in place to direct CSO to Pond No. 3, the pond is not used for CSO treatment. Pond No. 3 is used as a final polishing step for plant effluent.

Pond Nos. 1 and 2 are intended to be a primary treatment system (for CSO treatment) and discharge to the river. The ponds are designed as flow through facilities with no wastewater return control structures. Flow through Pond No. 1 and Pond No. 2 are controlled by steel sheet baffles in each pond. These baffles direct flow in a serpentine pattern to prevent short-circuiting in the ponds.

Pond Nos. 1, 2 and 3 all have outfalls to the Maumee River. These outfalls allow for individual ponds to be drained independent of the remaining two ponds. Pond No. 1 has a special open channel interconnect structure utilizing three sluice gates to control flow from Pond No. 1 to Pond No. 2. The open channel structure maintains a minimum water level at elevation 745.50 feet in Pond No. 1. This minimum water level condition is critical to maintain in avoiding major fish kills within the ponds. This structure is normally used to allow CSO flow from Pond No. 1 to Pond No. 2. There is also a northern interconnect structure between Pond Nos. 1 and 2. This interconnect is a concrete structure using a sluice gate to control flow into a pipe which drains Pond No. 1 into Pond No. 2. This northern interconnect is not normally used. The CSO Pump Station also has a permitted overflow to the Maumee River, CSO No. 019, through a number of flap gates along the wetwell wall.

3.0 PLANNING PARAMETERS

Preliminary engineering was performed to evaluate facilities necessary to return stored, partially treated CSO flow from the terminal ponds to the interceptor sewer system for conveyance to the treatment plant. The flow that is returned to the treatment plant will be measured and controlled. Discharge from the ponds to the river will occur only if the ponds are full and the treatment plant is operating at its maximum capacity.

The surface area, storage depth and effective storage volume for Terminal Ponds Nos. 1 and 2 are as follows:

Terminal Pond No. 1:	35.9 acres	7.5 ft deep	87.5 million gallons
Terminal Pond No. 2:	32.9 acres	8.5 ft deep	90.6 million gallons

Analysis is to be based on three plant capacities:

Current Plant Capacity:	60 MGD
Planned Plant Capacity:	85 MGD Total (78 MGD Firm)
Future Plant Capacity:	100 MGD Total (92 MGD Firm)

4.0 POND NOS. 1 & 2 DISCHARGE DATA RESULTS

Data received within the MRO reports are for the outfalls to Terminal Pond No. 1 and Terminal Pond No. 2, including variables such as total flow of raw sewage, precipitation, flow from CSO ponds and duration of outfall to the river from the ponds. The MRO reports do not include data from the other CSO's throughout the City nor from CSO No. 019 at the CSO Pump Station. Based on the limited information provided by the City, an analysis of this data was performed to estimate the quantity of CSO that could be recycled back to the WPCP for treatment. Four major assumptions were made prior to the analysis of the CSO Terminal Ponds.

- The first assumption is that an increase in plant capacity will not affect the influent volume to the terminal ponds. Although the WPCP will be able to treat more wastewater as its capacity increases, the terminal ponds will see the same amount of water being diverted from the sewer system with fewer discharges at the other CSO outfalls throughout the City.
- The second assumption is that the potential amount of CSO recycled to the plant is based on the remaining capacity of the plant or the volume of discharge, whichever case is the limiting factor.
- The third assumption is that flow to the WPCP is equal to the maximum capacity of the WPCP before flow is diverted to the CSO Treatment Facilities.
- The last assumption is that the average yearly WPCP plant effluent flowrate will not change with respect to an increase in plant capacity at the WPCP. The average yearly plant effluent flow rate is the amount of water that the plant receives on an average day for that year (in this case 2002 or 2003). This number was held constant for each capacity alternate for two reasons. First, the plant effluent flow data includes days of wet-weather events where the flowrates were higher than normal. Second, increasing or decreasing the size of the collection system was not

calculated or predicted in this study. See Attachment 4 for the MRO data that was used to determine the values in Tables 1 through 3. The tables in Attachment 5 are for days when the Terminal Ponds received a discharge.

Analysis was based on the WPCP current plant capacity of 60 MGD, planned plant capacity of 85 MGD and future plant capacity of 100 MGD. Tables 1, 2, and 3 show the potential CSO recycled to WPCP.

TABLE 1: 60 MGD - CURRENT PLANT CAPACITY

Year	(1) WPCP Plant Effluent Flow Yearly Average (MG) *	(2) Pond Influent Flow Yearly Average (MG) ***	(3) Pond Discharge to River Yearly Average *	(4) Potential Recycled to Plant Yearly Average (MG) **	(5) Yearly Amount Recycled
2002	48.90	28.70	22.07	6.63	30.04%
2003	53.07	52.61	48.40	4.21	8.70%

* Based on MRO data obtained from WPCP personnel
** Calculated value obtained from plant effluent flow and ability to recycle CSO from the ponds
*** Potential amount recycled plus pond discharge to river

TABLE 2: 85 MGD - PLANNED PLANT CAPACITY

Year	(1) WPCP Plant Effluent Flow Yearly Average (MG) *	(2) Pond Influent Flow Yearly Average (MG) ***	(3) Pond Discharge to River Yearly Average *	(4) Potential Recycled to Plant Yearly Average (MG) **	(5) Yearly Amount Recycled
2002	48.90	37.95	22.07	15.88	71.96%
2003	53.07	68.92	48.40	20.52	42.40%

* Based on MRO data obtained from WPCP personnel
** Calculated value obtained from plant effluent flow and ability to recycle CSO from the ponds
*** Potential amount recycled plus pond discharge to river

TABLE 3: 100 MGD - FUTURE PLANT CAPACITY					
Year	**(1) WPCP Plant Effluent Flow Yearly Average (MG) ***	**(2) Pond Influent Flow Yearly Average (MG) *****	**(3) Pond Discharge to River Yearly Average ***	**(4) Potential Recycled to Plant Yearly Average (MG) ****	**(5) Yearly Amount Recycled**
2002	48.90	40.85	22.07	18.78	85.11%
2003	53.07	75.84	48.40	27.44	56.70%

* Based on MRO data obtained from WPCP personnel
** Calculated value obtained from plant effluent flow and ability to recycle CSO from the ponds
*** Potential amount recycled plus pond discharge to river

For ease of discussion, the columns in Tables 1 through 3 have been numbered (1) through (5).

- Column 1, WPCP Plant Effluent Flow Yearly Average, indicates the average daily plant effluent flow over all 365 days in 2002 or 2003. This is important to note since the remaining columns are based solely on days where the Terminal Ponds recorded a discharge.
- Column 3, Pond Discharge to River Yearly Average, is the average of the summation of discharge from Terminal Pond No. 1 and Terminal Pond No. 2 throughout their respective years. The breakdown of this column can be seen in the Total Pond Discharge column in the tables in Attachment 5.
- Column 4, Potential Recycle to Plant Yearly Average, shows the average amount that could have been recycled back to the plant. This volume is based on the remaining capacity of the plant at the time of discharge, which can be seen in the Potential Amount Recycled column in Attachment 5. For example, on January 29, 2002, the total volume discharge from the Terminal Ponds was 37.2 million gallons (MG) and the flow into the plant was 49.86 MG, leaving 10.14 MG of potential recycle capacity. Only 10.14 MG of recycle would be possible for that particular day. On July 15, 2002, the total volume discharged from the Terminal Ponds was 12.40 MG and the flow into the plant was 42.12 MG, leaving 17.86 MG of potential recycle capacity. However, because only 12.40 MG was discharge from the ponds on that day, 12.40 MG is the value recorded in the potential amount recycled column in Attachment 5.
- Column 2, Pond Influent Flow Yearly Average, is the sum of columns 3 and 4.
- Column 5, Yearly Amount Recycled, is a percentage of CSO that could have been returned to the WPCP for further treatment. This value is calculated by taking Column 4 divided by Column 3.

More CSO was discharged and not measured by the plant staff through CSO No. 019. This CSO did not go to the ponds for measurement in this data. Therefore, the "Yearly Amount Recycled" percentages are high.

Over the two-year period analyzed in the study, 37,220 million gallons (MG) of wastewater was treated at the WPCP. If the plant were running at full capacity (60 MG) every day for those two years, the WPCP could have treated 43,800 MG of wastewater. The difference between running at full capacity and actual treated capacity is 6,581 MG. From the tables in Attachment 5, the sum of "Total Pond Discharge" of CSO for 2002 and 2003 was 3,576 MG. These calculations illustrate that 100% of the discharged CSO had the potential to be recycled to the WPCP for further treatment rather than being discharged to the river. However, when some of the CSO discharges occurred, the plant was already running either at capacity or close to its maximum capacity of 60 MGD.

The CSO Bleedback Facility should be designed to handle CSO return flows for the current and future capacities of the WPCP. Design the new facility with the following minimum parameters:

- CSO Bleedback flow to be recycled for study:
  - Minimum Flow: 3.0 MGD
  - Average Flow: 10 MGD
  - Maximum Flow: 30 MGD

- Magmeter sizing:
  - At Minimum Flow: 1.5 ft/sec
  - At Average Flow: 4.8 ft/sec
  - At Maximum Flow: 14.5 ft/sec

- Parshall Flume sizing:
  - Minimum Flow: 1.70 MGD
  - Maximum Flow: 66.9 MGD

The CSO Bleedback Facility should include options to return water from either Terminal Pond. Each terminal pond has different waste characteristics that can be used at the WPCP following a wet-weather event. Fresh CSO water pumped into Terminal Pond No. 1 will have a stronger waste than the partially treated CSO water in Terminal Pond No. 2. The current operation of the CSO Treatment Facilities will not change with this proposed facility during a wet-weather event.

5.0 ALTERNATES

Three alternate layouts for the conveyance of CSO from the terminal ponds back to the WPCP for treatment were considered. Each alternate includes devices to control and measure the recycled flow. Figure 1, in Attachment 1, presents the existing site plan highlighting the proposed project area. Each of the following alternates have an inlet structure for Terminal Pond Nos. 1 & 2 leading to a 6-foot by 12-foot manhole that connects to the existing 54-inch Baldwin Drain Area Sanitary Relief Sewer, herein after called the 54-inch sanitary sewer.

The 54-inch sanitary sewer was constructed as a combined sewer in 1971 and is still in service. It flows to the south to a junction structure upstream of its connection to the

84-inch Maumee Interceptor. At this structure, flow is regulated through a 48-inch pipe into Maumee Interceptor. This connection is located a few hundred feet upstream of the interceptor's river crossing. In the past few years, storm inlets have been removed from this portion of the sewer system and this sewer receives less combined sewer flow than previously designed. In 2006, the City viewed this sewer from a manhole located between Terminal Ponds No. 1 and 2 and it appears that it is in good condition.

Two diversion structures, the plant influent diversion structure and the Glasgow diversion structure, are located just upstream of the WPCP and downstream of the 54-inch sanitary sewer connection to the Maumee Interceptor. Both of these diversion structures divert flow from entering the WPCP to the CSO Pump Station which pumps the CSO to Terminal Pond No. 1.

Each alternate will have similar control strategies. See the proposed control strategy in Attachment 6.

CSO Bleedback from the Terminal Ponds will not occur unless these conditions are met:

- Wayne St. Interceptor will be below a certain level for a certain amount of time.
- Plant Influent flowmeter flow rate (bleedback shall not create plant to become overloaded).
- High level in 54-inch Sanitary Sewer Manhole

If any one of these conditions are not met, CSO will not be returned to the WPCP for further treatment. The upstream regulators on the 54-inch sanitary sewer will not cause any CSO's because the level is being monitored.

5.1 24" Magmeter with Electrically Actuated Plug Valves

Figure 2, in Attachment 1, shows a 36-inch diameter pipe leading from Terminal Pond No. 1 to an inlet structure containing a 24-inch magmeter to measure flow and a 24-inch electrically actuated plug valve to control flow. The CSO would then travel through a 36-inch diameter pipe where it would drop into a 6-foot by 12-foot manhole and connect to an existing 54-inch sanitary sewer. The 54-inch sanitary sewer connects to the Maumee Interceptor where the CSO would be directed to the WPCP for further treatment. An identical set-up leading from Terminal Pond No. 2 will flow into the same 6-foot by 12-foot manhole.

Figure 3, in Attachment 1, presents section cuts of the manhole structure and inlet structures. This drawing includes invert elevations with respect to high and low water levels in the terminal ponds.

The initial cost for the 24-inch Magmeter with Electrically Actuated Plug Valves alternate is estimated at about $1.09 million. See Attachment 2.

5.2 24" Magmeter with 54" by 54" Electrically Actuated Sluice Gate

Figure 4, in Attachment 1, shows a 36-inch diameter pipe leading from Terminal Pond No. 1 to an inlet structure containing a 24-inch magmeter to measure flow and a 54-inch by 54-inch electrically actuated sluice gate to control flow into the structure. The CSO would then travel through a 36-inch diameter pipe where it would drop into a 6-foot by 12-foot manhole and connect to an existing 54-inch sanitary sewer. The 54-inch sanitary sewer connects to the Maumee Interceptor where the CSO would be transferred to the WPCP for further treatment. An identical set-up leading from Terminal Pond No. 2 will flow into the same 6-foot by 12-foot manhole.

Figure 5, in Attachment 1, presents section cuts of the manhole structure and inlet structures. This drawing includes invert elevations with respect to high and low water levels in the terminal ponds.

The initial cost for the 24-inch Magmeter with 54-inch by 54-inch Electrically Actuated Sluice Gate alternate is estimated at about $1 million. See Attachment 2.

5.3 6'-0" Parshall Flume with 54" by 54" Electrically Actuated Sluice Gate

Figure 6, in Attachment 1, shows a 36-inch diameter pipe leading from Terminal Pond No. 1 to an inlet structure containing a 54-inch by 54-inch electrically actuated sluice gate to control flow into the structure. The CSO would then travel through a 36-inch diameter pipe where it would enter a 90-foot long concrete channel leading to a 6-foot Parshall Flume to measure the flow. The CSO would then drop into a 6-foot by 12-foot manhole and enter a 48-inch diameter pipe leading to another 6-foot by 12-foot manhole which connects to an existing 54-inch sanitary sewer. The 54-inch sanitary sewer connects to the Maumee Interceptor where the CSO would be transferred to the WPCP for further treatment. An identical set-up leading from Terminal Pond No. 2 flows into the 90-foot concrete channel leading into the 6-foot by 12-foot manhole.

Figure 7, in Attachment 1, presents section cuts of the manhole structure, concrete channel with flume, and inlet structures. This drawing includes invert elevations with respect to high and low water levels in the terminal ponds.

The initial cost for the 6-foot Parshall Flume with 54-inch by 54-inch Electrically Actuated Sluice Gate alternate is estimated at about $1.1 million. See Attachment 2.

6.0 RECOMMENDATIONS

The study shows that Alternate No. 2 "24-inch Magmeter with 54-inch by 54-inch Electrically Actuated Sluice Gate" will provide the desired operation at the least cost. Based on cost effectiveness, minimal maintenance, ease of flow control and effectiveness in isolating the pond from the recycle area, Alternate No. 2 is recommended.

Based on discussions with WPCP personnel, it is recommended that further implementation of the WPCP CSO Terminal Ponds Nos. 1 & 2 Recycle Study be delayed until the Primary Clarifier Project has been completed. Also, if this study reaches the design phase, the uses of the northern interconnect between Terminal Pond Nos. 1 and 2 will be explored. The northern interconnect currently has a sluice gate to isolate Terminal

Pond No. 1 from Terminal Pond No. 2. With an additional sluice gate to isolate Terminal Pond No. 2 from this structure, a less expensive facility can be constructed to accomplish the City's goals by returning, sampling, and metering flow from either pond.

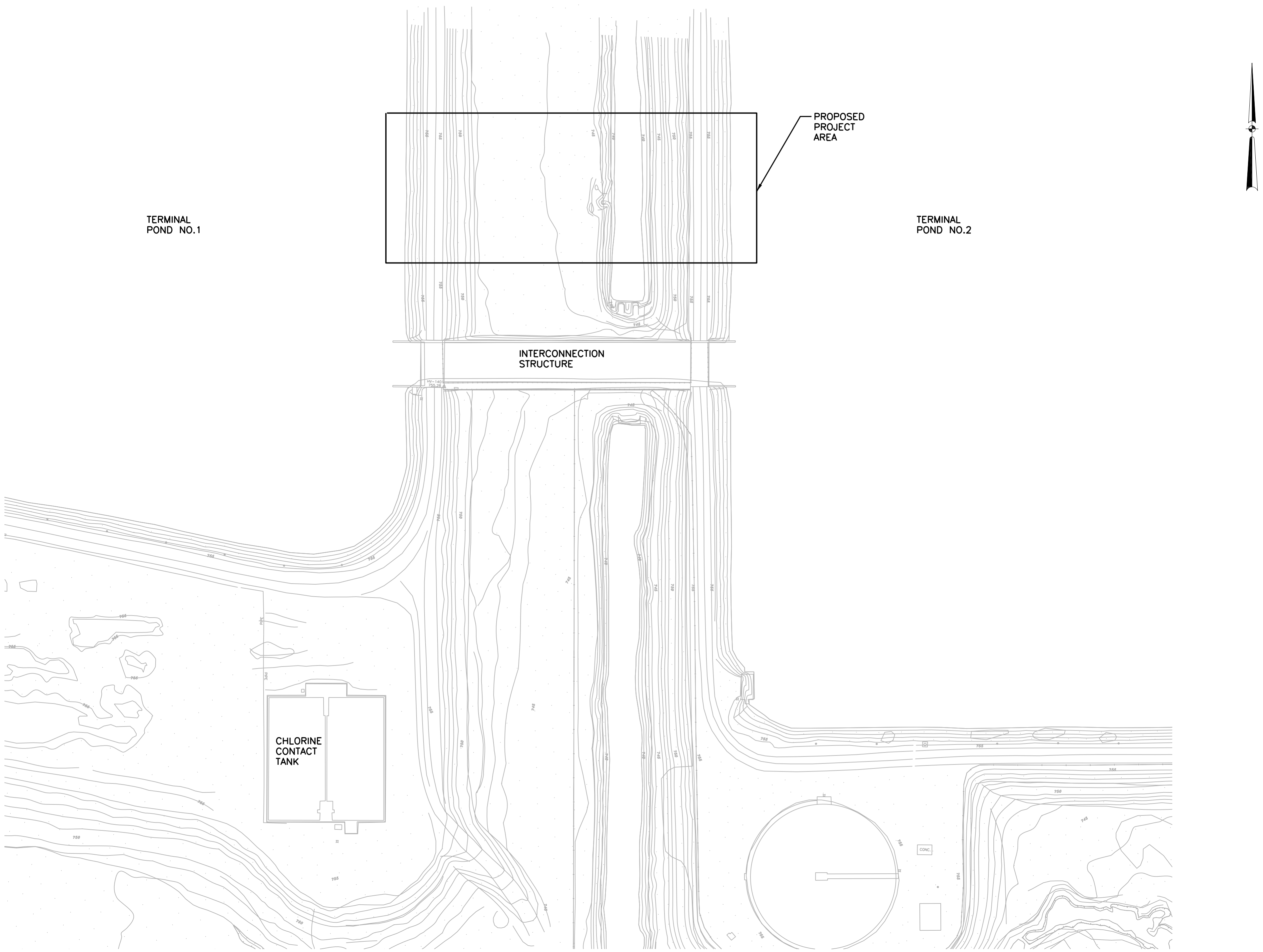
WPCP personnel brought up an additional concern with recycling CSO from the Terminal Ponds. If either terminal pond is drained to low pool level, there is a possibility of a large fish kill due to decreased levels of dissolved oxygen in the water. This will create odor problems.

Another option for the City to consider is a flow-through treatment system with post disinfection from Pond No. 2. The permit would need to be modified for bacteria levels rather than BOD and suspended solids. This option would be more controllable, provide CSO treatment to at least a primary treatment level and decrease the bacteria level in the river during a CSO event.

ATTACHMENT 1

Conceptual Layout Alternates

- **24-inch Magmeter with Electrically Actuated Plug Valves**
- **24-inch Magmeter with 54-inch by 54-inch Electrically Actuated Sluice Gate**
- **6-foot Parshall Flume with 54-inch by 54-inch Electrically Actuated Sluice Gate**



EXISTING SITE PLAN

0 100'

FIGURE 1
EXISTING SITE-NORTH
CITY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY

FORT WAYNE, INDIANA

SEPTEMBER 2007

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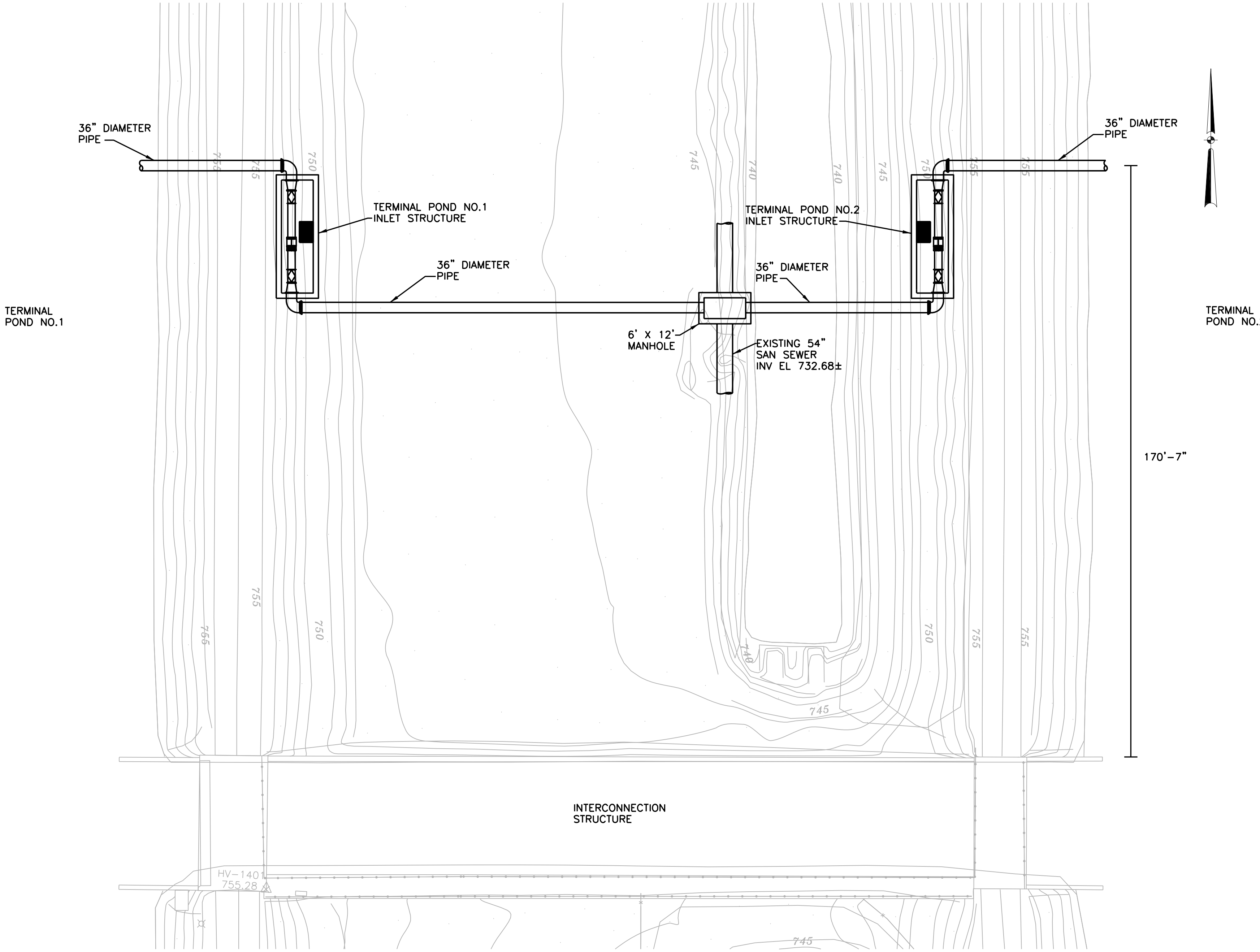

ALTERNATE NO. 1 SITE PLAN

0 40'

FIGURE 2

ALTERNATE NO. 1 PLAN: 24" MAGMETER WITH ELECTRICALLY ACTUATED PLUG VALVE

CITY OF FORT WAYNE

WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY

FORT WAYNE, INDIANA

DONOHUE & ASSOCIATES

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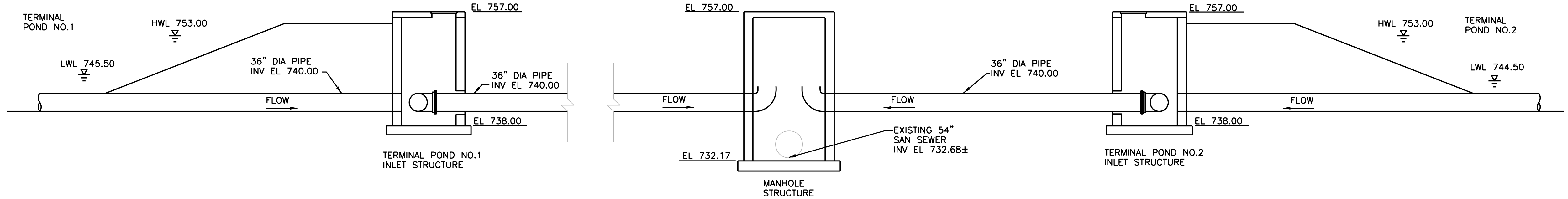

ALTERNATE NO. 1 SECTION A

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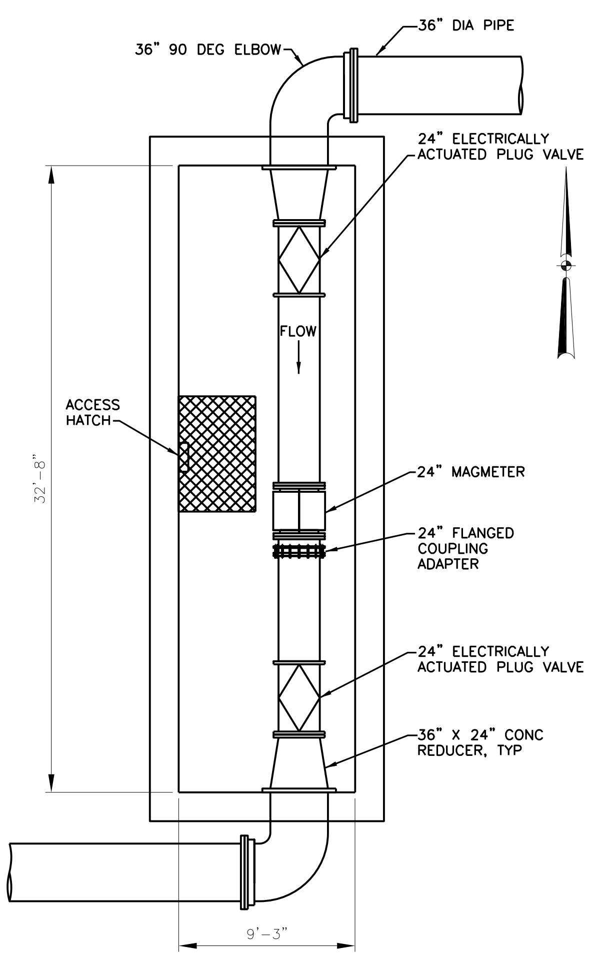
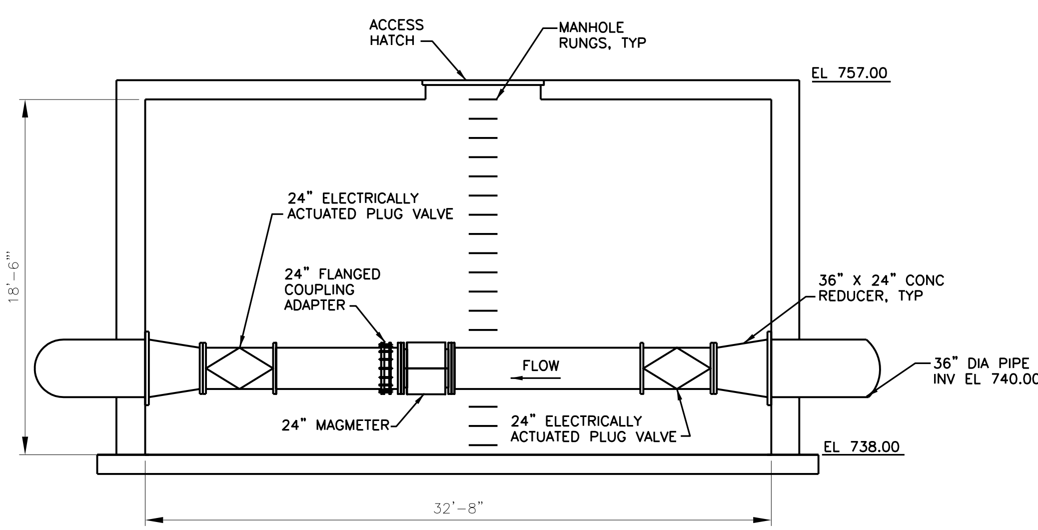


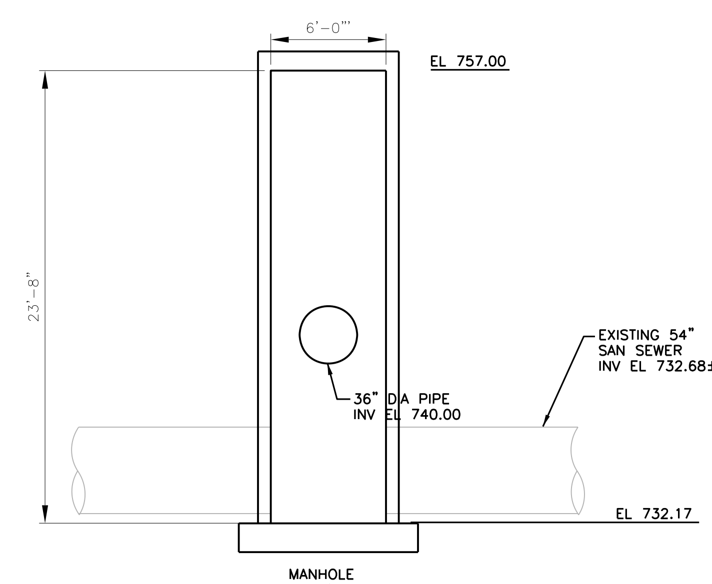
ALTERNATE NO. 1 PLAN

0 10'



ALTERNATE NO. 1 SECTION B

0 10'



ALTERNATE NO. 1 SECTION C

0 10'

FIGURE 3
ALTERNATE NO. 1 SECTION: 24" MAGMETER WITH ELECTRICALLY ACTUATED PLUG VALVE
CITY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY
FORT WAYNE, INDIANA

DONOHUE & ASSOCIATES

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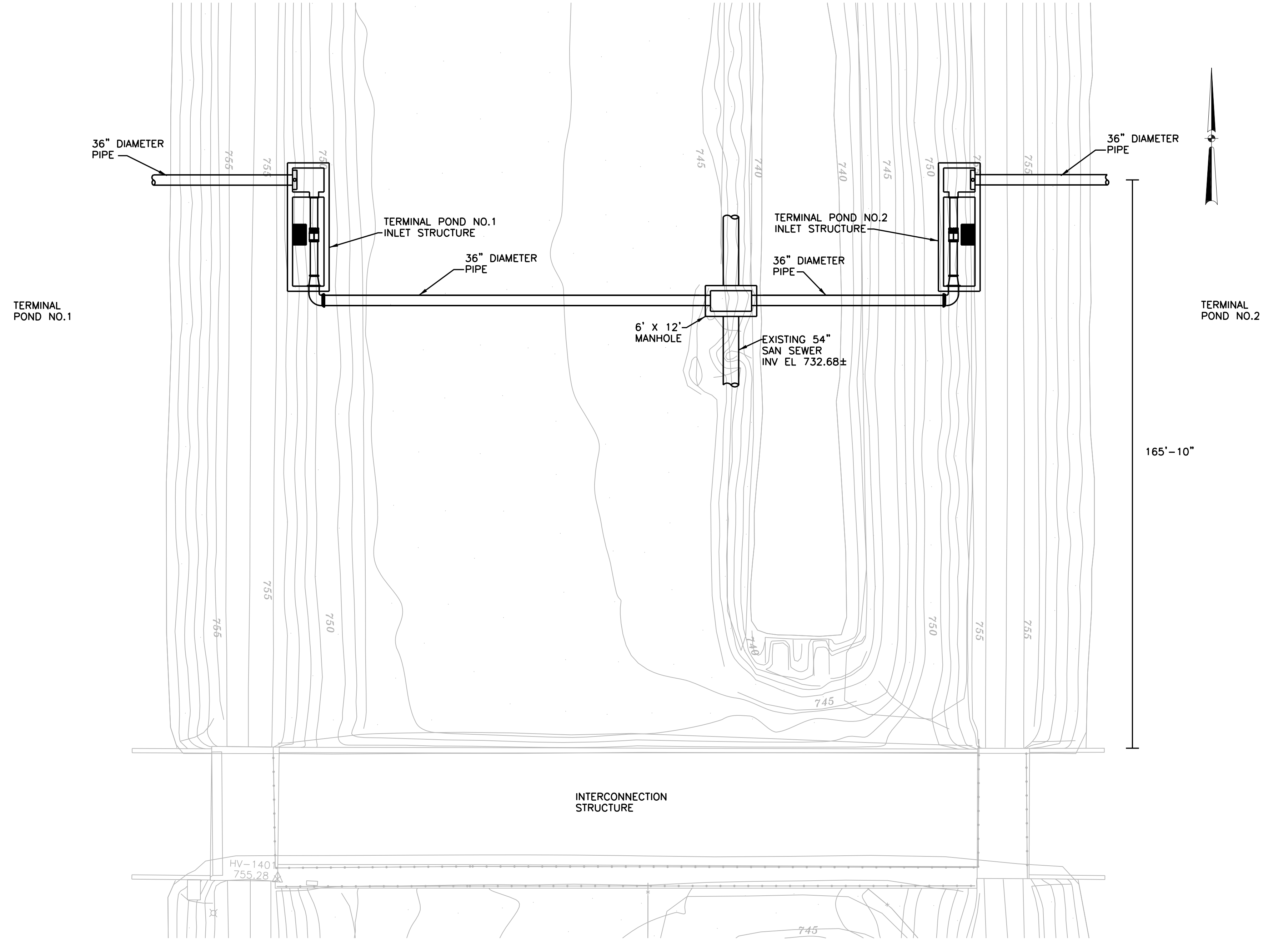

ALTERNATE NO. 2 SITE PLAN

0 40'

FIGURE 4

ALTERNATE NO. 2 PLAN: 24" MAGMETER WITH 54" X 54" ELECTRICALLY ACTUATED SLUICE GATE

CITY OF FORT WAYNE

WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY

FORT WAYNE, INDIANA

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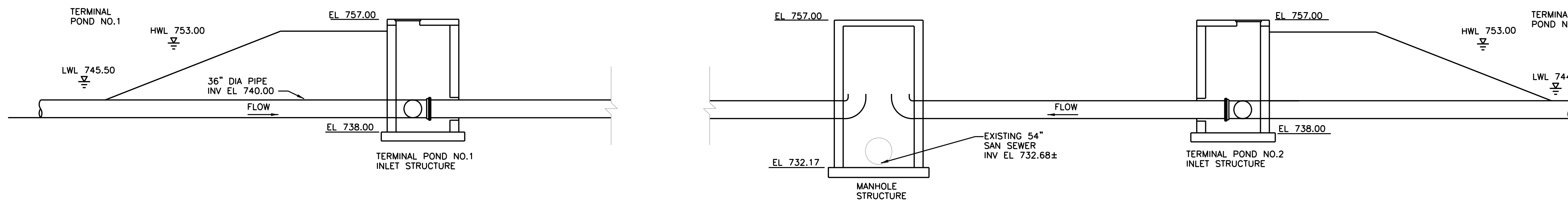

ALTERNATE NO. 2 SECTION A

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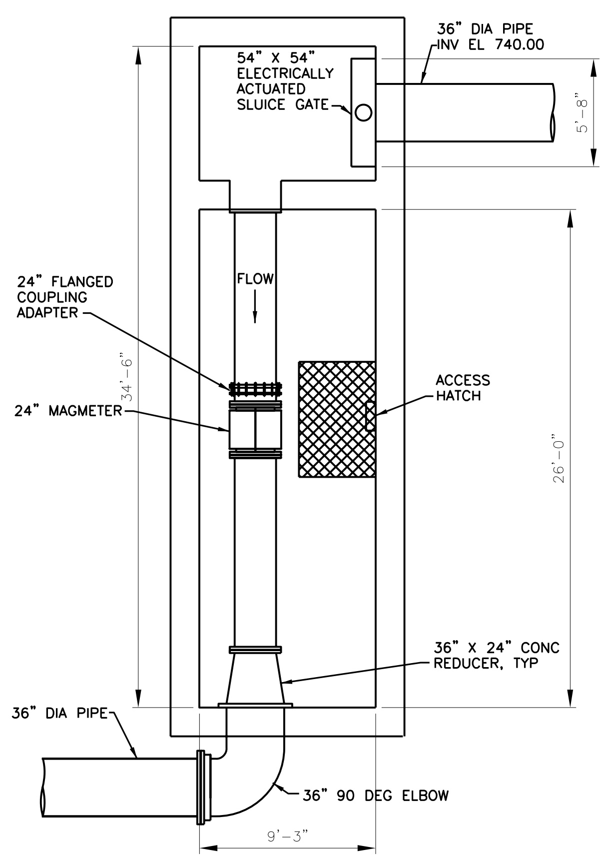

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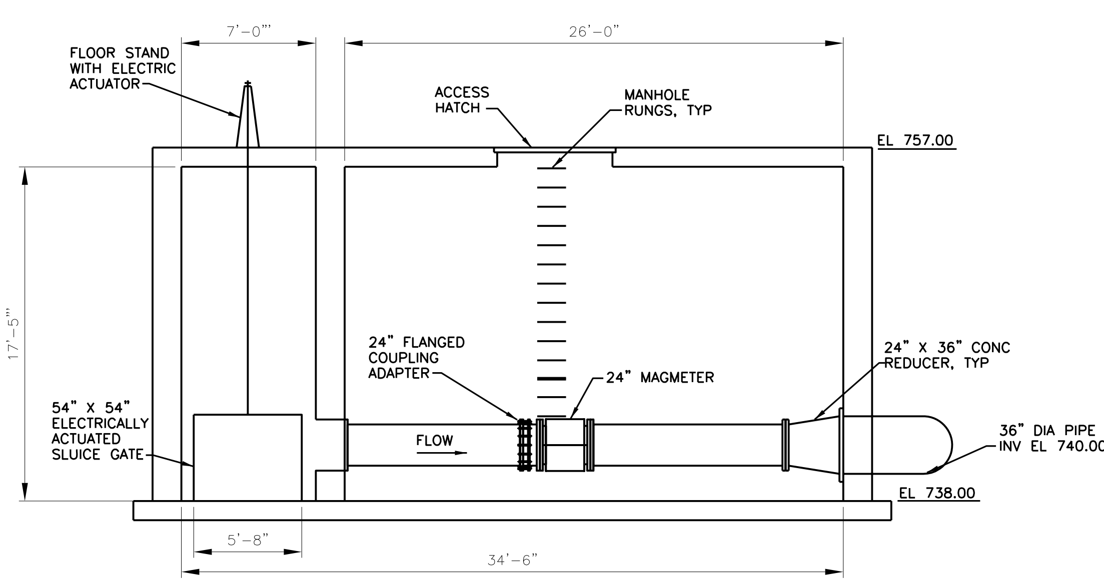

ALTERNATE NO. 2 SECTION B

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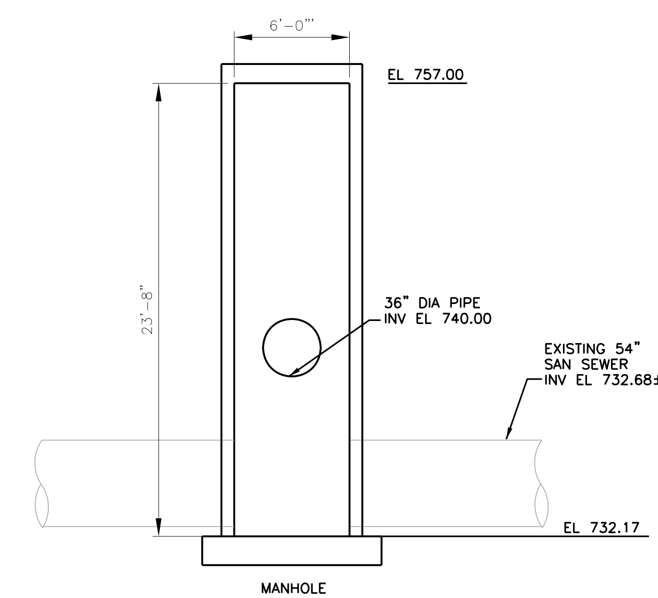

ALTERNATE NO. 2 SECTION C

0 10'

FIGURE 5
ALTERNATE NO. 2 SECTION: 24" MAGMETER WITH 54" X 54" ELECTRICALLY ACTUATED SLUICE GATE
CITY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY
FORT WAYNE, INDIANA

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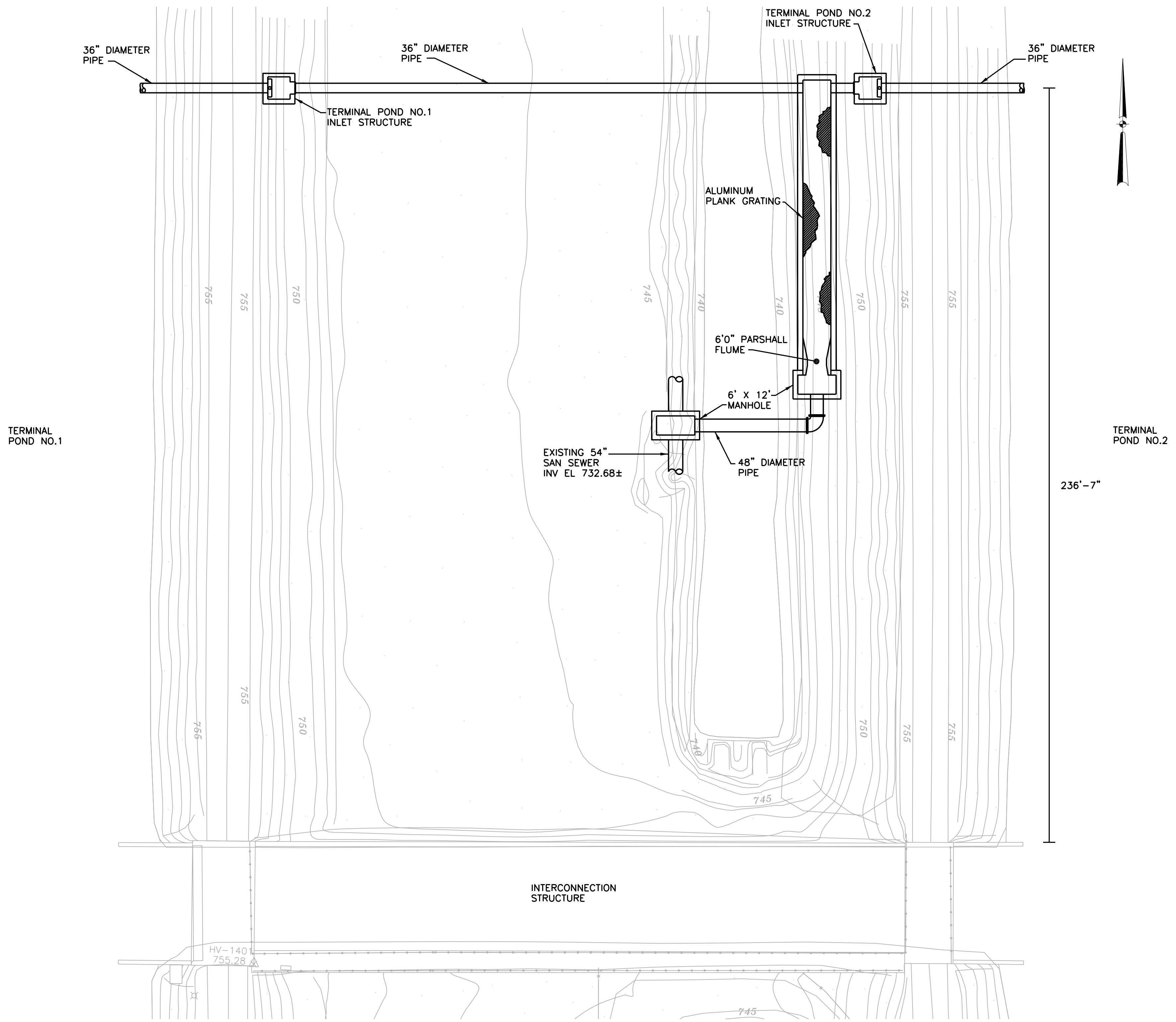

ALTERNATE NO. 3 SITE PLAN

0 40'

FIGURE 6

ALTERNATE NO. 3 PLAN: 6'0" PARSHALL FLUME W/ 54" X 54" ELECTRICALLY ACTUATED SLUICE GATE

CITY OF FORT WAYNE

WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY

FORT WAYNE, INDIANA

DONOHUE & ASSOCIATES

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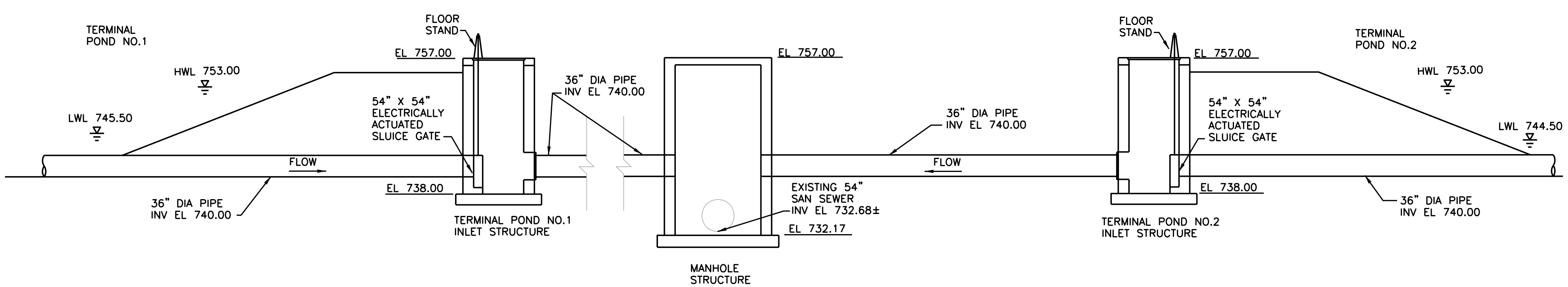

ALTERNATE NO. 3 SECTION A

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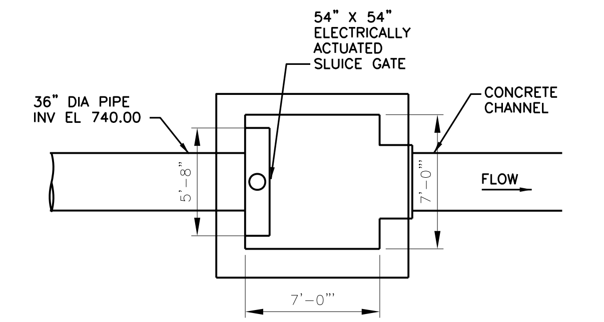
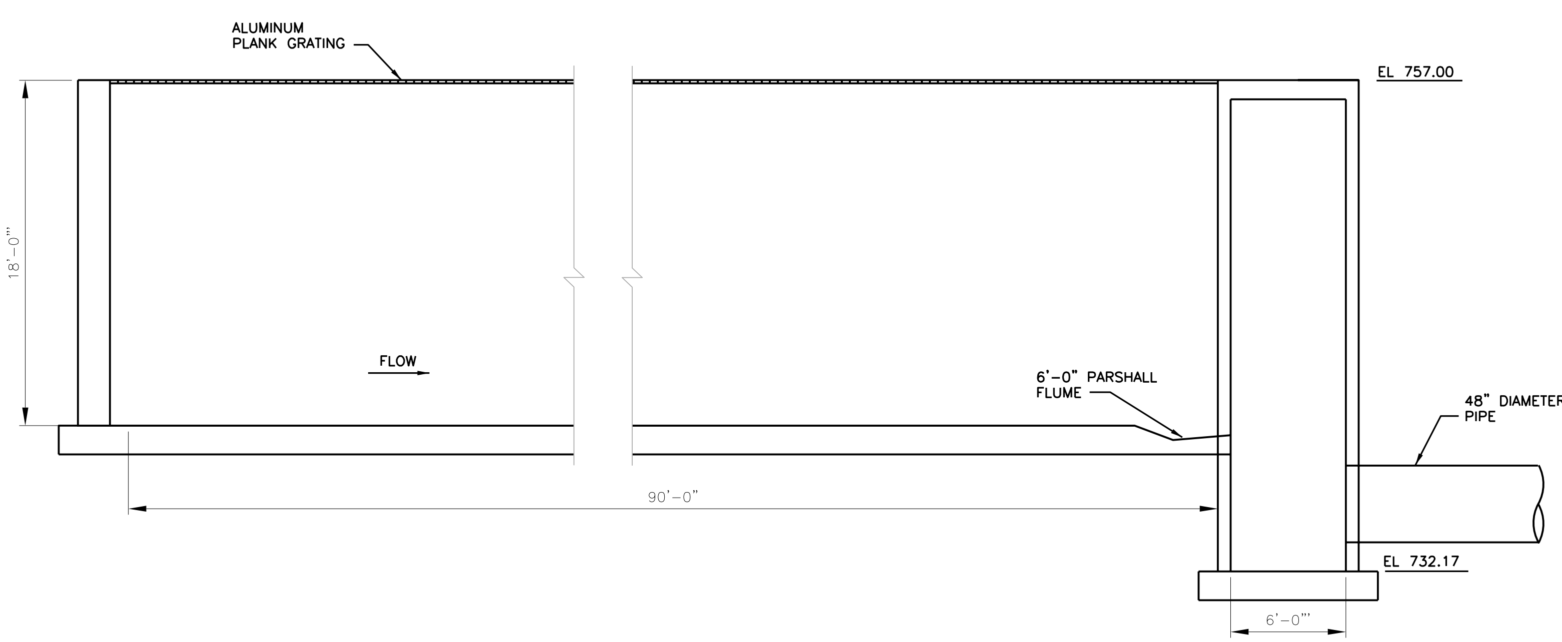


ALTERNATE NO. 3 PLAN

0 10'



ALTERNATE NO. 3 SECTION B

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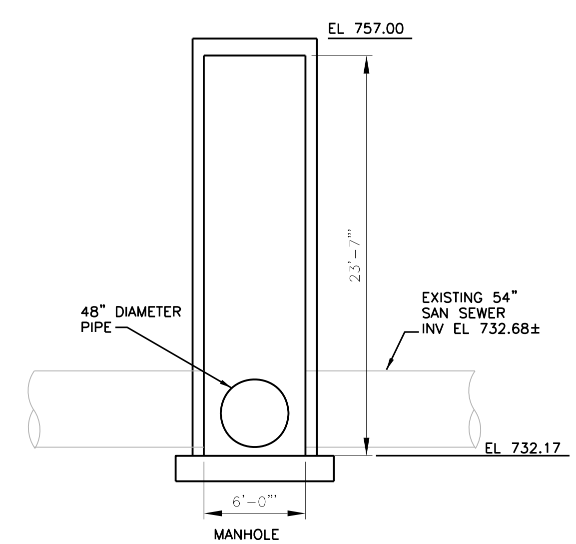

ALTERNATE NO. 3 SECTION C

0 10'

FIGURE 7
ALTERNATE NO. 3 SECTION: 6'0" PARSHALL FLUME W/ 54" X 54" ELECTRICALLY ACTUATED SLUICE GATE
CITY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYLCE STUDY
FORT WAYNE, INDIANA

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SEPTEMBER 2007

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ATTACHMENT 2

Initial Cost Estimate

- **24-inch Magmeter with Electrically Actuated Plug Valves**
- **24-inch Magmeter with 54-inch by 54-inch Electrically Actuated Sluice Gate**
- **6-foot Parshall Flume with 54-inch by 54-inch Electrically Actuated Sluice Gate**

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

SUMMARY

INITIAL COST ESTIMATE

General Description
To evaluate facilities necessary to return stored CSO flow from the terminal ponds to the interceptor sewer system for conveyance to the Water Pollution Control Plant (WPCP)

ITEM	Initial Cost ($)
ALTERNATE NO. 1: 24" Magmeter with Electrically Actuated Plug Valve	1,089,659
ALTERNATE NO. 2: 24" Magmeter with 54"x54" Electrically Actuated Sluice Gate	1,002,173
ALTERNATE NO. 3: 6'-0" Parshall Flume with 54"x54" Electrically Actuated Sluice Gate	1,100,986

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

ALTERNATE NO. 1: 24" Magmeter with Electrically Actuated Plug Valve

INITIAL COST ESTIMATE

General Description
One inlet structure will be built for both Terminal Pond No. 1 and Terminal Pond No. 2. Within these structures, there will be a 24" magmeter and an electrically actuated plug valve. The plug valve will control the amount of CSO that will be recycled to the WPCP and the magmeter will measure the flow and return the signal to a PLC. The recycled CSO will then combine with the 54" sanitary sewer that runs under the Baldwin Ditch through a new manhole.

ITEM	Units	Quantity	Unit Cost ($)	Initial Cost ($)
Architectural/Structural				
Earthwork	See Worksheet for Detailed Cost Breakdown			125,300
Concrete	See Worksheet for Detailed Cost Breakdown			165,550
Metals	See Worksheet for Detailed Cost Breakdown			7,500
Buildings	See Worksheet for Detailed Cost Breakdown			0
Demoltion	See Worksheet for Detailed Cost Breakdown			5,000
Process				
Piping	LS	**1**	**109,950**	109,950
Plug Valves w/ electric actuator	Each	**2**	**34,708**	69,415
Plug Valves w/ handwheel	Each	**2**	**17,500**	35,000
Instrumentation & Control				
Equipment	LS	**1**	**24,900**	24,900
Programming	LS	**1**	**4,940**	4,940
Field Wiring	LS	**1**	**440**	440
Electrical				
Distribution Equipment	LS	**1**	**1,100**	1,100
Conduit, Wire, Handholes, and Site Work	LS	**1**	**34,000**	34,000
Subtotal				583,095
Contingency			**30%**	174,929
Subtotal				758,024
Contractor Overhead & Profit			**25%**	189,506
Total Construction Cost				**947,529**
Engineering			**15%**	142,129
Total Initial Cost				**1,089,659**

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

ALTERNATE NO. 1: 24" Magmeter with Electrically Actuated Plug Valve

ARCHITECTURAL/STRUCTURAL WORKSHEET

ITEM	Units	Quantity	Unit Cost ($)	Initial Cost ($)
Earthwork: Excavation for Meter Vaults	cu yds	1,500	10	15,000
Earthwork: Excavation for Manhole	cu yds	150	10	1,500
Earthwork: Sheeting for Meter Vaults	sq ft	2,400	32	76,800
Earthwork: Sheeting for Manhole	sq ft	1,000	32	32,000
Earthwork: Flood Protection Levee	cu yds			
Earthwork: Flood Protection Gravel Road	sq yds			
Earthwork:				
Earthwork				**125,300**
Concrete: Base Slab for Meter Vaults	cu yds	70	270	18,900
Concrete: Base Slab for Manhole	cu yds	15	270	4,050
Concrete: Walls for Meter Vaults	cu yds	190	460	87,400
Concrete: Walls for Manhole	cu yds	60	460	27,600
Concrete: Structural Slab for Meter Vaults	cu yds	35	690	24,150
Concrete: Structural Slab for Manhole	cu yds	5	690	3,450
Concrete: Channels	cu yds			
Concrete: Precast Roof	ft			
Concrete				**165,550**
Metals: Aluminum Grating	sq ft			
Metals: Aluminum Handrail	ft			
Metals: Aluminum Stairway	risers			
Metals: Manhole Rungs	ea	52	75	3,900
Metals: Hatches	ea	3	1,200	3,600
Metals				**7,500**
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Buildings				**0**
Demolition: 54 inch Pipe in Manhole	lump sum	1	5,000	5,000
Demolition:	cu ft			
Demolition:	lump sum			
Demolition:	lump sum			
Demoltion				**5,000**

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

ALTERNATE NO. 2: 24" Magmeter with 54"x54" Electrically Actuated Sluice Gate

INITIAL COST ESTIMATE

General Description
One inlet structure will be built for both Terminal Pond No. 1 and Terminal Pond No. 2. Within these structures, there will be a 24" magmeter and an electrically actuated sluice gate. The sluice gate will control the amount of CSO that will be recycled to the WPCP and the magmeter will measure the flow and return the signal to a PLC. The recycled CSO will then combine with the 54" sanitary sewer that runs under the Baldwin Ditch through a new manhole.

ITEM	Units	Quantity	Unit Cost ($)	Initial Cost ($)
Architectural/Structural				
Earthwork	See Worksheet for Detailed Cost Breakdown			125,300
Concrete	See Worksheet for Detailed Cost Breakdown			176,100
Metals	See Worksheet for Detailed Cost Breakdown			9,900
Buildings	See Worksheet for Detailed Cost Breakdown			0
Demoltion	See Worksheet for Detailed Cost Breakdown			5,000
Process				
Piping	LS	1	99,600	99,600
Sluice Gates	Each	2	27,500	55,000
Instrumentation & Control				
Equipment	LS	1	24,900	24,900
Programming	LS	1	4,940	4,940
Field Wiring	LS	1	440	440
Electrical				
Distribution Equipment	LS	1	1,100	1,100
Conduit, Wire, Handholes, and Site Work	LS	1	34,000	34,000
Subtotal				536,280
Contingency			30%	160,884
Subtotal				697,164
Contractor Overhead & Profit			25%	174,291
Total Construction Cost				**871,455**
Engineering			15%	130,718
Total Initial Cost				**1,002,173**

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

ALTERNATE NO. 2: 24" Magmeter with 54"x54" Electrically Actuated Sluice Gate

ARCHITECTURAL/STRUCTURAL WORKSHEET

ITEM	Units	Quantity	Unit Cost ($)	Initial Cost ($)
Earthwork: Excavation for Meter Vaults	cu yds	1,500	10	15,000
Earthwork: Excavation for Manhole	cu yds	150	10	1,500
Earthwork: Sheeting for Meter Vaults	sq ft	2,400	32	76,800
Earthwork: Sheeting for Manhole	sq ft	1,000	32	32,000
Earthwork: Flood Protection Levee	cu yds			
Earthwork: Flood Protection Gravel Road	sq yds			
Earthwork:				
Earthwork				**125,300**
Concrete: Base Slab For Meter vaults	cu yds	75	270	20,250
Concrete: Base Slab for Manhole	cu yds	15	270	4,050
Concrete: Walls For Meter Vaults	cu yds	210	460	96,600
Concrete: Walls for Manhole	cu yds	60	460	27,600
Concrete: Structural Slabs For Meter Vaults	cu yds	35	690	24,150
Concrete: Structural Slab for Manhole	cu yds	5	690	3,450
Concrete: Channels	cu yds			
Concrete: Precast Roof	ft			
Concrete				**176,100**
Metals: Aluminum Grating	sq ft			
Metals: Aluminum Handrail	ft			
Metals: Aluminum Stairway	risers			
Metals: Manhole Rungs	ea	52	75	3,900
Metals: Hatches	ea	5	1,200	6,000
Metals				**9,900**
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Buildings				**0**
Demolition: 54 inch Pipe in Manhole	lump sum	1	5,000	5,000
Demolition:	lump sum			
Demolition:	lump sum			
Demolition:	lump sum			
Demoltion				**5,000**

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

ALTERNATE NO. 3: 6'-0" Parshall Flume with 54"x54" Electrically Actuated Sluice Gate

INITIAL COST ESTIMATE

General Description
One inlet structure will be built for both Terminal Pond No. 1 and Terminal Pond No. 2. Within these structures, there will be an electrically actuated sluice gate which will control the amount of CSO that will be recycled to the WPCP. The recycled CSO will flow through a pipe into a concrete channel that contains a parshall flume that will measure the flow and send it to a PLC. The recycled CSO will then combine with the 54" sanitary sewer that runs under the Baldwin Ditch through a new manhole.

ITEM	Units	Quantity	Unit Cost ($)	Initial Cost ($)
Architectural/Structural				
Earthwork	See Worksheet for Detailed Cost Breakdown			140,200
Concrete: Structural Slab for Manhole	See Worksheet for Detailed Cost Breakdown			206,650
Metals	See Worksheet for Detailed Cost Breakdown			30,000
Buildings	See Worksheet for Detailed Cost Breakdown			0
Demoltion	See Worksheet for Detailed Cost Breakdown			5,000
Process				
Piping	LS	1	101,526	101,526
Sluice Gates	Each	2	27,500	55,000
Instrumentation & Control				
Equipment	LS	1	10,300	10,300
Programming	LS	1	4,940	4,940
Field Wiring	LS	1	440	440
Electrical				
Distribution Equipment	LS	1	1,100	1,100
Conduit, Wire, Handholes, and Site Work	LS	1	34,000	34,000
Subtotal				589,156
Contingency			30%	176,747
Subtotal				765,903
Contractor Overhead & Profit			25%	191,476
Total Construction Cost				**957,379**
Engineering			15%	143,607
Total Initial Cost				**1,100,986**

CITTY OF FORT WAYNE
WPCP CSO TERMINAL POND NOS. 1 & 2 RECYCLE STUDY
FT. WAYNE, INDIANA

ALTERNATE NO. 3: 6'-0" Parshall Flume with 54"x54" Electrically Actuated Sluice Gate

ARCHITECTURAL/STRUCTURAL WORKSHEET

ITEM	Units	Quantity	Unit Cost ($)	Initial Cost ($)
Earthwork: Excavation For Gate Vaults	cu yds	750	10	7,500
Earthwork: Excavation for Parshall Flume	cu yds	800	10	8,000
Earthwork: Excavation for Manhole	cu yds	150	10	1,500
Earthwork: Sheeting for Gate Vaults	sq ft	1,600	32	51,200
Earthwork: Sheeting for Parshall Flume	sq ft	1,250	32	40,000
Earthwork: Sheeting for Manhole	sq ft	1,000	32	32,000
Earthwork:				
Earthwork				**140,200**
Concrete: Base Slab for Gate Vaults	cu yds	20	270	5,400
Concrete: Base Slab for Parshall Flume	cu yds	100	270	27,000
Concrete: Base Slab for Manhole	cu yds	15	270	4,050
Concrete: Walls for Gate Vaults	cu yds	70	460	32,200
Concrete: Walls for Parshall Flume	cu yds	240	460	110,400
Concrete: Walls for Manhole	cu yds	30	460	13,800
Concrete: Structural Slabs for Gate Vaults	cu yds	10	690	6,900
Concrete: Structural Slabs for Parshall Flume	cu yds	5	690	3,450
Concrete: Structural Slab for Manhole	cu yds	5	690	3,450
Concrete: Precast Roof				**206,650**
Metals: Aluminum Grating	sq ft	850	30	25,500
Metals: Aluminum Handrail	ft			
Metals: Aluminum Stairway	risers			
Metals: Manhole Rungs	ea	12	75	900
Metals: Hatches	ea	3	1,200	3,600
Metals				**30,000**
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Building:	sq ft			
Buildings				**0**
Demolition: 54 inch Pipe at end of Parshall Flume	lump sum	1	5,000	5,000
Demolition:	lump sum			
Demolition:	lump sum			
Demolition:	lump sum			
Demoltion				**5,000**

ATTACHMENT 3

June 25, 2004 Workshop

Meeting Notes & Handouts

Date: Tuesday June 29, 2004

To: Mark Gensic City of Fort Wayne

From: Ken Sedmak Donohue

Attendees:	Cheryl Cronin	City of Fort Wayne
	Brian Panzer	City of Fort Wayne
	Chris Gach	City of Fort Wayne
	Mark Gensic	City of Fort Wayne
	Andrew Schipper	City of Fort Wayne
	Stacy Jones	Donohue
	Ken Sedmak	Donohue
	Amber Smith	Donohue

Re: City of Fort Wayne
WPCP CSO Terminal Ponds Nos. 1 & 2 Recycle Study Workshop
Donohue Project No. 10725.100

We met for a workshop to discuss the project on Friday June 25, 2004 at 9:30 a.m. at the Water Pollution Control Plant (WPCP) Conference Room. The purpose of the meeting was to discuss analysis results and alternatives to reach the project objective. An agenda was distributed with handouts. The handouts are not a part of these meeting notes.

Significant information and discussion is documented as a part of these notes.

Note No.	Action By	Note
		INTRODUCTIONS
1	Information	The design team introduced themselves and discussed their intentions.
		PURPOSE OF THE MEETING
2	Information	Ken Sedmak introduced the purpose of the meeting, which is to discuss the data analysis results and alternatives to reach the project objective. The project is to consider recycling CSO from the terminal ponds to the plant for treatment.
		PROJECT DESCRIPTION
3	Information	Ken Sedmak discussed the overall project elements for further discussion.
		POND NO. 1 AND POND NO. 2 DISCHARGE DATA RESULTS
4	Information	Stacy Jones discussed the discharge data results with respect to potential amounts of CSO recycled back to WPCP at 60 mgd, 85 mgd and 100 mgd. It is important to note that all calculations and analysis were based on limited data provided by MRO sheets.

Note No.	Action By	Note
		POND RECYCLE CONCEPTUAL LAYOUTS
5	Information	Stacy Jones discussed three alternate layouts for the conveyance of CSO from the terminal ponds back to the WPCP for treatment. Each alternate includes devices to control and measure the recycled flow. Alternate No. 1 consists of a 24" Magmeter with Electrically Actuated Plug Valves. Alternate No. 2 consists of a 24" Magmeter with 54" x 54" Electrically Actuated Sluice Gate. Alternate No. 3 consists of a 6'-0" Parshall Flume with 54" x 54" Electrically Actuated Sluice Gate. All three alternates have an inlet structure for Terminal Pond Nos. 1 & 2 leading to a 6'-0" x 12'-0" manhole. This manhole will be constructed of the existing 54" Baldwin Interceptor.
6	Information	Chris Gach recommended using the Northern Interconnect for inlet structures due to an existing sluice gate and MCC. Chris says that they do not use this structure anymore. This recommendation will be considered if this study progresses to a design phase.
7	Information	Cheryl Cronin brought up a concern about the 54" sewer. We may run into regulation violations if we use the 54" to transport CSO if it is classified strictly as a sanitary sewer.
8	Andrew Schipper	Andrew Schipper will provide Northern Intercept information to Donohue.
9	Information	Brian Panzer mentioned that the Terminal Ponds house many fish. We would not want to take the ponds to low pool as this would cause a dramatic decrease in dissolved oxygen which would cause a large fish kill.
10	Information	Ken Sedmak suggested that Terminal Ponds Nos. 1 & 2 be disinfected in a flow-through scenario rather than recycling CSO back to WPCP. The permit would then be based on coliform levels rather than BOD and suspended solids.
		PROBABLE CONSTRUCTION COST ESTIMATES
12	Information	Stacy Jones presented the initial cost estimate for each alternate.
		OTHER INFORMATION
13	Mark Gensic	Mark Gensic suggested delaying this project until the primary project is complete.

Please review these Final notes. Any comments please send to Ken Sedmak.

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POND NO. 1 AND POND NO. 2 DISCHARGE DATA RESULTS

Varying Discharge

TABLE 1: 60 MGD - CURRENT PLANT CAPACITY					
Year	**WPCP Plant Effluent Flow (MG)**	**Pond Influent Flow (MG)**	**Pond Discharge to River**	**Potential Recycled to Plant (MG)**	**Yearly Amount Recycled**
2002	48.90	28.70	22.07	6.63	30.04%
2003	53.07	52.61	48.40	4.21	8.70%

TABLE 2: 85 MGD - PLANNED PLANT CAPACITY					
Year	**WPCP Plant Effluent Flow (MG)**	**Pond Influent Flow (MG)**	**Pond Discharge to River**	**Potential Recycled to Plant (MG)**	**Yearly Amount Recycled**
2002	48.90	40.18	23.41	16.77	71.63%
2003	53.07	76.62	54.53	22.09	40.51%

TABLE 3: 100 MGD - FUTURE PLANT CAPACITY					
Year	**WPCP Plant Effluent Flow (MG)**	**Pond Influent Flow (MG)**	**Pond Discharge to River**	**Potential Recycled to Plant (MG)**	**Yearly Amount Recycled**
2002	48.90	44.16	24.49	19.67	80.33%
2003	53.07	79.23	47.51	31.72	66.77%

Assumptions:

- For planned and future plant capacity, increased plant capacity would cause less influent to terminal ponds.
- Potential amount recycled to plant is based on remaining capacity or volume of discharge.
- Assumed amounts to be recycled for study:
  - Minimum Flow: 3.0 MGD
  - Average Flow: 10 MGD
  - Maximum Flow: 60 MGD
- Magmeter sizing:
  - At Minimum Flow: 1.5 ft/sec
  - At Average Flow: 4.8 ft/sec
  - At Maximum Flow: 14.5 ft/sec
- Parshall Flume:
  - Minimum Flow: 1.70 MGD
  - Maximum Flow: 66.9 MGD

POND NO. 1 AND POND NO. 2 DISCHARGE DATA RESULTS (cont'd)

Same Discharge

TABLE 4: 60 MGD - CURRENT PLANT CAPACITY					
Year	**WPCP Plant Effluent Flow (MG)**	**Pond Influent Flow (MG)**	**Pond Discharge to River**	**Potential Recycled to Plant (MG)**	**Yearly Amount Recycled**
2002	48.90	28.70	22.07	6.63	30.04%
2003	53.07	52.61	48.40	4.21	8.70%

TABLE 5: 85 MGD - PLANNED PLANT CAPACITY					
Year	**WPCP Plant Effluent Flow (MG)**	**Pond Influent Flow (MG)**	**Pond Discharge to River**	**Potential Recycled to Plant (MG)**	**Yearly Amount Recycled**
2002	48.90	37.95	22.07	15.88	71.96%
2003	53.07	68.92	48.40	20.52	42.40%

TABLE 6: 100 MGD - FUTURE PLANT CAPACITY					
Year	**WPCP Plant Effluent Flow (MG)**	**Pond Influent Flow (MG)**	**Pond Discharge to River**	**Potential Recycled to Plant (MG)**	**Yearly Amount Recycled**
2002	48.90	40.85	22.07	18.78	85.11%
2003	53.07	75.84	48.40	27.44	56.70%

Assumptions:

- For planned and future plant capacity, increased plant capacity would <u>not</u> affect influent to terminal ponds.
- Potential amount recycled to plant is based on remaining capacity or volume of discharge.
- Assumed amounts to be recycled for study:
  - Minimum Flow: 3.0 MGD
  - Average Flow: 10 MGD
  - Maximum Flow: 60 MGD
- Magmeter sizing:
  - At Minimum Flow: 1.5 ft/sec
  - At Average Flow: 4.8 ft/sec
  - At Maximum Flow: 14.5 ft/sec
- Parshall Flume:
  - Minimum Flow: 1.70 MGD
  - Maximum Flow: 66.9 MGD

ATTACHMENT 4

MRO Data

					Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Plant Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Jan-02	1-Jan-2002	1	0	45.78						
	2-Jan-2002	2	t	46.94						
	3-Jan-2002	3	t	46.41						
	4-Jan-2002	4	0	45.06						
	5-Jan-2002	5	t	44.93						
	6-Jan-2002	6	0.09	44.97						
	7-Jan-2002	7	t	45.18						
	8-Jan-2002	8	0	44.52						
	9-Jan-2002	9	0	44.94						
	10-Jan-2002	10	0	42.86						
	11-Jan-2002	11	0	43.33						
	12-Jan-2002	12	t	42.88						
	13-Jan-2002	13	0	42.58						
	14-Jan-2002	14	0.01	44.03						
	15-Jan-2002	15	t	43.92						
	16-Jan-2002	16	t	43.53						
	17-Jan-2002	17	t	42.99						
	18-Jan-2002	18	0	43.40						
	19-Jan-2002	19	0	41.14						
	20-Jan-2002	20	0	39.97						
	21-Jan-2002	21	t	40.49						
	22-Jan-2002	22	0	42.45						
	23-Jan-2002	23	0.01	41.22						
	24-Jan-2002	24	0.05	43.09						
	25-Jan-2002	25	0	42.03						
	26-Jan-2002	26	0	42.31						
	27-Jan-2002	27	0	39.22						
	28-Jan-2002	28	0	43.01						
	29-Jan-2002	29	0.93	49.86	37.2		24			
	30-Jan-2002	30	0.44	61.52						
	31-Jan-2002	31	1.03	54.92						
Feb-02	1-Feb-2002	1	0.06	48.22	110.5		24			
	2-Feb-2002	2	0.00	55.89	38.8	47.4	24			
	3-Feb-2002	3	T	58.62	48		24			
	4-Feb-2002	4	T	43.28	46.2		24			
	5-Feb-2002	5	0.00	40.90	24.1		24			
	6-Feb-2002	6	0.00	40.51	20.3		24			
	7-Feb-2002	7	0.00	46.79	4.4		18.5			
	8-Feb-2002	8	0.00	55.20						
	9-Feb-2002	9	0.00	54.81		28.6				
	10-Feb-2002	10	0.13	52.38						
	11-Feb-2002	11	T	52.06						
	12-Feb-2002	12	0.01	52.18						
	13-Feb-2002	13	T	50.64						
	14-Feb-2002	14	0.00	48.73						
	15-Feb-2002	15	T	47.95						
	16-Feb-2002	16	0.03	46.83						
	17-Feb-2002	17	T	45.18						
	18-Feb-2002	18	0.00	46.29						
	19-Feb-2002	19	0.58	55.08			4.8			
	20-Feb-2002	20	0 0.31	66.78			5.5			
	21-Feb-2002	21	0 0.02	65.06						
	22-Feb-2002	22	0 T	61.80						
	23-Feb-2002	23	0 0.00	53.03						
	24-Feb-2002	24	0 0.00	50.83						
	25-Feb-2002	25	0 0.32	49.65						
	26-Feb-2002	26	0 0.34	66.06						
	27-Feb-2002	27	0 T	57.71						
	28-Feb-2002	28	0 0.00	46.69						
Mar-02	1-Mar-2002	1	0.00	53.24						
	2-Mar-2002	2	0.51	57.79						
	3-Mar-2002	3	0.02	67.54	4.2		4			
	4-Mar-2002	4	T	67.55	10.0		24			
	5-Mar-2002	5	T	60.22	6.6		24			
	6-Mar-2002	6	0.00	59.47	6.6		24			
	7-Mar-2002	7	0.02	57.92	6.6		24			
	8-Mar-2002	8	0.02	56.20	3.8		14			
	9-Mar-2002	9	0.65	68.99						
	10-Mar-2002	10	T	68.66		6.7				
	11-Mar-2002	11	0.00	68.26						
	12-Mar-2002	12	0.00	54.19						
	13-Mar-2002	13	0.00	58.25						
	14-Mar-2002	14	0.00	58.60						
	15-Mar-2002	15	0.11	54.51						
	16-Mar-2002	16	0.00	53.98						
	17-Mar-2002	17	0.01	50.07						
	18-Mar-2002	18	T	48.32						
	19-Mar-2002	19	T	47.70						
	20-Mar-2002	20	0.06	52.22						
	21-Mar-2002	21	T	48.19						
	22-Mar-2002	22	0.00	46.78						
	23-Mar-2002	23	0.00	45.94						
	24-Mar-2002	24	0.10	45.71						
	25-Mar-2002	25	0.17	47.66						
	26-Mar-2002	26	0.55	46.54						
	27-Mar-2002	27	0.00	53.68						
	28-Mar-2002	28	T	62.27						
	29-Mar-2002	29	0.31	61.28						
	30-Mar-2002	30	0.00	59.92				28.5		14.0
	31-Mar-2002	31	0.03	55.21				32.4		24.0

					Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Apr-02	1-Apr-2002	1	0.03	59.38				22.3		24
	2-Apr-2002	2	0.36	58.99				39.6		24
	3-Apr-2002	3	T	59.20				49.4		24
	4-Apr-2002	4	T	61.40				24.0		13
	5-Apr-2002	5	T	61.70						
	6-Apr-2002	6	0.00	60.36					34	
	7-Apr-2002	7	T	56.61						
	8-Apr-2002	8	0.78	57.97						
	9-Apr-2002	9	0.17	62.94						
	10-Apr-2002	10	0.00	66.20				88.8		8
	11-Apr-2002	11	0.00	70.59						
	12-Apr-2002	12	0.51	64.99						
	13-Apr-2002	13	T	71.32					89	
	14-Apr-2002	14	0.02	71.95						
	15-Apr-2002	15	0.00	71.24						
	16-Apr-2002	16	0.00	62.56						
	17-Apr-2002	17	0.00	61.30						
	18-Apr-2002	18	0.00	57.63						
	19-Apr-2002	19	0.58	56.36						
	20-Apr-2002	20	0.03	61.34						
	21-Apr-2002	21	0.19	62.83						
	22-Apr-2002	22	T	60.28						
	23-Apr-2002	23	0.00	52.44						
	24-Apr-2002	24	0.07	51.69						
	25-Apr-2002	25	0.01	49.33						
	26-Apr-2002	26	0.00	47.55						
	27-Apr-2002	27	0.93	54.22						
	28-Apr-2002	28	0.02	71.98						
	29-Apr-2002	29	T	63.38						
	30-Apr-2002	30	T	54.63						
May-02	1-May-2002	1	0.63	53.46						
	2-May-2002	2	T	70.73						
	3-May-2002	3	0.00	68.87						
	4-May-2002	4	0.00	57.32						
	5-May-2002	5	0.00	53.67						
	6-May-2002	6	0.14	56.68						
	7-May-2002	7	0.04	53.67						
	8-May-2002	8	0.44	55.70						
	9-May-2002	9	0.16	70.45						
	10-May-2002	10	0.00	63.64						
	11-May-2002	11	0.78	56.13						
	12-May-2002	12	0.63	66.52				41.6		18
	13-May-2002	13	0.13	66.48				38.3		24
	14-May-2002	14	0.00	66.64						
	15-May-2002	15	0.00	71.83						
	16-May-2002	16	0.24	67.39						
	17-May-2002	17	0.17	69.72						
	18-May-2002	18	0.00	68.87				11.1	30.3	5
	19-May-2002	19	T	65.81						
	20-May-2002	20	T	58.50						
	21-May-2002	21	0.00	55.85						
	22-May-2002	22	0.00	53.24						
	23-May-2002	23	0.00	51.10						
	24-May-2002	24	0.02	48.49						
	25-May-2002	25	1.84	52.68						
	26-May-2002	26	0.00	63.70						
	27-May-2002	27	0.00	52.70						
	28-May-2002	28	0.90	62.02						
	29-May-2002	29	0.17	63.71						
	30-May-2002	30	T	63.36						
	31-May-2002	31	T	53.45						
Jun-02	1-Jun-2002	1	0	50.25						
	2-Jun-2002	2	T	46.99						
	3-Jun-2002	3	T	50.03						
	4-Jun-2002	4	0.29	49.86						
	5-Jun-2002	5	0.79	62.50						
	6-Jun-2002	6	0.02	58.80						
	7-Jun-2002	7	0	48.96						
	8-Jun-2002	8	0	46.41						
	9-Jun-2002	9	0	45.32						
	10-Jun-2002	10	0	44.88						
	11-Jun-2002	11	0.2	48.99				66.9		24
	12-Jun-2002	12	T	46.18						
	13-Jun-2002	13	0.05	45.45				30.2		23
	14-Jun-2002	14	0.2	48.94						
	15-Jun-2002	15	0.29	45.17					48.6	
	16-Jun-2002	16	0.00	42.39						
	17-Jun-2002	17	0.09	42.29						
	18-Jun-2002	18	0.16	50.17						
	19-Jun-2002	19	0.00	45.50						
	20-Jun-2002	20	0.00	43.27						
	21-Jun-2002	21	0.00	43.71						
	22-Jun-2002	22	0.00	42.62						
	23-Jun-2002	23	0	41.75						
	24-Jun-2002	24	0	44.28						
	25-Jun-2002	25	0.59	50.12						
	26-Jun-2002	26	0.45	52.43						
	27-Jun-2002	27	0	69.83						
	28-Jun-2002	28	0	67.47						
	29-Jun-2002	29	0	67.74						
	30-Jun-2002	30	0	59.21						

					Pond #1			Pond #2		
		Day of Month	**Precipitaion (in.)**	**Total Flow (MGD)**	**Flow from CSO (MG)**	**CSO Weekly Average**	**Duration of Outfall (hrs.)**	**Flow from CSO (MG)**	**CSO Weekly Average**	**Duration of Outfall (hrs.)**
Jul-02	1-Jul-2002	1	0.00	53.83						
	2-Jul-2002	2	0.00	51.85						
	3-Jul-2002	3	0.00	48.51						
	4-Jul-2002	4	0.00	45.69						
	5-Jul-2002	5	0.00	44.14						
	6-Jul-2002	6	0.00	43.71						
	7-Jul-2002	7	0.00	42.83						
	8-Jul-2002	8	0.00	45.54						
	9-Jul-2002	9	0.18	46.79						
	10-Jul-2002	10	0.00	44.37						
	11-Jul-2002	11	0.00	42.76						
	12-Jul-2002	12	0.00	42.43						
	13-Jul-2002	13	0.00	41.85						
	14-Jul-2002	14	0.00	40.51						
	15-Jul-2002	15	0.00	42.14				12.4		24
	16-Jul-2002	16	0.00	40.92				13.3		24
	17-Jul-2002	17	0.00	40.66						
	18-Jul-2002	18	0.35	43.17						
	19-Jul-2002	19	T	47.03						
	20-Jul-2002	20	0.00	47.45						
	21-Jul-2002	21	0.00	39.36					12.9	
	22-Jul-2002	22	0.31	50.29						
	23-Jul-2002	23	0.11	51.00						
	24-Jul-2002	24	0.00	44.57						
	25-Jul-2002	25	0.00	43.44						
	26-Jul-2002	26	T	41.77						
	27-Jul-2002	27	0.01	40.10						
	28-Jul-2002	28	T	39.82						
	29-Jul-2002	29	1.44	49.45						
	30-Jul-2002	30	0.00	55.13						
	31-Jul-2002	31	0.00	53.86						
Aug-02	1-Aug-2002	1	0.00	43.43						
	2-Aug-2002	2	0.03	43.33						
	3-Aug-2002	3	0.00	40.52						
	4-Aug-2002	4	0.00	38.74						
	5-Aug-2002	5	0.05	40.53						
	6-Aug-2002	6	0.00	39.04						
	7-Aug-2002	7	0.00	39.40						
	8-Aug-2002	8	0.00	38.57						
	9-Aug-2002	9	0.00	39.56						
	10-Aug-2002	10	0.00	37.64						
	11-Aug-2002	11	0.00	36.53						
	12-Aug-2002	12	0.11	41.56						
	13-Aug-2002	13	0.12	42.85						
	14-Aug-2002	14	0.34	45.66						
	15-Aug-2002	15	T	40.67						
	16-Aug-2002	16	T	40.69						
	17-Aug-2002	17	0.00	38.35						
	18-Aug-2002	18	0.00	36.75						
	19-Aug-2002	19	0.92	54.83						
	20-Aug-2002	20	0.00	43.79						
	21-Aug-2002	21	0.00	39.57						
	22-Aug-2002	22	0.78	43.69						
	23-Aug-2002	23	0.44	61.97						
	24-Aug-2002	24	0.00	55.57						
	25-Aug-2002	25	0.00	43.58						
	26-Aug-2002	26	0.00	42.42						
	27-Aug-2002	27	0.00	41.15						
	28-Aug-2002	28	0.00	40.42						
	29-Aug-2002	29	0.00	41.65						
	30-Aug-2002	30	0.00	41.51						
	31-Aug-2002	31	0.00	43.46						
Sep-02	1-Sep-2002	1	0.00	39.98						
	2-Sep-2002	2	t	40.13						
	3-Sep-2002	3	0.00	39.09						
	4-Sep-2002	4	0.00	40.91						
	5-Sep-2002	5	0.00	41.29						
	6-Sep-2002	6	0.00	41.26						
	7-Sep-2002	7	0.00	40.60						
	8-Sep-2002	8	0.00	40.03						
	9-Sep-2002	9	t	40.55						
	10-Sep-2002	10	0.00	40.83				5.34		24
	11-Sep-2002	11	0.00	40.23				8.88		24
	12-Sep-2002	12	0.00	40.74				8.88		24
	13-Sep-2002	13	0.35	41.59				7.99		24
	14-Sep-2002	14	t	42.37				15.10	9.2	24
	15-Sep-2002	15	0.00	40.60				6.22		24
	16-Sep-2002	16	0.00	40.82				4.97		7
	17-Sep-2002	17	0.02	39.17				7.75		24
	18-Sep-2002	18	0.12	39.03				8.18		24
	19-Sep-2002	19	1.31	39.42				6.46		24
	20-Sep-2002	20	0.00	54.15				9.81		24
	21-Sep-2002	21	0.01	53.69				7.69	7.3	24
	22-Sep-2002	22	0.00	40.81				7.69		24
	23-Sep-2002	23	0.00	41.35				8.82		24
	24-Sep-2002	24	0.00	42.40				6.67		24
	25-Sep-2002	25	0.00	40.32	8.5		24.0	13.33		24
	26-Sep-2002	26	0.73	40.98				5.17		24
	27-Sep-2002	27	0.00	58.77						
	28-Sep-2002	28	0.00	46.79		8.5			8.3	
	29-Sep-2002	29	0.00	40.84						
	30-Sep-2002	30	0.00	41.91						

					Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Oct-02	1-Oct-2002	1	0.00	41.54						
	2-Oct-2002	2	0.00	41.74				7.9		24
	3-Oct-2002	3	T	42.38						
	4-Oct-2002	4	0.47	50.51						
	5-Oct-2002	5	0.00	45.93					7.9	
	6-Oct-2002	6	0.01	40.64						
	7-Oct-2002	7	0.00	40.79						
	8-Oct-2002	8	0.00	39.78						
	9-Oct-2002	9	0.00	36.44						
	10-Oct-2002	10	0.00	38.11						
	11-Oct-2002	11	0.00	40.27						
	12-Oct-2002	12	0.03	39.67						
	13-Oct-2002	13	0.02	40.35						
	14-Oct-2002	14	0.00	41.52						
	15-Oct-2002	15	0.00	49.99						
	16-Oct-2002	16	0.00	43.80						
	17-Oct-2002	17	T	34.87						
	18-Oct-2002	18	0.23	40.00						
	19-Oct-2002	19	0.13	49.95						
	20-Oct-2002	20	0.00	40.10						
	21-Oct-2002	21	0.00	40.18						
	22-Oct-2002	22	0.00	40.43						
	23-Oct-2002	23	0.00	40.74						
	24-Oct-2002	24	T	40.87						
	25-Oct-2002	25	0.55	49.49						
	26-Oct-2002	26	T	46.30						
	27-Oct-2002	27	0.00	39.76						
	28-Oct-2002	28	0.00	39.32						
	29-Oct-2002	29	0.14	41.17						
	30-Oct-2002	30	T	40.00						
	31-Oct-2002	31	0.00	41.43						
Nov-02	1-Nov-2002	1	0.00	38.26						
	2-Nov-2002	2	0.00	38.72						
	3-Nov-2002	3	t	37.56						
	4-Nov-2002	4	0.01	40.04						
	5-Nov-2002	5	0.31	43.79						
	6-Nov-2002	6	t	43.81						
	7-Nov-2002	7	0.00	38.98						
	8-Nov-2002	8	0.00	40.21						
	9-Nov-2002	9	0.07	35.54						
	10-Nov-2002	10	1.18	57.72						
	11-Nov-2002	11	0.00	58.18						
	12-Nov-2002	12	0.00	51.92				29.7		24
	13-Nov-2002	13	0.00	46.68				8.1		24
	14-Nov-2002	14	t	45.03						
	15-Nov-2002	15	0.13	48.30						
	16-Nov-2002	16	0.02	47.28					18.9	
	17-Nov-2002	17	t	42.82						
	18-Nov-2002	18	0.03	43.71						
	19-Nov-2002	19	0.11	46.91						
	20-Nov-2002	20	0.00	42.69						
	21-Nov-2002	21	0.19	45.24						
	22-Nov-2002	22	0.11	56.47						
	23-Nov-2002	23	0.00	51.14						
	24-Nov-2002	24	t	45.15						
	25-Nov-2002	25	0.03	46.81						
	26-Nov-2002	26	0.04	45.94						
	27-Nov-2002	27	0.00	47.16						
	28-Nov-2002	28	0.00	44.14						
	29-Nov-2002	29	0.00	42.95						
	30-Nov-2002	30	0.04	42.94						
Dec-02	1-Dec-2002	1	0.00	43.43						
	2-Dec-2002	2	0.04	43.79						
	3-Dec-2002	3	0.00	45.40						
	4-Dec-2002	4	0.00	45.18						
	5-Dec-2002	5	t	43.87						
	6-Dec-2002	6	t	43.33						
	7-Dec-2002	7	0.00	42.43						
	8-Dec-2002	8	0.00	43.17						
	9-Dec-2002	9	0.00	43.90						
	10-Dec-2002	10	0.00	43.37						
	11-Dec-2002	11	0.00	42.12						
	12-Dec-2002	12	0.00	44.07						
	13-Dec-2002	13	0.05	42.57						
	14-Dec-2002	14	t	42.68						
	15-Dec-2002	15	t	41.02						
	16-Dec-2002	16	0.00	42.75						
	17-Dec-2002	17	0.20	43.20						
	18-Dec-2002	18	0.10	48.73						
	19-Dec-2002	19	0.34	60.21						
	20-Dec-2002	20	0.02	58.93						
	21-Dec-2002	21	t	56.36						
	22-Dec-2002	22	t	46.92						
	23-Dec-2002	23	0.00	47.80						
	24-Dec-2002	24	0.23	46.28						
	25-Dec-2002	25	0.31	42.58						
	26-Dec-2002	26	t	45.68						
	27-Dec-2002	27	0.00	46.04						
	28-Dec-2002	28	0.00	45.06						
	29-Dec-2002	29	0.00	44.84						
	30-Dec-2002	30	t	51.80						
	31-Dec-2002	31	0.32	43.44						

				48.90	Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Jan-03	1-Jan-2003	1	0.00	63.16						
	2-Jan-2003	2	0.00	57.66						
	3-Jan-2003	3	0.00	53.38						
	4-Jan-2003	4	0.00	48.71						
	5-Jan-2003	5	0.00	51.38						
	6-Jan-2003	6	0.00	51.62						
	7-Jan-2003	7	0.00	50.13						
	8-Jan-2003	8	0.00	48.48						
	9-Jan-2003	9	0.00	57.71						
	10-Jan-2003	10	0.00	58.53						
	11-Jan-2003	11	0.00	53.89						
	12-Jan-2003	12	0.00	48.93						
	13-Jan-2003	13	0.00	48.35						
	14-Jan-2003	14	0.00	46.36						
	15-Jan-2003	15	0.00	44.97						
	16-Jan-2003	16	0.00	46.22						
	17-Jan-2003	17	0.00	44.55						
	18-Jan-2003	18	0.00	44.64						
	19-Jan-2003	19	0.00	41.92						
	20-Jan-2003	20	0.00	43.17						
	21-Jan-2003	21	0.00	41.88						
	22-Jan-2003	22	0.00	40.45						
	23-Jan-2003	23	0.00	42.65						
	24-Jan-2003	24	0.00	41.83						
	25-Jan-2003	25	0.00	41.79						
	26-Jan-2003	26	0.00	39.54						
	27-Jan-2003	27	0.00	40.55						
	28-Jan-2003	28	0.00	34.22						
	29-Jan-2003	29	0.00	39.89						
	30-Jan-2003	30	0.00	38.43						
	31-Jan-2003	31	0.00	41.51						
Feb-03	1-Feb-2003	1	0.01	44.44						
	2-Feb-2003	2	0.01	49.91						
	3-Feb-2003	3	0.21	53.35						
	4-Feb-2003	4	0.03	63.21						
	5-Feb-2003	5	t	56.10						
	6-Feb-2003	6	0.04	46.54						
	7-Feb-2003	7	t	43.26						
	8-Feb-2003	8	t	43.26						
	9-Feb-2003	9	t	41.73						
	10-Feb-2003	10	0.06	41.32						
	11-Feb-2003	11	0.07	47.32						
	12-Feb-2003	12	t	40.44						
	13-Feb-2003	13	0.00	39.50						
	14-Feb-2003	14	0.04	39.96						
	15-Feb-2003	15	0.11	40.51						
	16-Feb-2003	16	t	38.42						
	17-Feb-2003	17	0.04	39.09						
	18-Feb-2003	18	t	39.07						
	19-Feb-2003	19	0.00	50.90						
	20-Feb-2003	20	0.00	47.48						
	21-Feb-2003	21	0.00	43.42						
	22-Feb-2003	22	0.71	49.53						
	23-Feb-2003	23	0.01	55.35						
	24-Feb-2003	24	0.05	46.20						
	25-Feb-2003	25	0.00	43.86						
	26-Feb-2003	26	0.00	44.64						
	27-Feb-2003	27	0.00	44.14						
	28-Feb-2003	28	0.00	45.36						
Mar-03	1-Mar-2003	1	0.03	44.02						
	2-Mar-2003	2	T	46.03						
	3-Mar-2003	3	T	42.93						
	4-Mar-2003	4	T	48.64						
	5-Mar-2003	5	0.09	57.74						
	6-Mar-2003	6	0.06	58.62						
	7-Mar-2003	7	0.00	55.31						
	8-Mar-2003	8	0.05	54.56						
	9-Mar-2003	9	0.02	62.46						
	10-Mar-2003	10	0.00	61.18						
	11-Mar-2003	11	0.00	47.46						
	12-Mar-2003	12	0.00	62.38						
	13-Mar-2003	13	0.24	60.36				63.600		21
	14-Mar-2003	14	0.00	56.90						
	15-Mar-2003	15	0.00	56.67					63.600	
	16-Mar-2003	16	0.00	56.94						
	17-Mar-2003	17	0.00	58.24						
	18-Mar-2003	18	0.00	58.16						
	19-Mar-2003	19	0.09	59.10				16.450		8
	20-Mar-2003	20	0.27	59.42				73.970		6
	21-Mar-2003	21	0.07	58.08						
	22-Mar-2003	22	T	58.27					45.210	
	23-Mar-2003	23	0.00	60.04						
	24-Mar-2003	24	0.00	59.05				86.620		24
	25-Mar-2003	25	0.03	59.88				4.490		24
	26-Mar-2003	26	0.00	57.79				23.920		24
	27-Mar-2003	27	0.00	57.25				8.330		24
	28-Mar-2003	28	1.42	55.37				30.420		24
	29-Mar-2003	29	0.01	59.06				24.000	29.630	24
	30-Mar-2003	30	0.00	58.38				4.110		24
	31-Mar-2003	31	T	56.68				15.560		23

					Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Apr-03	1-Apr-2003	1	0.03	54.96						
	2-Apr-2003	2	0.00	57.45						
	3-Apr-2003	3	0.00	55.51						
	4-Apr-2003	4	1.60	58.47						
	5-Apr-2003	5	t	62.87	1.000		1			
	6-Apr-2003	6	0.00	63.05						
	7-Apr-2003	7	0.33	63.61						
	8-Apr-2003	8	t	64.75				135.9		19
	9-Apr-2003	9	0.00	59.57						
	10-Apr-2003	10	0.00	58.39						
	11-Apr-2003	11	0.00	61.56						
	12-Apr-2003	12	0.00	63.12					135.9	
	13-Apr-2003	13	0.00	58.78						
	14-Apr-2003	14	0.00	50.94						
	15-Apr-2003	15	0.00	57.18						
	16-Apr-2003	16	0.00	50.60						
	17-Apr-2003	17	t	49.79						
	18-Apr-2003	18	t	48.36						
	19-Apr-2003	19	0.00	47.16						
	20-Apr-2003	20	t	44.19						
	21-Apr-2003	21	0.00	46.77						
	22-Apr-2003	22	0.00	48.75						
	23-Apr-2003	23	0.00	47.13						
	24-Apr-2003	24	0.00	45.48						
	25-Apr-2003	25	0.00	49.93						
	26-Apr-2003	26	0.00	46.52						
	27-Apr-2003	27	0.00	44.07						
	28-Apr-2003	28	0.00	44.33						
	29-Apr-2003	29	0.00	45.20						
	30-Apr-2003	30	0.00	47.77				13.9		24
May-03	1-May-2003	1	0.77	58.02						
	2-May-2003	2	0.01	61.93						
	3-May-2003	3	0.00	47.73						
	4-May-2003	4	0.41	46.24						
	5-May-2003	5	1.82	62.60						
	6-May-2003	6	0.00	62.75				11.2		20
	7-May-2003	7	0.34	64.79				136.9		24
	8-May-2003	8	T	62.47						
	9-May-2003	9	1.51	63.30						
	10-May-2003	10	0.17	62.81				106.1	84.7	24
	11-May-2003	11	0.20	60.30				63.2		24
	12-May-2003	12	0.06	61.14				59.2		24
	13-May-2003	13	0.00	60.26				101.3		24
	14-May-2003	14	0.68	59.76						
	15-May-2003	15	0.15	62.17						
	16-May-2003	16	0.00	63.08				106.2		24
	17-May-2003	17	0.00	64.65				5.2	67.0	24
	18-May-2003	18	T	65.43						
	19-May-2003	19	T	62.98						
	20-May-2003	20	0.46	64.76						
	21-May-2003	21	0.00	67.08						
	22-May-2003	22	0.00	61.99						
	23-May-2003	23	0.00	55.44						
	24-May-2003	24	0.00	52.98						
	25-May-2003	25	0.00	51.66						
	26-May-2003	26	0.00	55.46						
	27-May-2003	27	0.00	50.42						
	28-May-2003	28	0.00	49.69				18.38		24
	29-May-2003	29	0.00	48.66				15.6		24
	30-May-2003	30	0.00	49.49				6.7		6
	31-May-2003	31	0.00	61.98					13.5	
Jun-03	1-Jun-2003	1	0.00	46.43						
	2-Jun-2003	2	0.09	48.73						
	3-Jun-2003	3	0.34	61.00						
	4-Jun-2003	4	T	48.45						
	5-Jun-2003	5	0.00	47.53						
	6-Jun-2003	6	0.10	49.99						
	7-Jun-2003	7	0.00	46.81						
	8-Jun-2003	8	0.16	51.78						
	9-Jun-2003	9	0.00	47.44						
	10-Jun-2003	10	0.02	48.73						
	11-Jun-2003	11	0.10	46.96						
	12-Jun-2003	12	0.01	61.57						
	13-Jun-2003	13	0.16	62.69						
	14-Jun-2003	14	T	61.37						
	15-Jun-2003	15	0.00	61.75						
	16-Jun-2003	16	0.00	61.51						
	17-Jun-2003	17	0.18	59.26						
	18-Jun-2003	18	0.00	61.88						
	19-Jun-2003	19	T	61.91						
	20-Jun-2003	20	0.00	62.25						
	21-Jun-2003	21	0.00	47.01						
	22-Jun-2003	22	0.00	39.52						
	23-Jun-2003	23	0.00	42.52				24.5		9
	24-Jun-2003	24	0.00	42.09						
	25-Jun-2003	25	0.00	40.45				18.4		24
	26-Jun-2003	26	0.14	45.42						
	27-Jun-2003	27	0.00	45.46						
	28-Jun-2003	28	0.17	38.69					21.5	
	29-Jun-2003	29	0.09	40.00						
	30-Jun-2003	30	0.10	43.58						

					Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Jul-03	1-Jul-2003	1	0.00	38.42						
	2-Jul-2003	2	0.12	40.30						
	3-Jul-2003	3	0.00	40.33						
	4-Jul-2003	4	1.77	44.33						
	5-Jul-2003	5	0.66	59.63						
	6-Jul-2003	6	2.67	61.07						
	7-Jul-2003	7	1.10	59.76				67.1		24
	8-Jul-2003	8	0.66	58.44				83.1		24
	9-Jul-2003	9	0.08	58.45				90.9		24
	10-Jul-2003	10	0.27	56.04				109.1		24
	11-Jul-2003	11	T	55.40				117.5		24
	12-Jul-2003	12	0.00	56.33				101.1	94.8	24
	13-Jul-2003	13	0.00	57.30				74.3		24
	14-Jul-2003	14	0.00	53.92				35.4		24
	15-Jul-2003	15	0.08	63.43						
	16-Jul-2003	16	0.00	63.10						
	17-Jul-2003	17	0.00	58.44						
	18-Jul-2003	18	T	55.78						
	19-Jul-2003	19	0.00	52.40					54.9	
	20-Jul-2003	20	T	48.76						
	21-Jul-2003	21	1.48	55.66						
	22-Jul-2003	22	0.51	60.09						
	23-Jul-2003	23	0.00	61.53						
	24-Jul-2003	24	0.00	61.15						
	25-Jul-2003	25	0.00	60.74						
	26-Jul-2003	26	0.00	61.44						
	27-Jul-2003	27	0.40	61.64						
	28-Jul-2003	28	T	60.91						
	29-Jul-2003	29	0.00	62.66				58.0	58.0	24
	30-Jul-2003	30	0.00	58.11				45.8	51.9	24
	31-Jul-2003	31	0.00	58.27				17.6	40.5	24
Aug-03	1-Aug-2003	1	0.83	56.98						
	2-Aug-2003	2	0.21	61.54						
	3-Aug-2003	3	T	62.93						
	4-Aug-2003	4	0.07	62.58						
	5-Aug-2003	5	0.00	61.94						
	6-Aug-2003	6	0.00	62.58						
	7-Aug-2003	7	0.00	60.68						
	8-Aug-2003	8	0.07	60.44				62.0		24
	9-Aug-2003	9	T	62.35				29.5	45.8	24
	10-Aug-2003	10	0.00	57.44				22.1		24
	11-Aug-2003	11	0.00	51.02						
	12-Aug-2003	12	0.07	54.26						
	13-Aug-2003	13	0.00	55.21						
	14-Aug-2003	14	0.00	49.71						
	15-Aug-2003	15	0.00	50.72						
	16-Aug-2003	16	T	50.06						
	17-Aug-2003	17	0.00	48.12						
	18-Aug-2003	18	0.00	47.03						
	19-Aug-2003	19	0.00	46.66				21.9		24
	20-Aug-2003	20	0.00	48.36				18.2		24
	21-Aug-2003	21	0.05	48.30						
	22-Aug-2003	22	0.33	51.72						
	23-Aug-2003	23	0.00	46.92					20.0	
	24-Aug-2003	24	0.00	44.38						
	25-Aug-2003	25	0.00	45.90						
	26-Aug-2003	26	1.25	55.66						
	27-Aug-2003	27	0.00	62.69						
	28-Aug-2003	28	0.00	55.51						
	29-Aug-2003	29	0.68	57.86						
	30-Aug-2003	30	0.00	57.61						
	31-Aug-2003	31	0.52	47.33						
Sep-03	1-Sep-2003	1	1.36	62.41						
	2-Sep-2003	2	0.01	61.21				120.2		24
	3-Sep-2003	3	0.00	61.79						
	4-Sep-2003	4	0.00	62.77						
	5-Sep-2003	5	0.00	63.36						
	6-Sep-2003	6	0.00	62.55					120.2	
	7-Sep-2003	7	0.00	58.75						
	8-Sep-2003	8	0.00	52.38						
	9-Sep-2003	9	0.00	52.90						
	10-Sep-2003	10	0.00	56.96						
	11-Sep-2003	11	0.00	51.12						
	12-Sep-2003	12	0.00	48.74						
	13-Sep-2003	13	0.00	48.10						
	14-Sep-2003	14	0.65	50.35						
	15-Sep-2003	15	0.17	66.84						
	16-Sep-2003	16	0.00	54.96				17.5		24
	17-Sep-2003	17	0.00	48.80				12.1		24
	18-Sep-2003	18	0.00	47.75				10.5		24
	19-Sep-2003	19	0.00	47.33						
	20-Sep-2003	20	0.00	45.38					13.4	
	21-Sep-2003	21	0.01	43.87						
	22-Sep-2003	22	1.24	59.18						
	23-Sep-2003	23	0.00	62.07						
	24-Sep-2003	24	0.76	63.07						
	25-Sep-2003	25	0.00	63.46						
	26-Sep-2003	26	1.04	62.76						
	27-Sep-2003	27	T	61.23						
	28-Sep-2003	28	0.20	62.55						
	29-Sep-2003	29	T	62.68						
	30-Sep-2003	30	0.00	62.12						

					Pond #1			Pond #2		
		Day of Month	Precipitaion (in.)	Total Flow (MGD)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)	Flow from CSO (MG)	CSO Weekly Average	Duration of Outfall (hrs.)
Oct-03	1-Oct-2003	1	0.00	60.14						
	2-Oct-2003	2	0.00	54.25						
	3-Oct-2003	3	0.24	52.41						
	4-Oct-2003	4	T	58.63						
	5-Oct-2003	5	0.00	50.81						
	6-Oct-2003	6	0.00	49.36						
	7-Oct-2003	7	0.00	48.09						
	8-Oct-2003	8	0.00	48.66						
	9-Oct-2003	9	0.00	46.80				19.3		24
	10-Oct-2003	10	0.00	46.64				18.7		6
	11-Oct-2003	11	0.00	45.27						
	12-Oct-2003	12	T	46.22						
	13-Oct-2003	13	0.00	44.53				43.2	27.1	24
	14-Oct-2003	14	0.84	55.71						
	15-Oct-2003	15	0.00	62.05						
	16-Oct-2003	16	0.21	57.18						
	17-Oct-2003	17	0.00	52.78						
	18-Oct-2003	18	0.00	50.10						
	19-Oct-2003	19	0.00	48.84						
	20-Oct-2003	20	0.00	48.01						
	21-Oct-2003	21	0.00	46.55						
	22-Oct-2003	22	T	44.92						
	23-Oct-2003	23	T	45.27						
	24-Oct-2003	24	0.00	43.68						
	25-Oct-2003	25	0.48	50.53						
	26-Oct-2003	26	0.01	52.64						
	27-Oct-2003	27	T	46.01						
	28-Oct-2003	28	0.13	46.79						
	29-Oct-2003	29	T	48.30						
	30-Oct-2003	30	0.00	45.92						
	31-Oct-2003	31	0.00	48.23						
Nov-03	1-Nov-2003	1	T	48.29						
	2-Nov-2003	2	T	45.66						
	3-Nov-2003	3	0.00	45.09						
	4-Nov-2003	4	0.00	44.03						
	5-Nov-2003	5	T	45.52						
	6-Nov-2003	6	T	43.67						
	7-Nov-2003	7	0.00	43.32						
	8-Nov-2003	8	0.00	42.86						
	9-Nov-2003	9	0.00	43.01						
	10-Nov-2003	10	T	43.17						
	11-Nov-2003	11	0.38	46.89						
	12-Nov-2003	12	0.11	47.80						
	13-Nov-2003	13	T	45.92						
	14-Nov-2003	14	T	44.66						
	15-Nov-2003	15	0.00	45.06						
	16-Nov-2003	16	0.00	43.69						
	17-Nov-2003	17	0.00	43.23						
	18-Nov-2003	18	0.66	55.47						
	19-Nov-2003	19	0.03	62.52						
	20-Nov-2003	20	0.00	60.41						
	21-Nov-2003	21	0.00	51.45						
	22-Nov-2003	22	0.00	49.42						
	23-Nov-2003	23	0.10	49.67						
	24-Nov-2003	24	0.36	60.71						
	25-Nov-2003	25	0.00	59.43						
	26-Nov-2003	26	T	54.47						
	27-Nov-2003	27	0.10	57.12						
	28-Nov-2003	28	0.37	57.91						
	29-Nov-2003	29	T	59.91						
	30-Nov-2003	30	0.00	59.78						
Dec-03	1-Dec-2003	1	0.00	59.14						
	2-Dec-2003	2	0.00	58.03						
	3-Dec-2003	3	0.00	53.43						
	4-Dec-2003	4	0.07	51.24						
	5-Dec-2003	5	0.36	54.53						
	6-Dec-2003	6	0.00	61.73						
	7-Dec-2003	7	0.00	60.97						
	8-Dec-2003	8	T	55.91						
	9-Dec-2003	9	0.06	60.62						
	10-Dec-2003	10	0.41	60.44						
	11-Dec-2003	11	T	60.80						
	12-Dec-2003	12	0.00	61.47						
	13-Dec-2003	13	0.01	61.29						
	14-Dec-2003	14	0.04	56.53						
	15-Dec-2003	15	T	56.61						
	16-Dec-2003	16	0.14	57.52						
	17-Dec-2003	17	T	61.00						
	18-Dec-2003	18	T	52.33						
	19-Dec-2003	19	0.14	50.12						
	20-Dec-2003	20	0.02	49.01						
	21-Dec-2003	21	0.00	49.71						
	22-Dec-2003	22	0.17	49.64						
	23-Dec-2003	23	0.85	60.21				107.5		24
	24-Dec-2003	24	0.01	59.08						
	25-Dec-2003	25	0.00	59.44						
	26-Dec-2003	26	0.00	60.92				39.1		8
	27-Dec-2003	27	0.00	61.89					73.3	
	28-Dec-2003	28	0.00	56.24						
	29-Dec-2003	29	0.34	57.61						
	30-Dec-2003	30	T	59.40						
	31-Dec-2003	31	0.00	60.61						

ATTACHMENT 5

Donohue & Associates, Inc.

Working Spreadsheets & Tables

Month	Date	WPCP Plant Influent Flow (MG)	Remaining Capacity (@ 60 MG)	Remaining Capacity (@ 85 MG)	Remaining Capacity (@ 100 MG)	Pond #1 Flow from CSO (MG)	Pond #2 Flow from CSO (MG)	Total Pond Discharge (@ 60MG)	Potential Amount Recycled (@ 60 MG)	Potential % Recycled to Plant (@ 60MG)	Monthly Amount Recycled (@ 60MG)	Total Pond Discharge (@ 85MG)	Potential Amount Recycled (@ 85 MG)	Potential % Recycled to Plant (@ 85MG)	Monthly Amount Recycled (@ 85MG)	Total Pond Discharge (@ 100MG)	Potential Amount Recycled (@ 100 MG)	Potential % Recycled to Plant (@ 100MG)	Monthly Amount Recycled (@ 100MG)
Jan-02	29-Jan-2002	49.86	10.14	35.14	50.14	37.2		37.2	10.14	27.27%	27.27%	37.20	35.14	94.47%	94%	37.20	37.20	100%	100%
Feb-02	1-Feb-2002	48.22	11.78	36.78	51.78	110.5		110.5	11.78	10.66%		110.50	36.78	33.29%		110.50	51.78	46.86%	
	2-Feb-2002	55.89	4.11	29.11	44.11	38.8		38.8	4.11	10.60%		38.80	29.11	75.03%		38.80	38.80	100%	
	3-Feb-2002	58.62	1.38	26.38	41.38	48		48	1.38	2.88%		48.00	26.38	54.97%		48.00	41.38	86.22%	
	4-Feb-2002	43.28	16.72	41.72	56.72	46.2		46.2	16.72	36.19%		46.20	41.72	90.30%		46.20	46.20	100%	
	5-Feb-2002	40.90	19.10	44.10	59.10	24.1		24.1	19.10	79.25%		24.10	24.10	100%		24.10	24.10	100%	
	6-Feb-2002	40.51	19.49	44.49	59.49	20.3		20.3	19.49	96.00%		20.30	20.30	100%		20.30	20.30	100%	
	7-Feb-2002	46.79	13.21	38.21	53.21	4.4		4.4	4.40	100%	26.34%	4.40	4.40	100%	62.54%	4.40	4.40	100%	77.65%
Mar-02	3-Mar-2002	67.54	-7.54	17.46	32.46	4.2		4.24	0.00	0%		4.24	4.24	100%		4.24	4.24	100%	
	4-Mar-2002	67.55	-7.55	17.45	32.45	10.0		10	0.00	0%		10.00	10.00	100%		10.00	10.00	100%	
	5-Mar-2002	60.22	-0.22	24.78	39.78	6.6		6.55	0.00	0%		6.55	6.55	100%		6.55	6.55	100%	
	6-Mar-2002	59.47	0.53	25.53	40.53	6.6		6.55	0.53	8.14%		6.55	6.55	100%		6.55	6.55	100%	
	7-Mar-2002	57.92	2.08	27.08	42.08	6.6		6.55	2.08	31.77%		6.55	6.55	100%		6.55	6.55	100%	
	8-Mar-2002	56.20	3.80	28.80	43.80	3.8		3.82	3.80	99.46%		3.82	3.82	100%		3.82	3.82	100%	
	30-Mar-2002	59.92	0.08	25.08	40.08		28.5	28.53	0.08	0.27%		28.53	25.08	87.90%		28.53	28.53	100%	
	31-Mar-2002	53.21	6.79	31.79	46.79		32.4	32.39	6.79	20.96%	13.47%	32.39	31.79	98.15%	96%	32.39	32.39	100%	100%
Apr-02	1-Apr-2002	59.38	0.62	25.62	40.62		22.3	22.34	0.62	2.78%		22.34	22.34	100%		22.34	22.34	100%	
	2-Apr-2002	58.99	1.01	26.01	41.01		39.6	39.58	1.01	2.55%		39.58	26.01	65.71%		39.58	39.58	100%	
	3-Apr-2002	59.20	0.80	25.80	40.80		49.4	49.43	0.80	1.61%		49.43	25.80	52.19%		49.43	40.80	82.53%	
	4-Apr-2002	61.40	-1.40	23.60	38.60		24.0	23.98	0.00	0%		23.98	23.60	98.41%		23.98	23.98	100%	
	10-Apr-2002	66.20	-6.20	18.80	33.80		88.8	88.81	0.00	0%	1.08%	88.81	18.80	21.17%	52.00%	88.81	33.80	38.06%	71.61%
May-02	12-May-2002	66.52	-6.52	18.48	33.48		41.6	41.6	0.00	0%		41.60	18.48	44.42%		41.60	33.48	80.47%	
	13-May-2002	66.48	-6.48	18.52	33.52		38.3	38.3	0.00	0%		38.30	18.52	48.36%		38.30	33.52	87.52%	
	18-May-2002	68.87	-8.87	16.13	31.13		11.1	11.1	0.00	0%	0%	11.10	11.10	100%	53%	11.10	11.10	100%	86%
Jun-02	11-Jun-2002	48.99	11.01	36.01	51.01		66.9	66.9	11.01	16.46%		66.90	36.01	53.83%		66.90	51.01	76.25%	
	13-Jun-2002	45.45	14.55	39.55	54.55		30.2	30.2	14.55	48.19%	26.33%	30.20	30.20	100%	68.19%	30.20	30.20	100%	84%
Jul-02	15-Jul-2002	42.14	17.86	42.86	57.86		12.4	12.4	12.40	100%		12.40	12.40	100%		12.40	12.40	100%	
	16-Jul-2002	40.92	19.08	44.08	59.08		13.3	13.3	13.30	100%	100%	13.30	13.30	100%	100%	13.30	13.30	100%	100%
Sep-02	10-Sep-2002	40.83	19.17	44.17	59.17		5.34	5.34	5.34	100%		5.34	5.34	100%		5.34	5.34	100%	
	11-Sep-2002	40.23	19.77	44.77	59.77		8.88	8.88	8.88	100%		8.88	8.88	100%		8.88	8.88	100%	
	12-Sep-2002	40.74	19.26	44.26	59.26		8.88	8.88	8.88	100%		8.88	8.88	100%		8.88	8.88	100%	
	13-Sep-2002	41.59	18.41	43.41	58.41		7.99	7.99	7.99	100%		7.99	7.99	100%		7.99	7.99	100%	
	14-Sep-2002	42.37	17.64	42.64	57.64		15.10	15.1	15.10	100%		15.10	15.10	100%		15.10	15.10	100%	
	15-Sep-2002	40.60	19.40	44.40	59.40		6.22	6.22	6.22	100%		6.22	6.22	100%		6.22	6.22	100%	
	16-Sep-2002	40.82	19.18	44.18	59.18		4.97	4.97	4.97	100%		4.97	4.97	100%		4.97	4.97	100%	
	17-Sep-2002	39.17	20.83	45.83	60.83		7.75	7.75	7.75	100%		7.75	7.75	100%		7.75	7.75	100%	
	18-Sep-2002	39.03	20.97	45.97	60.97		8.18	8.18	8.18	100%		8.18	8.18	100%		8.18	8.18	100%	
	19-Sep-2002	39.42	20.58	45.58	60.58		6.46	6.46	6.46	100%		6.46	6.46	100%		6.46	6.46	100%	
	20-Sep-2002	54.15	5.85	30.85	45.85		9.81	9.81	5.85	59.64%		9.81	9.81	100%		9.81	9.81	100%	
	21-Sep-2002	53.69	6.31	31.31	46.31		7.69	7.69	6.31	82.01%		7.69	7.69	100%		7.69	7.69	100%	
	22-Sep-2002	40.81	19.19	44.19	59.19		7.69	7.69	7.69	100%		7.69	7.69	100%		7.69	7.69	100%	
	23-Sep-2002	41.35	18.65	43.65	58.65		8.82	8.82	8.82	100%		8.82	8.82	100%		8.82	8.82	100%	
	24-Sep-2002	42.40	17.60	42.60	57.60		6.67	6.67	6.67	100%		6.67	6.67	100%		6.67	6.67	100%	
	25-Sep-2002	40.32	19.68	44.68	59.68	8.5	13.33	21.83	19.68	90.16%		21.83	21.83	100%		21.83	21.83	100%	
	26-Sep-2002	40.98	19.02	44.02	59.02		5.17	5.17	5.17	100%	94.92%	5.17	5.17	100%	100%	5.17	5.17	100%	100%
Oct-02	2-Oct-2002	41.74	18.26	43.26	58.26		7.9	7.88	7.88	100%	100%	7.88	7.88	100%	100%	7.88	7.88	100%	100%
Nov-02	12-Nov-2002	51.92	8.08	33.08	48.08		29.7	29.73	8.08	27.17%		29.73	29.73	100%		29.73	29.73	100%	
	13-Nov-2002	46.68	13.32	38.32	53.32		8.1	8.13	8.13	100%	42.81%	8.13	8.13	100%	100%	8.13	8.13	100%	100%
	Average:	**50.20**						**22.07**	**6.63**			**22.07**	**15.88**			**22.07**	**18.78**		
	2002 Sum:							**1059.26**											
									2002 Average =		**30.04%**				**71.96%**				**85.11%**

Month	Date	WPCP Plant Influent Flow (MG)	Remaining Capacity (@ 60 MG)	Remaining Capacity (@ 85 MG)	Remaining Capacity (@ 100 MG)	Pond #1 Flow from CSO (MG)	Pond #2 Flow from CSO (MG)	Total Pond Discharge (@ 60MG)	Potential Amount Recycled (@ 60 MG)	Potential % Recycled to Plant (@ 60MG)	Monthly Amount Recycled (@ 60MG)	Total Pond Discharge (@ 85MG)	Potential Amount Recycled (@ 85 MG)	Potential % Recycled to Plant (@ 85MG)	Monthly Amount Recycled (@ 85MG)	Total Pond Discharge (@ 100MG)	Potential Amount Recycled (@ 100 MG)	Potential % Recycled to Plant (@ 100MG)	Monthly Amount Recycled (@ 100MG)
Mar-03	13-Mar-2003	60.36	-0.36	24.64	39.64		63.60	63.6	0.00	0.00%		63.60	24.64	38.74%		63.60	39.64	62.33%	
	19-Mar-2003	59.10	0.90	25.90	40.90		16.450	16.45	0.90	5.49%		16.45	16.45	100.00%		16.45	16.45	100%	
	20-Mar-2003	59.42	0.58	25.58	40.58		73.970	73.97	0.58	0.79%		73.97	25.58	34.59%		73.97	40.58	54.87%	
	24-Mar-2003	59.05	0.95	25.95	40.95		86.620	86.62	0.95	1.10%		86.62	25.95	29.96%		86.62	40.95	47.28%	
	25-Mar-2003	59.88	0.12	25.12	40.12		4.490	4.49	0.12	2.58%		4.49	4.49	100.00%		4.49	4.49	100%	
	26-Mar-2003	57.79	2.21	27.21	42.21		23.920	23.92	2.21	9.22%		23.92	23.92	100.00%		23.92	23.92	100%	
	27-Mar-2003	57.25	2.75	27.75	42.75		8.330	8.33	2.75	33.06%		8.33	8.33	100.00%		8.33	8.33	100%	
	28-Mar-2003	55.37	4.63	29.63	44.63		30.420	30.42	4.63	15.21%		30.42	29.63	97.39%		30.42	30.42	100%	
	29-Mar-2003	59.06	0.94	25.94	40.94		24.000	24	0.94	3.93%		24.00	24.00	100.00%		24.00	24.00	100%	
	30-Mar-2003	58.38	1.62	26.62	41.62		4.110	4.11	1.62	39.41%		4.11	4.11	100.00%		4.11	4.11	100%	
	31-Mar-2003	56.68	3.32	28.32	43.32		15.560	15.56	3.32	21.36%	5.13%	15.56	15.56	100.00%	57.66%	15.56	15.56	100%	54.05%
Apr-03	5-Apr-2003	62.87	-2.87	22.13	37.13	1.000		1	0.00	0.00%		1.00	1.00	100.00%		1.00	1.00	100%	
	8-Apr-2003	64.75	-4.75	20.25	35.25		135.9	135.9	0.00	0.00%		135.90	20.25	14.90%		135.90	35.25	25.94%	
	30-Apr-2003	47.77	12.23	37.23	52.23		13.9	13.88	12.23	88.09%	8.11%	13.88	13.88	100.00%	23.30%	13.88	13.88	100%	25.94%
May-03	6-May-2003	62.75	-2.75	22.25	37.25		11.2	11.16	0.00	0.00%		11.16	11.16	100.00%		11.16	11.16	100%	
	7-May-2003	64.79	-4.79	20.21	35.21		136.9	136.93	0.00	0.00%		136.93	20.21	14.76%		136.93	35.21	25.71%	
	10-May-2003	62.81	-2.81	22.19	37.19		106.1	106.06	0.00	0.00%		106.06	22.19	20.92%		106.06	37.19	35.07%	
	11-May-2003	60.30	-0.30	24.70	39.70		63.2	63.2	0.00	0.00%		63.20	24.70	39.08%		63.20	39.70	62.82%	
	12-May-2003	61.14	-1.14	23.86	38.86		59.2	59.18	0.00	0.00%		59.18	23.86	40.31%		59.18	38.86	65.66%	
	13-May-2003	60.26	-0.26	24.74	39.74		101.3	101.31	0.00	0.00%		101.31	24.74	24.42%		101.31	39.74	39.23%	
	16-May-2003	63.08	-3.08	21.92	36.92		106.2	106.19	0.00	0.00%		106.19	21.92	20.64%		106.19	36.92	34.76%	
	17-May-2003	64.65	-4.65	20.35	35.35		5.2	5.19	0.00	0.00%		5.19	5.19	100.00%		5.19	5.19	100%	
	28-May-2003	49.69	10.31	35.31	50.31		18.38	18.38	10.31	56.08%		18.38	18.38	100.00%		18.38	18.38	100%	
	29-May-2003	48.66	11.34	36.34	51.34		15.6	15.56	11.34	72.87%		15.56	15.56	100.00%		15.56	15.56	100%	
	30-May-2003	49.49	10.51	35.51	50.51		6.7	6.69	6.69	100%	4.50%	6.69	6.69	100.00%	30.90%	6.69	6.69	100%	39.73%
Jun-03	23-Jun-2003	42.52	17.48	42.48	57.48		24.5	24.5	17.48	71.35%		24.50	24.50	100.00%		24.50	24.50	100%	
	25-Jun-2003	40.45	19.55	44.55	59.55		18.4	18.43	18.43	100%	83.65%	18.43	18.43	100.00%	100.00%	18.43	18.43	100%	-
Jul-03	7-Jul-2003	59.76	0.24	25.24	40.24		67.1	67.13	0.24	0.36%		67.13	25.24	37.60%		67.13	40.24	59.95%	
	8-Jul-2003	58.44	1.56	26.56	41.56		83.1	83.1	1.56	1.87%		83.10	26.56	31.96%		83.10	41.56	50.01%	
	9-Jul-2003	58.45	1.55	26.55	41.55		90.9	90.89	1.55	1.71%		90.89	26.55	29.22%		90.89	41.55	45.72%	
	10-Jul-2003	56.04	3.96	28.96	43.96		109.1	109.13	3.96	3.63%		109.13	28.96	26.54%		109.13	43.96	40.28%	
	11-Jul-2003	55.40	4.60	29.60	44.60		117.5	117.46	4.60	3.92%		117.46	29.60	25.20%		117.46	44.60	37.97%	
	12-Jul-2003	56.33	3.67	28.67	43.67		101.1	101.08	3.67	3.64%		101.08	28.67	28.37%		101.08	43.67	43.21%	
	13-Jul-2003	57.30	2.70	27.70	42.70		74.3	74.29	2.70	3.63%		74.29	27.70	37.28%		74.29	42.70	57.47%	
	14-Jul-2003	53.92	6.08	31.08	46.08		35.4	35.41	6.08	17.18%		35.41	31.08	87.78%		35.41	35.41	100%	
	29-Jul-2003	62.66	-2.66	22.34	37.34		58.0	57.99	0.00	0.00%		57.99	22.34	38.52%		57.99	37.34	64.38%	
	30-Jul-2003	58.11	1.89	26.89	41.89		45.8	45.83	1.89	4.12%		45.83	26.89	58.67%		45.83	41.89	91.40%	
	31-Jul-2003	58.27	1.73	26.73	41.73		17.6	17.63	1.73	9.82%	3.50%	17.63	17.63	100.00%	36.41%	17.63	17.63	100%	50.54%
Aug-03	8-Aug-2003	60.44	-0.44	24.56	39.56		62.0	61.99	0.00	0.00%		61.99	24.56	39.62%		61.99	39.56	63.82%	
	9-Aug-2003	62.35	-2.35	22.65	37.65		29.5	29.53	0.00	0.00%		29.53	22.65	76.70%		29.53	29.53	100%	
	10-Aug-2003	57.44	2.56	27.56	42.56		22.1	22.12	2.56	11.58%		22.12	22.12	100.00%		22.12	22.12	100%	
	19-Aug-2003	46.66	13.34	38.34	53.34		21.9	21.88	13.34	60.96%		21.88	21.88	100.00%		21.88	21.88	100%	
	20-Aug-2003	48.36	11.64	36.64	51.64		18.2	18.21	11.64	63.95%	17.92%	18.21	18.21	100.00%	71.18%	18.21	18.21	100%	64%
Sep-03	2-Sep-2003	61.21	-1.21	23.79	38.79		120.2	120.15	0.00	0.00%		120.15	23.79	19.80%		120.15	38.79	32.28%	
	16-Sep-2003	54.96	5.04	30.04	45.04		17.5	17.45	5.04	28.88%		17.45	17.45	100.00%		17.45	17.45	100%	
	17-Sep-2003	48.80	11.20	36.20	51.20		12.1	12.14	11.20	92.29%		12.14	12.14	100.00%		12.14	12.14	100%	
	18-Sep-2003	47.75	12.25	37.25	52.25		10.5	10.54	10.54	100%	16.71%	10.54	10.54	100.00%	39.88%	10.54	10.54	100%	32.28%
Oct-03	9-Oct-2003	46.80	13.20	38.20	53.20		19.3	19.28	13.20	68.49%		19.28	19.28	100.00%		19.28	19.28	100%	
	10-Oct-2003	46.64	13.36	38.36	53.36		18.7	18.7	13.36	71.45%		18.70	18.70	100.00%		18.70	18.70	100%	
	13-Oct-2003	44.53	15.47	40.47	55.47		43.2	43.24	15.47	35.77%	51.75%	43.24	40.47	93.59%	97%	43.24	43.24	100%	100%
Dec-03	23-Dec-2003	60.21	-0.21	24.79	39.79		107.5	107.5	0.00	0.00%		107.50	24.79	23.06%		107.50	39.79	37.01%	
	26-Dec-2003	60.92	-0.92	24.08	39.08		39.1	39.1	0.00	0.00%	-	39.10	24.08	61.59%	33.34%	39.10	39.08	100%	37.01%
	Average:	**56.35**						**48.40**	**4.21**			**48.40**	**20.52**			**48.40**	**27.44**		
	2003 Sum:							**2516.80**											
										2003 Average =	**8.70%**				**42.40%**				**56.70%**

ATTACHMENT 6

CSO Bleedback Facility Control Strategy

Description

The purpose of the CSO Pond Bleedback is to send the CSO back to the WWTP for treatment.

Control

Remote – With both CSO Pond No. 1 and No.2 Bleedback sluice gate actuator Local/Off/Remote Handswitches in Remote, the following control options are available from the Control Station.

Auto Start Cycle – Initiation of the cycle would be based on the Wayne St. Interceptor level. When the Wayne St. Interceptor level lowers to a certain level for a certain amount of time, then the process of CSO bleedback would initiate. CSO Pond No. 1 Bleedback Gate would slowly open. The amount of flow to be bledback would be based on the Wayne St. Interceptor level; the lower the level the more flow would be bledback. Then when the flow from Pond No. 1 slows, the gate closes and the CSO Pond No. 2 Bleedback Gate would open. Flow continues to be based on the Wayne St. Interceptor level. When the flow of Pond No. 2 slows, the CSO Pond No. 1 Bleedback Gate opens. The gates would remain open until the flow slows, then both gates would close. The action is complete.

Manual Start Cycle – In Manual Start Cycle, two options are available at the HMI. The initiation of the process would be by the operator.

Flow Based on Wayne St. Interceptor Level – The CSO Pond No. 1 Bleedback Gate would slowly open. The amount of flow to be Bledback would be based on the interceptor level; the lower the interceptor level the more flow would be Bledback. Then when the flow from Pond No. 1 slows, the gate shuts and the CSO Pond No. 2 Bleedback Gate would open. Flow continues to be based on the Wayne St. Interceptor Level. When the flow of Pond No. 2 slows, the CSO Pond No. 1 Bleedback Gate opens. The gates would remain open until the flow slows, then both gates would close. The action is complete.

Flow Based on Operator Set Point – The CSO Pond No. 1 Bleedback Gate would slowly open. The amount of flow to be Bledback would be based on the operator-set point. Then when the flow from Pond No. 1 slows, the gate shuts and the CSO Pond No. 2 Bleedback Gate would open. Flow continues to be based on the Wayne St. Interceptor Level. When the flow of Pond No. 2 slows, the CSO Pond No. 1 Bleedback Gate opens. The gates would remain open until the flow slows, then both gates would close. The action is complete.

Interlocks

- Wayne St. Interceptor shall be below a certain level for a certain amount of time.
- Influent flowmeter flow rate (bleedback shall not create plant to become overloaded).
- High level in 54-inch Sanitary Sewer Manhole.

Manual – With the Manual/Auto selector (one per sluice gate) in Manual, the following control options are available from the HMI.

Open – This selection will open the respective gate.
Close – This selection will close the respective gate.

Monitoring

- High level in 54-inch Sanitary Sewer Manhole.
- Flow rate for calculation purposes.
- CSO Pond sample for calculation purposes.
- Fail

EXHIBIT B-6

Project List
Sites Where Weirs Were Raised By WPC Maintenance
9/07

As Recommended by CSO OP Plan Inline Storage Assessment Study

Permit #	Location	Dated Raised	Data	# Overflows	
62	**State & Laverne**	2/23/05	3/04 – 3/05	54	Before
			4/05 – 4/06	38	After
			5/06 – 5/07	47	After
17	**Wildmere**	6/29/05	6/04 – 6/05	69	Before
			7/05 – 7/06	64	After
			8/06 – 8/07	63	After
68	**Glazier**	6/05	6/04 – 6/05	17	Before
			7/05 – 7/06	12	After
			8/06 – 8/07	13	After
36	**Westbrook**	6/29/05	6/04 – 6/05	10	Before
			7/05 – 7/06	11	After
			8/06 – 8/07	16	After
05	**Foster Park**	6/05	6/04 – 6/05	97	Before
			7/05 – 7/06	77	After
			8/06 – 8/07	63	After
39	**Hanna & Wayne**	2/22/05	No Overflows		

EXHIBIT B-7

Nine Minimum Controls – No. 3

3.0 REVIEW AND MODIFICIATION OF PRETREATMENT REQUIREMENTS

The third minimum control requires the review and modification as appropriate of the pretreatment requirements to ensure that CSO impacts are minimized.

3.1 OVERVIEW

The City's NPDES permit requires the Significant Industrial Users (SIUs) within the City's CSS service area to monitor their discharge for pollutants of interest as identified in the City's Sewer Use Ordinance. The City's pretreatment program is described in Exhibit C-1. A copy of the latest Enforcement Response Plan is in Exhibit C-2. A copy of the City Municipal Code section that covers pretreatment is in Exhibit C-3.

The City operates a CSS with CSOs and its WPCP. The CSS has regulators that direct dry-weather flows from the combined trunk sewers to interceptor sewers which transport the flows to the WPCP for treatment. During periods of wet weather, the regulators control the amount of combined sewage that is allowed to enter the interceptor system. Excess flows are conveyed to the St. Joseph, St. Mary's, and Maumee Rivers and tributary creeks and ditches through CSO outfalls. These CSO outfalls, combined with the WPCP outfall and the outfalls from the CSO ponds, comprise all of the outfalls in the City's system.

As of 2006, eight percent of the WPCP treatment process flow were contributed by the SIUs in the service area. Two-thirds of the SIUs were subject to categorical pretreatment standards. The remaining third met the definition found at 40 CFR 403.3 (t)(1)(ii). The City's Industrial Pretreatment Program establishes the monitoring and enforcement program through which these SIUs are examined for discharge limitation exceedences.

3.2 SIU IMPACT EVALUATION

To ensure implementation of this NMC, the City conducted an SIU Impact Evaluation, a copy of which is attached as Exhibit C-4. The evaluation included the steps described below.

3.2.1 Identification of Pollutants of Interest

- The first step in identifying the pollutants of interest is to analyze the rivers flowing through the City: Are there pollutant readings exceeding the limitation values set by the Indiana Department of Environmental Management (IDEM) thus affecting the rivers' water quality?
    - The sampling data collected by IDEM and City staff should be compared to the "IDEM Indiana Environmental Rules: Water –

2002 Edition" and the "Criteria and Values for Selected Substances Calculated using the Great Lakes Basin Methodologies" documents. These documents contain the water quality standards which apply to the surface waters in the City. These standards are the concentration of substances which if not exceeded, should protect aquatic life, human health, and wildlife from adverse affects; either from short term exposure or long term exposure.

- Based on past studies and reports, it may be anticipated that the sampling data collected for evaluation will show that metals are a problem in the rivers. Since metals are discharged primarily from industries, and not typically residential entities, this evaluation would then link the pollutant of interest to the corresponding SIUs discharging that pollutant into the CSS. During wet weather events, the combined sewers overflow the sewage, unable to be carried to the WPCP due to limited sewer capacity, into the City's rivers.

- The second step in identifying the pollutants of interest is to analyze the City's WPCP influent: Are there pollutant readings which are above the daily maximum influent indicator values set by the WPCP's NPDES permit indicating industrial non-compliance?

  - The sampling data collected by WPCP staff should be compared to the WPCP NPDES permit's daily maximum influent indicator values. These daily maximum influent indicator values are not limitations but provide the municipality an indication of industrial non-compliance. Influent values are calculated from the sewer ordinance limitations. An influent value may be more stringent than its corresponding effluent limitation. This occurs because the ordinance limitation is based on protecting sewage plant processes or the quality of municipal sludge while the effluent limitation is based on protecting the water quality of the receiving stream.

- Once pollutants of interest are identified, an evaluation of the SIU discharge reports can be completed: Which SIUs have pollutant of interest readings exceeding the limitations set in the individual SIU Industrial Wastewater Discharge Permits or the City's Sewer Ordinance?

  - The sampling data collected in the Fort Wayne SIU monitoring reports should be compared to the respective SIU industrial wastewater discharge permits. If tests are reported for additional pollutants not listed on the respective SIU industrial wastewater discharge permit, they should be compared to the pollutant limitations set in the City's Sewer Ordinance.

3.2.2 Identification of SIUs and How Each is Connected to the Combined Sewer System

- A list of SIUs operating in the City area may be attained through the City's Utility Office. Additional SIU documents to be utilized are the SIU Industrial Wastewater Discharge Permits and SIU site consumption (water flow) information reports.

- The SIUs should be identified on city-wide and sewer subbasin mapping and linked to any regulators their flow passes through. These regulators are potential points of sewer overflow during wet weather events.

3.2.3 Determination of Potential Impact to Water Quality in Receiving Waters due to SIUs Discharging into the Sewer System

- Once pollutants of interest are identified, the annual flows and pollutant loads may be estimated. A mass balance spreadsheet should then be prepared for the CSS which estimates the annual volume and SIU pollutant loadings of interest discharged from each CSO of interest.

- The impact on the receiving stream's water quality can be characterized by stream dilution analysis based on estimated annual CSO discharges, available stream flow values and water quality data.

3.2.4 Estimate Benefits Associated with Ordinance Modification and/or More Effective Enforcement (Reduction of Pollutants of Interest Discharging From CSOs) and Compare to Estimated Costs

- Based on pollutants of interest found to have a significant impact, identification of potential ordinance modifications and/or needed enforcement of existing ordinances can be proposed. This can result in the reduction of CSO pollutants of interest and thus improve the water quality of the receiving streams.

- The mass balance spreadsheet can then be revised based on the implementation of the proposed ordinance modifications and/or more effective enforcement of existing conditions. In order to estimate benefits, recharacterize the impact on stream water quality based on revised mass balance spreadsheet values.

- The City's Industrial Pretreatment Program contains language concerning the enforcement and monitoring program which requires self-monitoring and reporting by all SIUs. Compliance monitoring samples are collected from all SIUs. These samples are composites and grabs taken of the discharge effluent at a point determined by the City to provide representative samples. Should any parameters tested show non-compliance with permitted limits; the procedures outlined in the Enforcement Response Plan are followed.

- The City's Sewer Ordinance contains language concerning the liability for and computation of strength-of-waste surcharges. An annual review of service charges and surcharges and revisions of charges and rates is performed. Total annual services charges and surcharges collected from each individual user class shall be deemed sufficient if said charges have generated during the prior operating period sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the utility incidental to the utility operation attributable to such class.

3.2.5 Recommended Modifications or Justification of no Changes for Pretreatment Program

- Based on cost to benefit analysis, prepare recommendations for modifications to, more effective enforcement of, or justification of no changes to pretreatment ordinance and enforcement.

3.3 SIU IMPACT EVALUATION RESULTS

The results of the SIU Impact Evaluation are reported at Exhibit C-4.

3.4 RECORDKEEPING

The City's listing of its SIUs and maps will be updated. River, WPCP influent, and SIU discharge sampling records will be periodically reviewed to access significantly changed conditions. If significant changes have occurred, steps 3, 4, and 5 of the SIU Impact Evaluation will be redone and the changes will be documented at Exhibit C-5.

DIRECTORY FOR APPENDIX C
(Items Presented in Order of Appearance in Appendix C)

EXHIBIT C-1

FORT WAYNE CITY UTILITIES

INDUSTRIAL PRETREATMENT PROGRAM

General Description

Fort Wayne is the largest residential and industrial community in northeastern Indiana and operates a 60 MGD activated sludge wastewater treatment plant having advanced waste treatment. The POTW is a regional plant serving Fort Wayne, New Haven, Leo-Cedarville, Grabill, Huntertown, Zanesville, and the Allen County Regional Water and Sewer District.

The original plant was built in 1940 and has had updates completed in 1959, 1971, and 1978. Combined sewer overflow facilities were added in 1972 and advanced waste treatment in 1983. Combined sewer overflow and infiltration/inflow studies were carried out during the 1970s and the City has had ongoing programs of sewer renovation, separation, and extension.

The POTW currently treats, on average, 48 MGD of which 7.5 MGD is contributed by 33 significant industries in the service area. Of these, 20 industries are subject to categorical pretreatment standards. The remaining 13 significant industries meet the definition found at 40 CFR 403.3 (t) (1) (ii).

During the mid-1950s, phenolic compounds from the wire drawing industry were a major problem, as well as metals and cyanides from the electroplating industry. Operational problems at the POTW related to industrial discharges have been minimal since the advent of industrial monitoring in the early 1970s. The City now enforces its sewer use ordinance with much success to continually reduce pollutants entering the system.

Program Development

The City of Fort Wayne has had a sewer use ordinance and an industrial surveillance program since the early 1970s to protect the biological processes of the treatment plant and the quality of its discharges.

The City's NPDES permit was modified in 1979 requiring the City to develop a pretreatment program. Activities 1, 2, 3, and 4a were submitted on July 27, 1979. The remainder of Activities 4 and 5 were submitted on October 30, 1979. The program was approved and incorporated into the NPDES permit in 1986.

Evaluation of Legal Authority

In the opinion of the City Attorney, the City of Fort Wayne has adequate powers as delegated by the provisions of Chapter 51 of the Municipal Code to enforce the pretreatment program as prescribed in 40 CFR 403.8(f)(1).

Development of Monitoring/Enforcement Program

The monitoring and enforcement program has been in effect for several years. In the early 1970s the program consisted of industrial monitoring and enforcement on the large industrial accounts. During the mid-1970s, additional personnel were added and additional industrial accounts were monitored along with a number of commercial accounts.

The initial monitoring and enforcement program met the requirements specified in 40 CFR 403 when it was promulgated in 1977. Today's program meets or exceeds the guidelines outlined in this regulation.

Program Implementation

Personnel

The Industrial Pretreatment Section (IPS) currently consists of three fulltime staff. The Supervisor of Water Quality is charged with overall program administration. This includes supervision of the field crew, issuing Industrial Wastewater Discharge permits, reviewing self-monitoring and compliance reports, issuing non-compliance orders and notices of violation, calling hearings, and issuing court summons.

The Industrial Pretreatment Coordinator and Industrial Pretreatment Inspector are the remainder of the fulltime pretreatment staff. The Pretreatment Coordinator and Inspector report to the Supervisor of Water Quality and are responsible for the collection of samples, reviewing of industry reports, data tracking, and facility inspections.

The POTW laboratory consists of four chemists and performs most of the analytical work required by the pretreatment program in accordance with methods specified in 40 CFR 136. The laboratory is a self-managed team reporting to the plant superintendent.

Ordinance

Chapter 51 of the Fort Wayne Municipal Code contains our sewer use ordinance and was developed to control discharges to the municipal sewer system. The ordinance is designed to protect the POTW from harmful discharges of toxic materials which: (a) will interfere with the operation of the POTW, including beneficial use of biosolids, or (b) will pass through the POTW into the receiving stream.

Procedures

To ensure that the industrial survey remains updated, IPS participates in the review process for the issuance of building construction permits, receives notification of new or changed industrial and commercial accounts from the City's billing information system manager, and participates with the local Chamber of Commerce.

IPS regularly reviews the Federal Register and scrutinizes the publication for any changes in the regulations pertaining to pretreatment, solid waste disposal, and hazardous waste. When changes are found or new regulations are promulgated, affected industries are notified of the changes. In the event of the promulgation of a new categorical standard, affected industries are notified to submit a Baseline Monitoring Report.

The City has a vigorous enforcement and monitoring program which requires self-monitoring and reporting by all significant industrial users (SIUs) as outlined in 40 CFR 403.12. Should an industry be required to install, modify, or up-grade its pretreatment facilities, they are required to submit all plans and specifications for review and approval prior to construction.

Compliance monitoring samples are collected from all SIUs as required under 40 CFR 403.8 (f) (2) (v). These samples are composites and grabs taken of the discharge effluent at a point determined by the City to provide representative samples. Should any parameters tested show non-compliance with permitted limits, the procedures outlined in the Enforcement Response Plan are followed. Failure to comply with any order of non-compliance or a notice of violation results in escalated enforcement per the Enforcement Response Plan.

Annual physical inspections are made at each SIU to check operating records, ensure proper operation of pretreatment facilities, and to verify that the information provided by the user is accurate.

All records of analytical data, compliance schedules, required reports, orders of non-compliance, and court actions are kept in the IPS office and are retained for a minimum of 3 years. These records are open to review by representatives of the USEPA or the IDEM at all times. Public access to the records contained in user files may be obtained through Freedom of Information Act requests but will not include access to any information meeting the definition of confidential under 40 CFR 2.

IPS publishes legal notices in the daily local newspapers to comply with the requirement to publish the list of SIUs that were determined to be in significant non-compliance during the prior 12-month reporting period.

EXHIBIT C-2

FORT WAYNE CITY UTILITIES
INDUSTRIAL PRETREATMENT SECTION
ENFORCEMENT RESPONSE PLAN

Enforcement Response Procedures

The following shows the enforcement response procedures that are used by Fort Wayne City Utilities.

1. Data Collection

   This process involves the collection of all available information from inspections, monitoring, plant upsets, private complaints, and from the Industrial User. All data gathered shall become a part of the industrial users permanent file and is kept for a period of not less than three years.

2. Compliance Screening

   The processes of reviewing all available information and monitoring data to sort out instances of noncompliance for appropriate enforcement response. This review will assess, as appropriate, compliance with required schedules, reporting requirements, discharge violations, etc.

3. Emergency Response

   If evaluation of the data reveals that an emergency condition exists, City Utilities will take whatever means appropriate to bring the violator into compliance.

4. Enforcement Evaluation for Noncompliance

   The violations and conditions identified during the screening process are reviewed to make a determination of the type of enforcement necessary to bring the Industrial User into compliance. This process is accomplished using the criteria outlined in the attached Enforcement Response Guide.

5. Noncompliance

   This process consists of notifying the industrial user that noncompliance has been detected and that corrective action is required. City Utilities will evaluate the industrial user's response and make a determination of whether the Industrial User has returned to compliance. If compliance is not achieved the incident is evaluated for further enforcement action.

6. Significant Noncompliance

This process consists of notifying the industrial user that an instance of significant noncompliance, as defined in 40CFR403.8(f)(2)(vii), has been detected and that remedial action and response on the part of the Industrial User are required. City Utilities will then evaluate the response of the Industrial User and determine whether the Industrial User has returned to compliance. If compliance is not achieved, City Utilities will initiate formal enforcement action. In any instance of significant noncompliance, City Utilities will publish the instance as required in 40CFR403.8.

7. Formal Actions

a. Administrative Order (AO)

Administrative orders are enforcement documents issued to direct noncompliant industrial users to undertake or cease specified activities in order to return to compliance.
An Administrative order is the formal action taken by City Utilities and is issued when other, less formal, attempts to bring the Industrial User into compliance have failed or when the nature of the violation requires stricter enforcement.
Administrative orders can be issued in one or more of the following types:

1. Cease and Desist Order

2. Agreed Orders

3. Show Cause Order

4. Compliance Orders

b. Administrative Hearings

Conducted before the Board of Public Works when initiated by City Utilities to obtain administrative fines.

c. Civil Litigation

Civil litigation is the formal process of filing lawsuits against industrial users to secure court ordered action to correct violations and/or secure penalties for violations, including the recovery of costs to the POTW.
Civil litigation shall be pursued by City Utilities when the penalty to be assessed is greater than allowed for administratively or when the Industrial User is recalcitrant or unwilling to cooperate.

d. Termination of Service

When all other attempts to bring an Industrial User into compliance have failed, or when the nature of the violation is such that it endangers the operations of the POTW, the health and welfare of City personnel or the citizens of the City or adversely impacts the environment City Utilities shall have the right to terminate service to said user.

Termination of service may be accomplished in one or more of the following ways:

1. Issue AO compelling IU to cease discharge.
2. Terminate water service to the facility.
3. Physically sever sewer connection (plug).

The following categories of noncompliance of Industrial Users shall, in every instance, be subject to enforcement procedures by Fort Wayne City Utilities.

1. Failure to timely submit required reports (BMR, DMR, CMR, etc.).
2. Failure to meet interim or final compliance schedule dates.
3. Violations of maximum or average pollutant limitations for industry specific categories (Federal Categorical Standards).
4. Violations of prohibited discharges under National Pretreatment Standards (40CFR403.5)
5. Violations of local limits as outlined in Chapter 51 of the Fort Wayne Code of Laws and the Rules and Regulations pertaining thereto, as amended.
6. Violations of permit conditions or limitations.
7. Falsification of information submitted to the City.
8. Treatment plant upsets and/or interference traced to an industrial user.
9. Violations detected during site visits and inspections.
10. Discharge of industrial wastes without prior approval, and/or a valid Industrial Wastewater Discharge Permit.

Responsibilities of City Utilities Personnel

The following shows the City Utilities personnel involved in the enforcement process as well as their responsibilities.

1. Industrial Pretreatment Inspector

   The Industrial Pretreatment Inspector is a member of City Utilities' field team as well as a link in the enforcement chain between industry and City Utilities. The primary duties of the Inspector are as follows:

   a. Confers with industrial and commercial management and provides information pertaining to pretreatment.

   b. Conducts on site inspections and audits of industrial and commercial users subject to the pretreatment program.

   c. Evaluates information submitted by users.

   d. Recommends modifications and revisions to wastewater discharge permits.

   e. Collects data and information required to write reports and legal notices.

   f. Collects sewage samples of industrial and commercial discharges.

   g. Investigates and writes reports on chemical and oil spills.

   h. Writes weekly sampling schedule.

   i. Maintains files, records, reports, and drawings necessary to perform duties.

2. Industrial Pretreatment Coordinator

   The Industrial Pretreatment Coordinator acts as a liaison between the field team and the Supervisor of Water Quality. The primary responsibilities of the Coordinator are as follows:

   a. Confers with industrial and commercial management and provides information pertaining to pretreatment.

   b. Conducts on site inspections and audits of industrial and commercial users subject to the pretreatment program.

   c. Evaluates information and data submitted by industrial users.

   d. Prepares modifications and revisions to wastewater discharge permits.

   e. Assists in writing reports and legal notices.

f. Collects sewage samples of industrial and commercial discharges.

g. Investigates and writes reports on chemical and oil spills.

h. Approves weekly sampling schedule.

i. Maintains files, records, reports and drawings necessary to perform duties.

j. Writes quarterly and annual report on noncompliance for submittal to IDEM and EPA.

k. Recommends compliance steps for noncompliant industrial users.

l. Reviews drawings and specifications submitted by applicants for new permits.

3. Supervisor of Water Quality

The Supervisor of Water Quality acts as a coordinator in implementing City Utilities pretreatment program requirements. The primary responsibilities of the Supervisor include all of those previously listed for other personnel as well as the following:

a. Issues Notice of Violation to industrial users.

b. Recommends enforcement escalation to Utility Director.

c. Recommend changes to the sewer use ordinance.

d. Issues permits to industrial users.

e. Publishes annual listing of industries in significant noncompliance.

4. Director of Utilities

The Director of Utilities has the responsibility to ensure compliance with the City's NPDES permit as well as enforcement of the City's Sewer Use Ordinance, Rules and Regulations and the general and categorical pretreatment requirements set forth by the EPA. The responsibilities of the Director include those previously listed as well as the following:

a. Issues Administrative Orders.

b. Represents the City Utility in Show Cause Hearings.

c. Initiate judicial proceedings.

d. Initiate termination of service.

5. <u>Legal Counsel</u>

The City's Legal Counsel advises technical and managerial personnel on enforcement matters, participates in administrative proceedings and orchestrates the judicial responses deemed necessary by the Superintendent.

Range of Enforcement Response

The following shows the range of enforcement response, in order of severity, utilized by Fort Wayne City Utilities.

1. Verbal Telephone Notice (VTN)
2. Notice of Warning (NOW)
3. Notice of Violation (NOV)
4. Administrative Fine (Fine)
5. Administrative Order (AO)
    a. Cease and Desist Order
    b. Compliance Order
    c. Agreed Order
    d. Show Cause Order
6. Civil Litigation (Civil)
    a. Consent Decree
    b. Civil Penalty
7. Termination of Service

This range of responses has been developed for guidance and is not intended to create legal rights or obligations, or to limit the enforcement discretion of the City of Fort Wayne, Indiana.

Fort Wayne City Utilities
Industrial Pretreatment Section
Enforcement Response Guide

This guide was developed for use by City Utilities officials who are responsible for determining the appropriate response to a specific violation or violations of local, state and federal pretreatment requirements and related sections of the Clean Water Act. The guide is intended to serve two main purposes:

1. The guide covers enforcement responses that may be appropriate in relation to the nature and severity of the violation(s) and overall degree of noncompliance.

2. It provides a guide to encourage uniform application of enforcement responses to comparable levels and types of violations, as well as a mechanism to review the appropriateness of responses by City officials.

The guide outlines how City Utilities determines which responses are appropriate, identifies personnel who should initiate these responses, and discusses the time frames for taking such actions.

The enforcement response guide allows City Utilities to select from several initial and follow-up actions. City Utilities may initially rely on actions such as NOV's, NOW's, or VTN's where violations are minor or when the Industrial User is cooperative in resolving problems. However, when the violation is significant or when the industrial user does not promptly undertake corrective action, City Utilities must respond with more severe enforcement action up to and including civil proceedings and penalties. Similarly, when the user fails to return to compliance following the initial enforcement response, City Utilities must escalate its enforcement response with a more stringent action.

City Utilities officials should also evaluate appropriate enforcement responses in the context of the user's prior history of violations. For example, if a user continues its minor noncompliance despite enforcement measures (i.e. repeated issuance of NOV's) City Utilities should adopt a more stringent approach. Similarly, if the user has committed several types of violations the response should address <u>each</u> violation. If City Utilities seeks remedies for only the most serious violation, the less significant violations could inadvertently escape enforcement. It should also be noted that, since pretreatment compliance is a matter of strict liability, the knowledge, intent, or negligence of the user should not be taken into consideration except when deciding to refer the matter to the appropriate State or Federal official for criminal prosecution.

The enforcement response selected must also be appropriate to the violation. This determination is often a matter of common sense. For example, while telephone calls may be appropriate responses for reports that are one or two days late, treatment plant upsets merit an immediate and stringent response. The following criteria should be considered when determining a proper response:

1. Magnitude of the violation.
2. Duration of the violation.
3. Effect of the violation on receiving waters.
4. Effect of the violation on the collection system and plant.
5. Compliance history of the industrial user.
6. "Good Faith" of the Industrial User.

These six criteria are discussed in detail below.

1. Magnitude of the Violation

Generally, an isolated instance of noncompliance can be met with an informal response or a NOV. However, since even an isolated violation could threaten public health and the environment, damage public and/or private property, or threaten the integrity of the pretreatment program (e.g. falsifying a self monitoring report) it is recommended that the responses to any "significant noncompliance" include an enforceable order that requires a return to compliance by a specific deadline.

2. Duration of the Violation

Violations, regardless of the severity, which continue over a prolonged period, should subject the Industrial User to escalated enforcement actions. For example, an effluent violation that occurs in two out of three samples over a six-month period or a report that is more than 30 days overdue is considered significant, while a report that is two days late is not.

The response to these situations must be tailored to prevent extended periods of noncompliance from recurring, such as the issuance of administrative orders. If the Industrial User fails to comply with the AO, the assessment of administrative fines or judicial action should be pursued. If the prolonged violation results in serious harm to the POTW, termination of service should be considered as well as attempting to recover the cost of repairing any damage.

3. Effect on the Receiving Waters

One of the primary objectives of the pretreatment program is to prevent pollutants from passing through the POTW and entering the receiving stream. Consequently, any violation that results in environmental harm should be dealt with severely. Environmental harm should be presumed whenever an industry discharges a pollutant into the sewage system that passes through the POTW, causes a violation of the POTW's NPDES permit, or has a toxic effect on the receiving waters.

At a minimum, responses to these circumstances should include administrative orders or administrative fines as well as recovery of any NPDES fines incurred by the City.

4. Effect on the Collection System and WPC Plant

Some violations may have a negative impact on the POTW itself. For example, they may result in significant increases in treatment costs, harm City personnel or equipment, or cause sludge contamination resulting in increased disposal cost. These violations should be met with an order to correct the violation in addition to the recovery of additional costs and expenses to the POTW (e.g. damage to the collection system, tracing a spill back to the source, etc.).

5. Compliance History of the User

A pattern of recurring violations (e.g. "jumping" in and out of compliance), even of different program requirements, may indicate that the user's treatment system is inadequate or that the user has taken a "casual" approach to maintaining compliance. These indications should be a signal that future significant noncompliance may be likely. Accordingly, users exhibiting recurring compliance problems should be dealt with more strongly to ensure consistent compliance is achieved. Compliance history is an important factor in determining which of the range of responses would be appropriate for a particular violation. For example, if the violator has a good compliance history a less severe action should be taken.

6. "Good Faith" of the User

The users "Good Faith" in correcting its noncompliance is a factor in determining which enforcement action to invoke. "Good Faith" may be defined as the user's honest intention to remedy its noncompliance along with actions taken which lend support to this intention. Good Faith is typically demonstrated by cooperation and completion of corrective actions in a timely fashion, although compliance with previous enforcement orders is not necessarily evidence of Good Faith in a current situation.

In order for an enforcement action to be effective, it must be timely. For an action to be timely, the violation must be detected and responded to promptly after its occurrence. Therefore, review of compliance reports for both effluent violations and timeliness should be a high priority at the time of their submission. Generally, industrial user reports should be reviewed and violations acted upon within five days of receipt, and violations observed by field personnel should receive even swifter attention.

No more than 30 days should be allowed to pass between the detection of a violation(s) and the initial enforcement response. For example, Reports not received by the due date should be indicated by an informal warning or NOV within one or two days, whereas actions requiring the involvement of the attorney may require more time for the filing of legal documents.

Abbreviations and Acronyms used in E.R.G.

AO	Administrative Order
Board	Board of Public Works
BMR	Baseline Monitoring Report
Civil	Court action
D	Director of Fort Wayne City Utilities.
EPA	United States Environmental Protection Agency
Fine	Administrative fine
I	Industrial Pretreatment Inspector (Coordinator)
IU	Industrial User
IDEM	Indiana Department of Environmental Management
L	Legal Counsel
NOV	Notice of Violation
NOW	Notice of Warning
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly Owned Treatment Works; the Fort Wayne Water Pollution Control Plant
SCH	Show cause hearing
SPCC	Spill Prevention, Control, and Countermeasure plan
SWQ	Supervisor of Water Quality
Term	Termination of service
TRC	Technical Review Criteria
VTN	Verbal Telephone Notice

Enforcement Response Guide

Unauthorized Discharges (No permit)

Noncompliance	Nature Of Violation	Responses	Personnel
Non-permitted Discharge	IU unaware of requirement; no harm to environment/POTW	VTN, NOV with BMR	SWQ
	IU unaware of requirement; harm to POTW	AO/fine Civil	SWQ D
	Failure to apply continues	Civil Terminate	D D
Un-permitted discharge (renewal)	IU has not submitted BMR within 30 days of due date	NOV AO/fine Civil Terminate	SWQ, D D D D, Board

Discharge Limit Violation

Exceedance of local or Federal Standard (permit limit)	Isolated, not significant	VTN, NOW	SWQ
	Isolated, significant (no harm)	NOV; AO SPCC	SWQ
	Isolated, harm to POTW/environment	SCH Civil	SWQ, D D
	Recurring, no harm to POTW/environment	AO/Fine	SWQ
	Recurring; significant (harm)	AO/Fine SCH Civil Terminate	SWQ SWQ, D D D, Board

Monitoring and Reporting Violations

Reporting violation	Report is improperly signed/certified	VTN, NOV	SWQ
	Report is improperly signed/certified after notice	AO SCH	SWQ SWQ, D
	Late report, not significant	VTN NOV	SWQ SWQ

Monitoring and Reporting Violations (cont.)

Noncompliance	Nature Of Violation	Response	Personnel
Reporting violation	Significant	NOV	SWQ
	Reports consistently late/no reports	AO/Fine SCH Civil	SWQ SWQ,D D
	Failure to report spill/changed discharge (no harm)	NOV	SWQ
	Failure to report spill/changed discharge (harm)	AO/Fine Civil	SWQ D
	Repeated failure to report spills	SCH Terminate	SWQ, D D, Board
Falsification	Deliberate	Criminal	D, A, Board
Failure to monitor correctly	Failure to monitor all pollutants required by permit	NOV	SWQ
	Recurring failure to monitor	AO Civil	SWQ D
Improper sampling	Unintentional	NOV	SWQ
	Intent evident	SCH	SWQ,D
	Recurring	Civil	D
Compliance schedule (AO)	Failure to file required reports not significant	NOV	SWQ
	Failure to file required reports significant	SCH	SWQ,D

Other Permit Violations

Dilution in lieu of treatment	Initial violation	AO	SWQ
	Recurring	SCH Civil	SWQ,D D

Other Permit Violations (cont.)

Noncompliance	Nature Of Violation	Response	Personnel
Failure to mitigate noncompliance or halt production	No harm	NOV	SWQ
Failure to mitigate noncompliance or halt production	Results in harm	AO/Fine Civil	SWQ D
Failure to properly operate pretreatment	No harm	NOV	SWQ
	Results in harm	AO/Fine Civil	D D
Violations detected during site visits			
Entry denial	Entry denied or consent withdrawn	Report	I
		Warrant and return	SWQ,D,A
Illegal discharge	No harm	AO/Fine	SWQ
	Harmful or evidence of intent	Civil	D
Recurring, violation of AO		Term	D, Board
Improper sampling	Unintentional sampling at incorrect location	NOV	SWQ
	Incorrect sample type, no intent	NOV	SWQ
	Incorrect sample technique, no intent	NOV	SWQ
Inadequate Record keeping	Files incomplete or missing, no intent	NOV	SWQ
	Recurring	AO/Fine	SWQ
Failure to report additional monitoring	Inspection finds additional files	NOV	SWQ
	Recurring	AO/Fine	SWQ

Time Frames for Responses

All violations will be identified and documented within five days of receiving compliance information from the Industrial User.

Initial enforcement responses will occur within 15 days of violation detection.

Follow-up actions for continuing or recurring violations will be taken within 60 days of the initial enforcement response. For all continuing violations, the response will include a compliance schedule.

Violations that threaten health, property or environmental quality are considered emergencies and will receive immediate responses such as, issuance of an Administrative Order to halt the discharge or termination of service.

All violations meeting the criteria of significant noncompliance will be addressed with an enforceable order within 30 days of the identification of significant noncompliance, and shall be published on an annual basis.

This Enforcement Response Guide addresses a broad range of violations. It is not intended to cover all types of violations. The responses in this guide are suggested responses.

This guide has been developed for guidance and is not intended to create legal rights or obligations, or to limit the enforcement discretion of the City of Fort Wayne, Indiana.

Glossary of Terms Relevant to Enforcement

Absolve - To excuse; to free from an obligation or the consequences of guilt or liability.

Administrative action (a fine or order) - An enforcement action authorized by the City's legal authority which is taken without the involvement of a court.

Administrative fine - A punitive monetary charge unrelated to actual treatment costs that are assessed by the Control Authority rather than a court.

Administrative Order (AO) - A document which orders the violator to perform a specific act or refrain from an act. For example, the order may require users to attend a show cause meeting, cease and desist discharging, or undertake activities following a compliance schedule.

Admissible evidence - Evidence which can be presented in court.

Affidavit - A sworn statement in writing under oath before an authorized magistrate or officer.

AGREED ORDER - An Administrative Order embodying a legally enforceable agreement between the Control Authority and the noncompliant user designed to restore the user to compliance status.

Approval authority - UEPA. The Approval Authority is responsible for approval and oversight of Control Authority pretreatment programs, including an evaluation of the effectiveness of local enforcement.

Arbitrary or capricious allegation - An assertion that a decision or action taken by the Control Authority was unreasonable or not founded upon sound judgement.

Board of Public Works (Board) - The utilities regulatory body, responsible for approving the Utilities Rules and Regulations and the appeal body for decisions and/or AOs made or issued by the Superintendent regarding industrial users.

Burden of proof - The duty of proving a disputed assertion or charge in court, or in an Administrative Hearing or proceeding.

Cease and Desist Order - An administrative order directing an industrial user to halt illegal or unauthorized discharges.

Chain of custody - A written record of sample possession for all persons who handle (collect, transport, analyze, dispose of) a sample, including names, dates, times, and procedures followed.

Civil litigation - A lawsuit filed in a civil court. If the court rules that the defendant Industrial User violated the law, the court may impose civil penalties, injunctions or other equitable remedies and/or cost recovery.

Civil penalty - A punitive monetary award granted by a court to the Control Authority against a noncompliant Industrial User

Compliance order - An Administrative Order directing a noncompliant industry to achieve or restore compliance by a date specified in the order.

Compliance schedule - A schedule of required activities necessary for an Industrial User to achieve compliance with all pretreatment program requirements.

Consent decree - A court supervised settlement agreement, the violation of which may be considered contempt of court.

Control Authority - The entity directly administering and enforcing pretreatment standards and requirements against Industrial Users. For the purposes of this guide, the Control Authority is the City of Fort Wayne through its approved pretreatment program.

Criminal intent - A state of mind which is a necessary element of some crimes. Criminal intent may be general (intent to perform an act) or specific (intent to break a law).

Criminal negligence - Negligence of such a character, or occurring under such circumstances, as to be punishable as a crime (such as a flagrant and reckless disregard of the safety of others or willful indifference to the injury likely to follow).

Defendant - The party against whom relief or recovery is sought. Usually the industrial user, for the purposes of this guide.

Deposition - a discovery device by which one party addresses verbal questions to the other party or to a witness for the other party. Depositions are conducted under oath outside the courtroom, usually in the office of an attorney. A transcript is made of the deposition that may be used as evidence at trial.

Deterrent value - A threat of reprisal that is sufficient to discourage the Industrial User from future violations.

Director(D) - The Director of Fort Wayne City Utilities or his duly authorized representative.

Discovery - A variety of pretrial devices used by one party to obtain relevant facts and information about the case from the other party, such as depositions and interrogatories.

Enabling legislation - A State law or charter that creates and empowers a Control Authority.

Fees - A schedule of charges imposed to recover treatment or administrative costs (not punitive in nature).

Fine - A punitive monetary charge for a violation of the law. Often used synonymously with "penalty", although the term "fine" generally implies the use of administrative rather than civil procedures.

Forthwith - An Administrative Order directing an industrial user to immediately halt illegal or unauthorized discharges.

Good faith effort or progress - Prompt and vigorous pollution control measures undertaken by the discharger which shows that extraordinary efforts (not a business as usual approach) have been made to achieve compliance.

Inadmissible - Evidence not allowed to be presented in court.

Indictment - A written accusation of criminal conduct by a grand jury.

Indirect discharge (Discharge) - The introduction of pollutants into the POTW from any non-domestic source.

Industrial user (IU, User) - A source of indirect discharge.

Industrial Pretreatment Section (I) - The group of individuals whose primary responsibility is the gathering of data and making contact with IUs that is necessary for the implementation of the city's pretreatment program.

Injunction, injunctive relief - A court order which restrains or compels action by the Industrial User.

Interragatories - A discovery device consisting of written questions submitted by one party to the other party or witness.

Judicial action or case - An enforcement action that involves a court. The action may be either civil or criminal in nature.

Jurisdiction - The extent of authority of a governmental entity's power to make and enforce law.

Legal authority - The source of a Control Authority's jurisdiction and regulatory powers.

Litigation - An enforcement action brought in a judicial forum.

Misdemeanor - A crime punishable by imprisonment of less than one year (depending on State law).

Notice of Violation (NOV) - A Control Authority document notifying an Industrial User that it has violated its wastewater discharge permit requirements.

Notice of Warning (NOW) - a Control Authority document notifying an Industrial User that it has violated its wastewater discharge permit requirements. (Used when a parameter violation is less than the actual reported value multiplied by the appropriate TRC factor.)

National Pollutant Discharge Elimination System (NPDES) - A permit system for the direct discharge of pollutants into U.S. waterways.

Penalty - A monetary or other punitive measure, usually associated with a court action. For purposes of this guide, the term is used synonymously with fine.

Plaintiff - A person or organization seeking remedy from a court. For purposes of this guide, the plaintiff is the Control Authority, the City of Fort Wayne.

Plea bargain - An agreement between a Prosecuting Attorney and a criminal defendant whereby the defendant pleads guilty to a lesser charge and/or a reduction of sentence in exchange for cooperation in investigating or prosecuting the crime.

Priority pollutants - A list of 126 pollutants established by EPA and considered hazardous to the environment and to humans.

Publicly Owned Treatment Works (POTW) - A system of conveyances and treatment for sewage and industrial wastes. Also refers to the government officials responsible for operation and maintenance of the collection system or treatment plant and the administration of the pretreatment program.

Reportable noncompliance - Criteria for identifying when a Control Authority should be reported in the NPDES Quarterly Noncompliance Report for failure to implement its approved pretreatment program

Search warrant - A document issued by a magistrate or judge which authorizes government entry into private premises to either observe compliance with applicable laws or collect evidence of noncompliance.

Self-monitoring - Sampling and analysis of wastewater performed by the Industrial User.

Show cause order - An Administrative Order directing a noncompliant user to appear before the Control Authority, explain its noncompliance, and show cause why more severe enforcement actions against the user should not go forward.

Significant noncompliance - shall have the definition as set forth in 40 CFR 403.8(f)(2)(vii) latest revision.

Standard of strict liability - Liability which attaches without regard to the user's "negligence" or "intent" to violate. Noncompliant Industrial Users will be found liable for pretreatment violations if the Control Authority proves that a violation occurred.

Supervisor of Water Quality (SWQ) - The Supervisor of the Industrial Pretreatment Section, responsible for reviewing data gathered on Industrial Users and determining what initial responses are required.

Surcharge - The charge for treating excessive pollutant loadings.

Technical Review Criteria (TRC) - Factor used to determine degree of noncompliance. TRC = 1.4 for oil and grease, B.O.D., and T.S.S. TRC = 1.2 for all other parameters except pH.

Termination of service - A physical blockage of the sewer connection to a noncompliant user or issuance of a formal notice of termination to the Industrial User.

Testimony - A solemn declaration made by a witness under oath in response to interrogation by a lawyer or public official which is used as evidence.

ENFORCEMENT RESPONSE REVISED 06/02/03 FLM

EXHIBIT C-3

CHAPTER 51: SEWERS

Administration and Enforcement

Editor's note: *Ord. G-17-91 and amending Ord. G-25-91 and Ord. G-35-92 made substantive changes to the sections of this chapter where they are recorded in the section history. These ordinances are not included in the section history where the section was only renumbered using the enumeration of the 1974 Code, which is obsolete in this edition of the code of ordinances.*

GENERAL PROVISIONS

§ 51.001 DEFINITIONS.

Unless the context specifically indicates otherwise, the meanings of the following terms as used in this chapter and as used in the Rules and Regulations adopted by the Board of Public Works implementing the provisions of this chapter for the Fort Wayne sewer system are as set out below respectively:

ACT. The Federal Water Pollution Control Act, also known as "The Clean Water Act," as amended, 33 U.S.C. 466, as referred to at IC 13-18-13.

APPLICABLE PRETREATMENT STANDARDS. Any pretreatment limit or prohibitive standard (federal, state and/or local) contained in the ordinance and considered to be the more restrictive with which non-domestic users shall be required to comply.

BIOCHEMICAL OXYGEN DEMAND (BOD). The quantity of dissolved oxygen, in milligrams per liter, required during the stabilization of the decomposable organic matter by aerobic biochemical action of sewage, sewage effluent, polluted waters or industrial wastes under standard laboratory procedures for five days at 20° centigrade. The laboratory determinations shall be made in accordance with procedures set forth in 40 CFR 136.

BUILDING (OR HOUSE) DRAIN. That part of the lowest piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer.

(1) ***COMBINED.*** A building drain which conveys both sewage and storm water or other drainage.

(2) ***SANITARY.*** A building drain which conveys sewage only.

(3) ***STORM.*** A building drain which conveys storm water or other drainage, but not sewage.

BUILDING (OR HOUSE) DRAIN CONNECTION. The point where the building (or house) sewer is connected to the building drain at a location approximately three feet outside the foundation wall of the building.

BUILDING (OR HOUSE) SEWER. That part of the drainage system which extends from the end of the building drain and conveys its discharge to a public sewer, private sewer, individual sewage disposal system or other point of disposal.

(1) ***COMBINED.*** A building sewer which conveys both sewage and storm water or other drainage.

(2) ***SANITARY.*** A building sewer which conveys sewage only.

(3) ***STORM.*** A building sewer which conveys storm water or other drainage, but not sewage.

BUILDING (OR HOUSE) SEWER CONNECTION. The point where the building sewer is connected to the public sewer. This connection to the public sewer may be accomplished as follows:

(1) Where a tap-in connection is employed, the point of connection shall be where the end of the building sewer meets the inside face of the sewage system and the tapping "saddle and/or joint" shall be considered part of the building sewer.

(2) Where fittings (T's or Y's) are employed the connection shall be where the end of the first pipe meets the end of the fitting and the said T or Y fitting shall be considered a part of the building sewer.

CATEGORICAL INDUSTRY. An industry whose effluent is regulated by 40 CFR 403.6.

CATEGORICAL PRETREATMENT STANDARD OR NATIONAL STANDARD. Any regulation containing pollutant discharge limits promulgated by the U.S. EPA in accordance with Section 307(b) and (c) of the Act (33 U.S.C. 1317) which apply to a specific category of industrial users which appear in 40 CFR Chapter I, Subchapter N Part 405-471.

CHEMICAL OXYGEN DEMAND (COD). A measure of oxygen equivalent to that portion of the organic matter in a sample of sewage, sewage effluent, polluted waters or industrial wastes that is susceptible to oxidation by a strong chemical oxidant. The laboratory determinations shall be made in accordance with procedures set forth in 40 CFR 136.

CITY. The City of Fort Wayne, Indiana.

CLASSIFICATION OF USERS.

(1) ***RESIDENTIAL USERS.*** Includes any user of the city's treatment works whose lot, parcel or real estate or building is used for domestic dwelling purposes only.

(2) ***COMMERCIAL USER.*** Includes all retail stores, restaurants, office buildings, laundries and other private business and service establishments, including those identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget Division I - Services.

(3) ***INDUSTRIAL USER.*** Includes any user of the city's treatment works which is identified in the Standard Industrial Classification manual, 1972, Office of Management and Budget, as amended and supplemented, under the following divisions; Division A-Agriculture, Forestry and Fishing; Division B-Mining; Division D-Manufacturing; Division E-Transportation, Communications, Electric, Gas and Sanitary. ***INDUSTRIAL USERS*** shall be classified as follows:

(a) ***NON-DISCHARGE USERS.*** Includes all industries which discharge sanitary sewage only, and industrial users whose discharge is limited to non-contact cooling water, or boiler blowdown water.

(b) ***NON-MAJOR INDUSTRIAL USER.*** Includes all industries which discharge process water but do not meet the criteria of ***SIGNIFICANT INDUSTRIAL USERS.***

(c) ***SIGNIFICANT INDUSTRIAL USERS (SIU).*** Includes all industries comprised of categorical and non-categorical industries and shall further be defined as set out at 40 CFR 403.3(t).

(4) ***INSTITUTIONAL USER.*** Includes social, charitable, religious and educational activities such as schools, churches, hospitals, nursing homes, penal institutions and similar institutional users.

(5) ***GOVERNMENTAL USER.*** Includes legislative, judicial, administrative and regulatory activities of federal, state and local governments.

COMPLIANCE SAMPLE. A sample taken of a user's effluent approximately 30 days after a violation of this chapter, the user's permit or the federal pretreatment standards and regulations has been discovered or reported. The user shall be billed for any compliance sample taken.

COMPOSITE SAMPLE. The sample resulting from the combination of discrete wastewater samples taken at selected intervals while the discharge rate is at or above normal based on an increment of either flow or time. Time intervals between discrete samples not to exceed two hours. The total duration of collection shall not exceed 24 hours.

DWELLING. A building, or portion thereof, under one roof used primarily as the abode of one or more persons, but not including hotels, motels, lodging or boarding houses or tourist homes.

EFFLUENT. The water, together with any wastes that may be present, flowing out of a drain, sewer receptacle or outlet.

EMERGENCY. An unforeseen circumstance or combination of circumstances that may cause an eminent endangerment to the health and/or welfare of persons, the environment, or which may interfere with the operation of the sewer collection system or the Water Pollution Control Plant.

FOLLOW-UP SAMPLE. A sample taken of a user's effluent at the city's discretion from a user receiving scheduled sampling, at times other than those regularly scheduled. A follow-up sample shall be done at no cost to the user.

GARBAGE. Any solid wastes from the preparation, cooking or dispensing of food or from the handling, storage or sale of produce.

GRAB SAMPLE. An individual discrete effluent sample collected over a period of time not to exceed 15 minutes.

GROUND GARBAGE. Garbage that is shredded to such a degree that all particles will be carried freely in suspension under the conditions normally prevailing in public sewers, with no particle being greater than one-half inch in any dimension.

INDIRECT DISCHARGE. The introduction of pollutants into the sewer system from any nondomestic source regulated under Section 307(b), (c) or (d) of the Act.

INDUSTRIAL WASTES. Any solid, liquid or gaseous substance or form of energy discharged, permitted to flow or escape, or transported from an industrial, manufacturing, commercial or business operation or process or from the development, recovery or processing of any natural resource carried on by any person.

INFLUENT. The water, together with any wastes that may be present, flowing into a drain, sewer, receptacle or outlet.

NORMAL DOMESTIC SEWAGE. Sewage having an average daily suspended solids concentration of not more than 300 milligrams per liter, an average daily BOD concentration of not more than 300 milligrams per liter, an average daily COD concentration of not more than 600 milligrams per liter, an average daily phosphorus concentration of not more than 10 milligrams per liter, and an average daily ammonia concentration of not more than 25 milligrams.

NPDES PERMIT. The National Pollutant Discharge Elimination System Permit issued by the Indiana Department of Environmental Management for discharges of waste waters to navigable waters of the United States pursuant to Section 402 of 33 U.S.C. 466.

OPERATION AND MAINTENANCE COSTS. All costs direct and indirect, other than debt services including replacement costs as defined herein, necessary to insure adequate wastewater treatment on a continuing basis conforming with federal, state or local requirements and to insure longterm facilities management.

OUTLET. Any outlet, natural or constructed, which is the point of final discharge of sewage or of treatment plant effluent into any watercourse, pond, ditch, lake or other body of surface or ground water.

PERSON. Any individual, owner, discharger, lessee, occupant, firm, partnership, company, municipal or private corporation, commercial establishment, association, society, institution, enterprise, governmental agency or other legal unit or entity.

pH. An expression of the intensity of the base or acidic conditions of a liquid.

POLLUTANTS.

(1) *COMPATIBLE POLLUTANTS.* Waste containing biochemical oxygen demand, chemical oxygen demand, suspended solids, phosphorus, pH and fecal coliform bacteria and ammonia (NH_3).

(2) *INCOMPATIBLE POLLUTANTS.* Wastes with any pollutant that is not a compatible pollutant which is regulated by the NPDES permit or that would cause damage to the sewage system and/or treatment plant.

RANDOM SAMPLE. A sample taken at no charge to the user, at the city's discretion of effluent produced by any user.

RECEIVING STREAM. The watercourse, stream or body of water receiving the waters finally discharged from the sewage treatment plant.

REPLACEMENT COSTS. That cost, stated in current monetary values, as an operating cost which represents and measures the expenditures required to replace equipment, accessories or appurtenances of the property in order to maintain capacity and performance during the useful life of the property of the Water Pollution Control Utility.

REPLACEMENT FUND. A fund maintained to provide resources to pay for replacement expenditures annually as required to maintain the capacity and performance of the property of the sewage works.

SANITARY SEWAGE. Sewage discharged from the sanitary conveniences of dwellings, apartment houses, condominiums, motels, hotels, lodging or boarding houses, office buildings, factories or institutions, and free from storm water, surface water, groundwater and industrial wastes.

SCHEDULED SAMPLE. Routine sampling of a user's effluent, usually twice a year for a commercial user and quarterly for industrial users.

SERVICE CHARGE. A charge levied on a user of the treatment works which includes the user charge, a charge for local capital costs, and may include other charges for current services.

SEWAGE. The water-carried wastes from residences, business buildings, institutions and industrial establishments, singularly or in any combination, together with such ground, surface and storm waters as may be present.

SEWAGE TREATMENT PLANT or ***WATER POLLUTION CONTROL PLANT (WPC PLANT).*** The arrangement of devices, structures and equipment used for treating and disposing of sewage and sludge.

SEWAGE WORKS or ***WATER POLLUTION CONTROL UTILITY.*** All facilities and systems for collecting, transporting, pumping, treating, disposing of sewage and sludge, including the sewage treatment plant and the sanitary, storm and combination sewer collection systems whether or not in active use.

SEWER. A pipe or conduit for carrying sewage and other waste liquids as differentiated below:

(1) ***COMBINED OR COMBINATION SEWER.*** A sewer which carries storm, surface and groundwater runoff as well as sewage.

(2) ***PUBLIC SEWER.*** A sewer to the use of which all owners of abutting property have equal rights and is controlled and maintained by the city or other public authority.

(3) ***SANITARY SEWER.*** A sewer which carries domestic and unpolluted industrial sanitary sewage and to which storm, surface, groundwaters and unpolluted industrial waste waters are not intentionally admitted.

(4) ***STORM SEWER.*** A sewer which carries storm, surface and groundwater drainage but excludes sanitary sewage.

SEWER ENGINEER. The Chief Sewer Engineer of the city or his duly authorized representative; the term is synonymous with the term "Water Pollution Control Engineer."

SEWER SYSTEM. The network of sewers and appurtenances used for collecting, transporting and pumping sewage to the Sewage Treatment Plant.

SHALL. Means mandatory; "may" means permissible.

SLUGLOAD. Any discharge at a flow rate or concentration which could cause a violation of the prohibited discharge limits set in the Rules and Regulations Section 6.

STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE. A classification pursuant to the Standard Industrial Classification Manual used by the U.S. Office of Management & Budget.

STANDARD METHODS. The examination and analytical procedures set forth in the most recent edition of "Standard Methods for the Examination of Water and Wastewater," published jointly by the American Water Works Association and the Water Pollution Control Federation, a copy of which is on file in the Office of the Superintendent.

STRENGTH-OF-WASTE SURCHARGE. The additional charges for sewage service collected from users discharging sewage into the system having a strength measurement in excess of the limits imposed by the provisions of this chapter.

SUPERINTENDENT. The Superintendent of the Sewage Treatment Plant (Water Pollution Control Plant) of the city, or his duly authorized representative.

SUSPENDED SOLIDS. Solids which either float on the surface of or are in suspension in water, sewage or other liquid and which are removable by laboratory filtration. Their concentration is expressed in milligrams per liter. Quantitative determinations are made in accordance with procedures set forth in 40 CFR 136.

TOXIC POLLUTANT. One of 126 pollutants, or combinations of those pollutants, listed as toxic in regulations promulgated by the EPA under the provisions of Section 307 (33 USC 1317) of the Act.

USER CHARGE. A charge imposed on users of a treatment works to defray the cost of operation, maintenance and replacement.

USER REQUESTED SAMPLE. Any effluent sampled taken by the city at the request of the user, the cost for which shall be billed to the user.

WASTE SURVEILLANCE CHARGE. A monthly charge collected from users, qualifying as industrial or commercial class users, to defray the cost of evaluating that user's waste by metering, sampling, laboratory analysis and/or other methods deemed necessary. Said charges are set forth in § 51.065 et seq. and are subject to review annually as provided in § 51.079.

WATERCOURSE. A channel in which the flow of water occurs either continuously or intermittently.
('74 Code, § 24-1) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.002 DAMAGE TO CITY PROPERTY PROHIBITED.

It shall be unlawful for any unauthorized person to maliciously, willfully or negligently break, damage, destroy, remove, deface or tamper with any structure, appurtenance or equipment which is part of the city sewage system, the city's Water Pollution Control Plant or property of others assigned to the city for operation and maintenance and shall be liable for damage.
('74 Code, § 24-8) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.003 DILUTION.

It shall be unlawful for any person to increase the use of potable water or process water in any way, or mix separate waste streams for the purpose of diluting a discharge as a partial or complete substitute for adequate treatment to achieve compliance with pretreatment standards or requirements. The city may impose discharge limitations on any persons using dilution to meet applicable pretreatment standards or discharge permit requirements. The city may also impose discharge limitations in other circumstances deemed appropriate by the Board of Public Works.
('74 Code, § 24-9) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.004 ACCIDENTAL DISCHARGES.

(A) Each person shall provide protection from accidental discharge of prohibited or regulated materials or substances to sewers of the city. Where necessary, procedures and facilities to prevent the accidental discharge of prohibited materials shall be provided and maintained at said discharger's expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the Superintendent for review, and be approved by the city before construction of the facility. Review and approval of plans and operating procedures by the city shall not relieve the discharger from the responsibility to modify its facility as necessary to meet applicable federal, state and local requirements.

(B) All responsible persons shall notify the Superintendent of the Water Pollution Control Plant, or his representative, immediately when a "slug load" or accidental discharge occurs. A written report shall be submitted within five days of the incident. The notification must include the location of the discharge, date and time of occurrence, type of waste, concentration and volume and corrective actions taken. Any person who discharges a "slug load" of prohibited materials will be liable for any expense, including loss or damage to the city's sewer system and treatment facilities in addition to the amount of any fines imposed upon the city under state or federal law.

(C) Signs must be permanently posted in conspicuous places on the dischargers' premises, advising employees whom to call in the event of an accidental discharge. Employers shall adequately instruct all employees who may cause or discover such discharges of the emergency notification procedures.
('74 Code, § 24-10) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

CONNECTIONS AND EXTENSIONS

§ 51.015 REQUIREMENTS FOR CONNECTION TO PUBLIC SEWERS.

City Utilities shall have the authority to require an owner of real property to disconnect any downspouts, yard drains or other drains which carry the runoff of natural precipitation from a building sewer which drains into a sanitary sewer, or in areas served by combined sewers where City Utilities determines the additional load placed on the system has been found

to be detrimental to properties in that area. Property owners shall have thirty (30) days after notice thereof to comply with any such requirement.
('74 Code, § 24-3) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97) Penalty, see § 51.999

§ 51.016 EXTENSIONS OF SEWERS OUTSIDE CORPORATE LIMITS.

The installation, construction, or extension of sanitary sewers by private developers or by the city outside the corporate limits of the city and the con-nection of said sanitary sewers into the city's sewage system from, by, to, or for properties located outside such limits is prohibited, except with the approval of the Board of Public Works by duly enacted resolution, provided that a resolution ratifying and agreement and/or contract for such construction and connection shall be deemed to constitute such approval.
('74 Code, § 24-4) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.017 CONNECTIONS TO SEWER SYSTEM BY CERTAIN PROPERTIES OUTSIDE CORPORATE LIMITS.

Notwithstanding the provisions of § 51.016, the Board of Public Works shall have the authority to permit a property located outside the corporate limits of the city to connect to an existing sanitary sewer which is part of the city's sewer system, when the property abuts, adjoins or is immediately contiguous to the street, alley or easement in which such sewer is located and provided the property owner or occupant has complied with the requirements prescribed by § 51.015 of this chapter.
('74 Code, § 24-5) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

COMMERCIAL AND INDUSTRIAL WASTES AND DISCHARGES

§ 51.030 PRIOR APPROVAL FOR CERTAIN WASTES.

(A) Review and acceptance by the Superintendent shall be obtained prior to the discharge into the sewage works sewers by any persons having sewage wastes which contain:

(1) Either a BOD content greater than 300 milligrams per liter or a COD greater than 600 milligrams per liter.

(2) A suspended solids content greater than 300 milligrams per liter.

(3) A phosphorus content greater than 10 milligrams per liter.

(4) An ammonia content greater than 25 milligrams per liter.

(5) Other contaminants which either from their constituents or quantities will:

(a) Interfere with the operation of any portion of the sewage works;

(b) Pass through the treatment works or otherwise be incompatible with such works;

(c) Prevent the reclamation and/or recycling of municipal or industrial wastewaters and sludges.

(B) However, nothing in this section or elsewhere in this chapter shall be read to allow the user to discharge pollutants which shall cause interference or pass through and/or to absolve the user from liability in the occurrence of a discharge which causes such interference or pass through.
('74 Code, § 24-11) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.031 PRETREATMENT FACILITIES; APPROVAL OF PROPOSED PLANS, OPERATION.

(A) General. When, after making such a review, the Superintendent concludes that, before the person discharges waste into the public sewers, the person must modify or eliminate those constituents which would be harmful to the structures, processes, or operations of any portion of the sewage works or injurious to the health of the general public, then that person shall either modify the wastes at the point of origin or shall provide and operate, at said person's expense, such treatment and processing facilities as may be deemed necessary to render said person's waste acceptable for admission to the public sewers. ('74 Code, § 24-12)

(B) Prior approval. Plans, specifications and any other pertinent information relating to proposed treatment or processing facilities shall be submitted to the Superintendent for examination and approval. No construction of such facilities shall begin until the Superintendent has given written approval. Such approval shall not exempt the person from the obligation to make further reasonable adaptations of such facilities when such adaptations prove necessary to secure the results of acceptable waste concentrations desired. The approval of proposed facilities and/or equipment by the Superintendent does not in any way guarantee that such facilities and/or equipment will function in the manner described by the person's constructor or the manufacturer of said facilities and equipment, nor shall such approval relieve any person of the responsibility of enlarging or otherwise modifying such facilities to accomplish the intended purposes. ('74 Code, § 24-13)

(C) Operation. Where pretreatment facilities are provided pursuant to the Superintendent's approval, they shall be maintained continuously in satisfactory and effective operating condition at the person's expense and shall be subject to periodic and random inspection and sampling by the city. The person responsible for such facilities shall maintain suitable operating records which shall be open to inspection by the city, and shall submit to the Superintendent such monthly summary reports of the character of the influent and effluent of the facilities as the Superintendent may require. All records and reports shall be retained for a minimum of three years. All industry whether defined as categorical or noncategorical industry by state and federal regulations shall comply with all requirements of 40 CFR 403.12. ('74 Code, § 24-14)

(D) Pursuant to 40 CFR 403.12(o), the city may, at its discretion, require that records be kept for a longer period in the case of unresolved litigation or when requested by the Approval Authority.

(E) All industries whether defined as categorical or noncategorical industry by state and federal regulation shall comply with all requirements of 40 CFR 403.12, including, when applicable, Baseline Monitoring Reports (BMRs), 90 Day Compliance Reports, and Periodic Compliance Reports.
(Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91); Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.032 FEDERAL PRETREATMENT STANDARDS.

(A) As part of this chapter the city shall enforce all federal pretreatment standards including but not limited to categorical pretreatment standards upon persons within its service area or within the service area of any contract customers.

(B) Categorical industrial users must comply with all applicable National Categorical Pretreatment Standards found in 40 CFR Chapter 1, Subchapter N, Parts 405-471. These standards are hereby incorporated into this chapter.
('74 Code, § 24-15) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.033 PROHIBITED DISCHARGES AND LIMITATIONS.

Except as hereinbefore provided, no person shall discharge or cause or permit to be discharged into the public sewer any of the following described substances, wastes or waters:

(A) Any liquid or vapor having a temperature greater than 140° F. (60° C), or any wastewater which will cause the WPC Plant's influent to exceed 104° F. (40° C).

(B) Any waters or wastes from industrial sources containing more than 100 milligrams per liter of total oil and grease (TOG). Acceptable limits for animal-vegetable based fats, oils and grease shall be determined by the Board of Public Works and set out in the Sewer Utility Rules and Regulations. Said maximum limits shall be calculated and set at an amount shown not to cause interference or obstruction in the collection system and/or sewer works, and shall be reevaluated and adjusted as necessary to protect the integrity of the sewer utility.

(C) Any gasoline, benzene, naphtha, fuel oil, mineral oil or any other flammable or explosive solid, liquid or gas.

(D) Any noxious or malodorous gas or substance which either alone or by interaction with other wastes, is capable of creating a public nuisance or hazard to life or of preventing entry into the sewers of their maintenance or repair.

(E) Any garbage that has not been properly pretreated and reduced as provided for in the definition of ground garbage in § 51.001.

(F) Any ashes, cinders, sand, mud, straw, shavings, wood, metal, glass, rags, feathers, tar, plastics, paunch manure, butchers' offal or any other solid or viscous substances capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewer system or the sewage treatment plant.

(G) Any waters or wastes having a pH less than 6.0 or greater than 10.0 or having any other corrosive property capable of causing damage or posing hazards to the structures, equipment or personnel of the sewage works.

(H) Any waters or wastes containing toxic substances, as defined under Section 307 (b) and (c) of the Clean Water Act in sufficient quantity to interfere with the biological process of the sewage treatment plant or that will pass through the plant into the receiving stream in amounts exceeding the standards set forth by federal, interstate, or other competent authority having jurisdiction, or will prevent the disposal of the sludges by the plant in accordance with Section 405 of said Act.

(I) Any toxic radioactive isotopes, without a special permit. The radioactive isotopes of I 131 and P 32 used in hospitals are not prohibited, if they are properly diluted before being discharged into the sewer system, as further defined in the general rules and regulations.

(J) Any waters or wastes that for a duration of 15 minutes or more have a concentration more than five times the average concentration of BOD or suspended solids of the user's sewage discharged during a 24 hour period of normal operation.

(K) Any waters or wastes containing suspended solids of such character and quantity that unusual provisions, attention and expense would be required to handle such materials at the sewage treatment plant, its pumping stations or other facilities.

(L) Any waters or wastes containing incompatible pollutants as herein described.

(M) Any waters or wastes containing any toxic substances in quantities that are sufficient to interfere with the biochemical processes of the sewage treatment plant, that will pass through the plant into the receiving waters or accumulate in the sludges in an amount exceeding the limitations, set forth by any federal, state, interstate or local limitations whichever is more stringent. Specifically excluded are any waters or wastes containing toxic ions, compounds, or substances in concentrations or amounts exceeding the limitations set forth by the Board of Public Works and published in the general rules and regulations.

(N) Any bulk waste, either industrial or domestic, without prior written approval of the Superintendent.

(O) Any substances with objectional color not removed by the treatment process, such as, but not limited to dye waste and vegetable tanning solutions.

(P) The city reserves the right to refuse, deny or revoke the connection of any user in the event the sewer service requirements of the user, in the judgment of the Superintendent could or would impose an excessive burden on the sewage works or in the event the user is or has been in repeated violation of this chapter. The city further reserves the right in the event of any emergency, to restrict the allowable discharge received from any or all large users of the sewer system during the time of such emergency.

(Q) Pollutants which create a fire or explosion hazard in the city's treatment works or sewage system, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140° Fahrenheit, or 60° centigrade using test methods specified in 40 CFR 261.21.
('74 Code, § 24-16) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92); Am. Ord. G-17-94, passed 8-23-94; Am. Ord. (Ord. G-07-97, passed 7-9-97) Penalty, see § 51.999

§ 51.034 RESPONSIBILITY FOR OBSTRUCTION OR DAMAGE TO SEWERS.

If a public sewer becomes obstructed or damaged because any of the aforementioned substances were improperly discharged, the person or persons

responsible for such discharges shall reimburse the city for the expenses incurred by the city for cleaning out, repairing, rebuilding the sewer or for any litigations or damage claims resulting therefrom, including legal fees and court costs. For multiple offenders, each responsible person shall be assessed a proportionate percentage of the damage.
('74 Code, § 24-17) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.035 SUBMISSION OF DATA ON INDUSTRIAL WASTE.

(A) The following conditions are required for all SIU permits, and also may be incorporated into other permits at the discretion of the Superintendent:

(1) A statement of duration;

(2) A statement of non-transferability;

(3) Applicable federal, state and local effluent limits;

(4) Self-monitoring, sampling, reporting, notification, and recordkeeping requirements; and

(5) A statement of applicable civil and criminal penalties, pursuant to 40 CFR 403.8(f) (1)-(iii).

(B) Any person who discharges industrial waste into the city's sewer system either directly or indirectly, shall forthwith fill out and file, with the Superintendent, an industrial waste questionnaire, baseline monitoring report or permit application, the form for which will be furnished by the city, in which shall be set forth the quantity and characteristics of the wastes discharged into the city's sewer system. Any owner desiring to establish a new connection to the public sewer or to establish a new account with sewage works for the purpose of discharging industrial or commercial waste shall 90 days prior to discharge first fill out and file with the Superintendent such a questionnaire, baseline monitoring report or permit application, which shall contain the actual or predicted data relating to the quantity and characteristics of the wastes to be discharged. After review of the submitted documents and permit application, the Superintendent shall issue an industrial wastewater discharge permit which shall contain conditions and requirements with which the person shall comply. All rules and regulations of the sewer utility must also be followed by a permitted user.

(C) Any person who adds, changes, modifies or proposes to change manufacturing or pretreatment processes shall first notify the Water Pollution Control Plant, in writing, and submit a new or revised Baseline Monitoring Report for review by the Superintendent.

(D) Industrial users must provide prior notification to the Superintendent of the WPC Plant before any changes are made to their effluent.

(E) Any person who knowingly makes any false statement, representation or certification in any application, report or other document required by this chapter or other applicable regulations shall, upon conviction, be punished by the imposition of a criminal penalty as required by local and/or state statutes.

(F) When special circumstances render it an unreasonable burden to comply with the time schedule determined by the sewage works for the correction of any industrial waste discharge problem, an extension of time, not to exceed 90 days, may be granted by the Superintendent upon presentation in writing of an application for such relief.
('74 Code, § 24-18) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97) Penalty, see § 51.999

§ 51.036 CONFIDENTIAL INFORMATION.

Information and data furnished to the city by any person shall be made available to the public or other governmental agency without restriction unless the person specifically requests and is able to demonstrate in accordance with 40 CFR 2.203 and 330 IAC 5-1.5-8 that the release of such information would divulge information and/or methods of production entitled to protection as trade secrets or proprietary information of said person. The above limitation to access has no application to the USEPA, which shall be entitled to immediate and unlimited access to all information collected by the city under its Pretreatment Program. Further, under no circumstances may the volume or the components of the discharge be considered confidential. All requests, by the user, for confidentiality of information shall be made in

accordance to and governed by the provisions of 330 IAC 5 and 40 CFR 2.
('74 Code, § 24-19) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.037 CONTROL MANHOLES.

Any person who discharges or may discharge industrial wastes into a public sewer via any means such as floor drains, sinks, catch basins, and the like, shall be required by the Superintendent to construct and maintain, at his own expense, one or more control manholes, at a specified location or locations, to facilitate the observation, measurement and sampling of owner's waste. Such manholes shall be constructed in accordance with the standards and specifications of the city. The Superintendent may also require the person to install and maintain in any such manhole, at said person's expense, an approved volume-measuring device. Plans and/or shop drawings for the installation of control manholes and related equipment shall be approved by the Superintendent before any construction is begun.
('74 Code, § 24-20) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.038 GREASE AND SAND TRAPS.

Whenever the Superintendent determines that interceptors or traps are needed to protect the city's sewer collection system or the city's treatment plant from grease, oil, sand or similar substances occurring in any person's sewage and so notifies said person, then such traps shall be promptly installed by said person, at said person's expense and shall be so maintained by that person that none of such substances can be discharged or carried over into the public sewers. All traps or interceptors shall meet the city's standards as to construction, location and installation.
('74 Code, § 24-21) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.039 INSPECTIONS; WASTE SAMPLING.

(A) Any person shall be subject to periodic and random inspections by the city for the purpose of determining compliance with permit limitations, solvent management plans or spill prevention plans, identifying dilution streams or to categorize regulated processes. These inspections may consist of monitoring waste streams, inspection of the premises, inspection and/or copying of production records, pretreatment operating records and other records or data deemed necessary by the inspector for the purposes stated above.

(B) The installation, operation and maintenance of the sampling facilities shall be the responsibility of the person discharging the wastes and shall be subject to the approval of the Superintendent. Access to the sampling facilities shall be granted, at all times, to the Superintendent.

(C) Where any person's operations have security measures in force which require proper identification and clearance before entry onto said person's property is granted, such person shall make the necessary arrangements with their security personnel that upon showing of proper identification personnel from the city shall be permitted to enter, without delay, for the purpose of observing or monitoring of wastes being discharged at a given point or points or that person shall install suitable control manholes outside of the security area or areas, which at all times will be immediately available to city personnel.
('74 Code, § 24-22) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.040 WASTE ANALYSIS PROCEDURES AND CHARGES.

Laboratory procedures used in the examination of industrial wastes shall be those set forth in Code of Federal Regulations 40 CFR 136 or approved EPA methods.

(A) *Charges to users.* Alternate methods for certain analyses of commercial, industrial or institutional establishments may be used subject to mutual agreement between the Superintendent and the user. All such analyses shall be binding in determining strength-of-waste surcharges and other matters dependent upon the character and concentration of wastes. When surveillance sampling is conducted by the city, a split shall be made available for analysis by user upon request. In the event of a dispute between the Superintendent and the user as to the toxic nature or other particulars of the sample taken and analyzed by the city, the dispute shall be resolved through an appeals process consistent with approved USEPA or IDEM guidance documents and methodology, the specific procedures for which shall be set out in the rules and regulations of the WPC Utility. Analyses made by the city at the request of the user shall be charged to the user according to the sewage works' standard work order billing procedure.

(B) *Charges to governmental agencies.* Analyses performed by the Water Pollution Control Plant Laboratory for any governmental agency, or political subdivision of a city, county or state shall be billed to such agency or subdivision for direct labor and expenses according to the sewage works' standard work order billing procedure. Analyses performed for other agencies shall not have priority over the regular Water Pollution Control Plant analyses unless in the judgment of the Superintendent the urgency of the analyses warrants such priority.

(C) *Charges of outside services.* Analyses performed by the Water Pollution Control Plan Laboratory for any person shall be billed at the rate established by the Water Pollution Control Plan Laboratory for such analyses.

(D) *Charges collected.* All waste analysis charges collected under divisions (A) through (B) above shall be recorded as credits to the operating costs of the Water Pollution Control Plant and a quarterly accounting thereof shall be forwarded to the Superintendent. All such charges are to be used to defray the operation and maintenance expenses incurred by the Water Pollution Control Plant in performing said analyses.
('74 Code, § 24-23) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.041 USE OF REPRESENTATIVE ANALYSIS.

Until an adequate analysis of a representative sample of user's wastes has been obtained, the city may, for the purpose of this chapter, make a determination of the character and concentration of the wastes by using data based on analysis of similar processes or data for this type of business that are available from the United States Environmental Protection Agency or from industry-recognized authoritative sources. This method, if selected by the city, shall continue at the city's pleasure or until an adequate analysis has been made.
('74 Code, § 24-24) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

PRIVATE SEWAGE DISPOSAL

This subchapter (§§ 51.050 through 51.059) applies to matters under the jurisdiction of the State and Allen Country Board of Health.

§ 51.050 DEFINITIONS.

(A) The words and phrases used in this subchapter (§§ 51.050 through 51.059) are herein defined, and for the purpose of this subchapter only, shall be construed as follows, except when otherwise expressly provided.

(1) ***STATE DEFINITIONS.*** All definitions set forth in 410 IAC 6-8.1, Bulletin SE-11(1986) and Bulletin SE-13 (1988), as amended from time to time, from the Indiana State Department of Health are hereby incorporated by reference.

(2) ***BOARD.*** The Fort Wayne-Allen County Board of Public Health, Fort Wayne, Allen County, Indiana.

(3) ***BUILDING.*** A structure having a roof supported by columns or walls built or used for the enclosure, shelter, protection or occupancy or persons, fixtures or personal property, and from which there emanates any sewage.

(4) ***COMMERCIAL.*** Any building which is not a one or two family dwelling.

(5) ***DEPARTMENT.*** The Fort Wayne-Allen County Department of Public Health, Fort Wayne, Allen County, Indiana, and/or its employees.

(6) ***ENVIRONMENTAL HEALTH SPECIALIST.*** An individual as defined in IC 25-32-1-2(b).

(7) ***HEALTH COMMISSIONER.*** The Director of Public Health for the Fort Wayne-Allen County Department of Public Health for Fort Wayne, Allen County, Indiana, (designated as "Health Officer" in the state rules and regulations) and/or his/her authorized representative.

(8) ***INSTALLER.*** Any person who constructs, installs, replaces, alters, modifies or repairs any residential or commercial sewage disposal system subject to the provisions of this chapter, other than one which serves his/her/its building. In the event that the person is any association of two or more people, then said association shall designate one individual who shall be designated as the installer and responsible for compliance with all provisions hereunder.

(9) ***PERMIT.*** A certificate of a size and style approved by the Health Commissioner.

(10) ***PERMITTEE.*** The person who is the owner of the real estate, his/her/its authorized representative, who is responsible for the application of a construction permit and/or operating permit and who shall be responsible for the acceptance of notices at the address listed on the permit applications.

(11) ***PUBLIC SEWER.*** A sewer to the use of which all owners of abutting property have equal rights and is controlled and maintained by the city or other public authority.

(12) ***RESIDENTIAL.*** A building used as a one or two-family dwelling.

(13) ***SEWAGE.*** The water-carried wastes from residences, business buildings, institutions and industrial establishments, singularly or in any combination, together with such ground, surface and storm waters as may be present.

(14) ***SOILS SCIENTIST.*** An individual who is a Specialist or Classifier, registered with the American Registry or Certified Professionals in Agronomy, Crops and Soils (ARCPACS).
(Ord. G-07-97, passed 7-9-97)

§ 51.051 SEWAGE DISPOSAL.

(A) *State rules.* All rules and regulations of 410 IAC 6-8.1, 410 IAC 6-10, Bulletin SE-11 (1986) and Bulletin SE-13 (1988), as amended from time to time, from the Indiana State Department of Health are hereby incorporated by reference.

(B) *Public sewer available.* Whenever a public sewer is or becomes available within 300 feet of a residential or commercial lot line, a direct connection shall be made to said public sewer, provided direct access is reasonably available via easement or other appropriate means. All existing septic tanks, sewage pits, outhouses, privy pits and similar sewage disposal systems or treatments facilities shall be abandoned and filled in a safe an sanitary manner. Permittee shall have ninety (90) days from the date that the public sewer becomes available to make a direct connection to the public sewer and to abandon and fill in the existing sewage disposal system.

(C) *Public sewer not available.* All residential and commercial buildings which are not connected to a public sewer shall be connected to a private sewage disposal system which shall comply with the standards set forth herein.

(D) *Construction of privy.* Sanitary vault privies constructed and maintained pursuant to Bulletin SE-11 (1986) shall be approved by the Health Commissioner.

(E) *Correction of defects.* Should any defect exist or occur in any private sewage disposal system or privy which would cause the sewage disposal system or privy to fail to meet the requirements of this Chapter, then the defect shall be corrected by the owner/permittee pursuant to the time table established by the Health Commissioner. Failure to correct the defect within the time table established by the Health Commissioner shall be considered a violation of this chapter and shall subject the owner/permittee to the sanctions set forth in § 51.059 subject, however, to the hearing provisions of § 51.058.

(F) *Adaptation of residential systems.* Whenever there is any alteration of the structure or change in the use or occupancy of a residential building that would affect the functioning of the existing private sewage disposal system, including the addition of bathrooms, kitchens or other related water disposal mechanisms, then the system shall be modified, enlarged or replaced in accordance with the requirements of this chapter.

(G) *Adaptation of commercial system.* Whenever there is any alteration of the structure or significant change in the use or occupancy of a commercial

building which would affect the functioning of the existing private sewage disposal system, including the addition of bathrooms, kitchens or other related water disposal mechanisms, then the system shall be modified, enlarged or replaced in accordance with the requirements of this chapter.
(Ord. G-07-97, passed 7-9-97)

§ 51.052 CONSTRUCTION REQUIREMENTS OF PRIVATE SEWAGE DISPOSAL SYSTEMS.

(A) *Indiana State Department of Health Requirements.* All rules and regulations of 410 IAC 6-8.1, Bulletin SE-11 (1986) and Bulletin SE-13 (1988), as amended from time to time, from the Indiana State Department of Health are hereby incorporated by reference.

(B) *Lot dimensions.*

(1) Lots or tracts of real estate on which residential or commercial sewage disposal systems are to be installed and which are rated slight or moderate for septic tank absorption fields by the U.S. Department of Agricultural Soil Conservation Service, shall contain a minimum of one (1.0) acre or 43,560 square feet and suitable soils and topgraphy to permit compliance with this chapter.

(2) Lots or tracts of real estate on which residential or commercial sewage disposal systems are to be installed and which are rated severe for septic tank absorption fields by the U.S. Department of Agriculture Soil Conservation Service shall contain a minimum of two (2.0) acres or 87,120 square feet and suitable topography to permit compliance with this chapter.

(3) A permittee, whose real estate was a separate parcel for tax purposes as shown on the tax records of the Auditor of Allen County, Indiana, and recorded prior to the effective date of this chapter as set forth in 51.059 (I) shall not be prohibited from the construction, installation and eventual operation of a residential sewage disposal system solely as the result of his/hers/its lot dimensions being less than those set forth above in (1) and (2), provided that he/she/it meets all other requirements of this chapter.

(C) *On-site evaluation.* At least one boring from the submitted septic disposal system location shall be done with a soil auger. A second sample from the submitted septic disposal system location, and any additional confirmation samples, may be taken with a push probe.

(D) *Requirements for septic tanks.*

(1) Residential septic tanks shall have the following number of gallons:

(a) If the number of bedrooms in a dwelling are one, two, three or four: 1,250 gallon tank.

(b) If the number of bedrooms in a dwelling are five: 1,500 gallon tank.

(c) If the number of bedrooms in a dwelling are more than five: 1,500 gallon tank + 150 gallons x the number of bedrooms over five.

(E) *Final grade.* All distribution boxes shall be extended full size to ground level or final grade.

(F) *Access openings.* All septic tanks shall have at least one (1) access opening of at least ten (10) inches in diameter, for each compartment in said tank for inspection and cleaning purposes. All such access opening shall be extended to ground level and shall be fitted with safely secured, gas tight covers.

(G) *Abandoned septic tanks.* Abandoned septic tanks shall be filled with earth, sand or gravel or shall be removed.

(H) *Inspection pike.* Each private sewage disposal system shall have at least one suitable inspection pipe, which shall be accessible to the Health Commissioner at all reasonable times for the inspection or sampling of effluent. If an inspection pipe does not exist, is not in good repair or is not accessible, such fact shall constitute a defect in the system under 51.051(E).

(1) The inspection pipe shall be installed at the far end of one of the absorption lines, or just beyond the last equipment or device in any other treatment system.

(2) The inspection pipe shall be not less than an eight (8) inch riser of Schedule 40, SDR 22 or SDR 26 PVC pipe or vitrified clay pipe extending above the surface of the grounds with a safely secured easily removable cap or cover and with its lower end connected and arranged to permit the collection, by dipping, of an effluent sample.
(Ord. G-07-97, passed 7-9-97)

§ 51.053 CONSTRUCTION PERMIT.

(A) *Construction permit required.* An owner or permittee shall first obtain a construction permit from the Health Commissioner prior to the commencement of any excavation, construction, alteration, repair, modification or addition to any existing or new private sewage disposal system.

(B) *Permit to be posted.* No person shall perform any work on a private sewage disposal system project unless a valid construction permit is first obtained and is properly posted in a conspicuous place at or near the building where the private sewage disposal system is to be constructed. The permit shall be plainly visible from the public thoroughfare serving the building until the project is completed.

(C) *Application for permit.* The application for such permit shall be submitted to the Health Commissioner on a form provided by the Health Commissioner and shall be supplemented by any plans, specification and other information deemed necessary by the Health Commissioner or as required by 410 IAC 6-8.1-48.

(D) *Permit fees.* Prior to the issuance of any permit, each owner/permittee shall first tender to the Treasurer of Allen County, Indiana, a fee or fees, which shall be deposited into the City-County Health Fund, for each system being constructed, modified, altered or repaired in accordance with the following schedule.

(1) New construction - $75.00.

(2) Alteration, modification or repair of existing system - $50.00.

(3) Revision of existing permit prior to construction - $20.00.

(E) *Term and renewal.* A construction permit shall be valid for one (1) year from the date of issuance, and may be renewed for up to an additional six (6) months upon application. If the permit is renewed, the permittee shall comply with any changes in the rules, standards or requirements which may have come into effect subsequent to the original date of issuance. The construction permit is not transferable.
(Ord. G-07-97, passed 7-9-97)

§ 51.054 INSTALLERS REGISTRATION.

(A) *Registration requirements.* Except for a person working on his/her/its own private sewage disposal system which serves the dwelling in which he/she/it resides, no person shall construct, install, replace, alter, modify or repair any private sewage disposal system unless that person has first registered with the Department as an installer. Persons required to be registered shall be given a grace period of up to six (6) months after the effective date of this chapter in which to register with the Department. Application for registration shall be on forms provided by the Department.

(B) *Conditions for registraton.*

(1) Every person required to register under this section shall be knowledgeable of all laws, rules and regulations of both the state and county governing private sewage disposal systems. Prior to registration, the applicant must demonstrate knowledge of the applicable laws, rules and regulation by passing a proficiency exam conducted by the Department with a score of eighty percent (80%) or higher. The registration exam shall be reviewed from time to time to determine its applicability to current laws, rules and regulations. Where taking a written exam is not feasible, due to language or reading difficulties, arrangements will be made to allow for an oral examination to assure proficiency. Opportunity for reexamination shall be afforded to an applicant upon request but no more frequently than once per month.

(C) Seminar. At the request of the Health Commissioner, but not more than once per year, a person registered under this section shall attend a seminar on sewage disposal conducted by the Department of the Indiana State Department of Health.

(D) *Expiration.* Registrations under this section shall expire annually on December 31. Each installer shall be required to re-register annually on or before January 15 of each succeeding year.

(E) *Annual fee.* For a period of six (6) months after the effective date of this chapter, registration under this section shall be without fee. After that date, an annual registration fee of $40.00 will be charged which shall be paid not later than January 31 of each year.

(F) *Notice of violation.* Whenever the Health Commissioner determines that there has been a violation of any provision of this chapter or the applicable rules and regulations of the Indiana State Department of Health by an installer, the Health Commissioner shall give written notice, in person or by certified mail, of the alleged violation to the installer. Such notice shall include the following:

(1) A statement of the alleged violation.

(2) An order allowing a reasonable time for the performance of any act required to correct the violation.

(G) *Suspension or revocation.* If the violation is not corrected within the designated time, the Health Commissioner may suspend or revoke the installer's registration subject to the provisions contained in 51.058 (B), (C) or (D).

(1) If the registration is suspended, the installer may be reinstated by the Health Commissioner upon correction of all violations.

(2) If the registration is revoked, the Health Commissioner shall require, at a minimum, that the installer: 1) be retested; 2) pay the registration fee; and, 3) correct all outstanding violation to the satisfaction of the Health Commissioner prior to being re-registered.

(H) *Not registered.* Any person constructing, installing, replacing, altering or repairing any private sewage disposal system who is not registered as an installer under this section shall be deemed to be in violation of this chapter and shall be subject to all penalties set forth in § 51.059.
(Ord. G-07-97, passed 7-9-97)

§ 51.055 INSPECTION.

(A) *Commencement of construction.* Upon issuance of a construction permit under § 51.053(A), the permittee may commence installation and construction of the private sewage disposal system. The Health Commissioner may inspect the work at any state of construction.

(B) *Inspection.* Upon substantial completion of the installation, the permittee shall notify the Health Commissioner that the work is ready for inspection. No portion of the installation shall be covered until the inspection is made.

(1) No portion of the installation shall be used and, when the system serves a new building, no person shall be permitted to use the building or buildings until the inspection has been completed and the system is found to be in compliance and an operation permit has been issued.

(2) The inspection shall be made within two (2) working days of the receipt of notice by the Health Commissioner that the system is ready for inspection.

(C) *Issuance of operation permit.* If the system meets all requirements and is in compliance with the law, the Health Commissioner shall issue an Operating Permit.

(D) *Operating permit required.* It shall be unlawful for any person to use or operate a private sewage disposal system unless said person possesses a valid operating permit issued by the Health Commissioner.

(E) *Valid period.* The Operating Permit shall be valid until there is a change in the use associated with the system. The issuance date shall appear on the Permit. The operation permit is not transferable.

(F) *Application for permit.* The application for an operation permit shall be made to the Health Commissioner on forms provided by the Health Commissioner.

(G) *Time of issuance.* An operating permit shall be issued within five (5) days of the inspection of the system once the Health Commissioner has determined that the permittee has complied with all applicable provisions of this chapter, the related state rules and regulations and tendered the appropriate permit fee.

(H) *Renewal.* Renewal of the Operating Permit is the duty of the permittee.
(Ord. G-07-97, passed 7-9-97)

§ 51.056 MAINTENANCE AND SAMPLING.

(A) *Sanitary Condition Mandatory.* Every private sewage disposal system shall be constructed and maintained so that the effluent leaving the Permittee's system shall be sanitary.

(B) *Inspection and sampling.* The Health Commissioner shall be permitted to enter upon any property at any reasonable time to inspect and take samples from a private sewage disposal system. If said test results should indicate a residential or commercial sewage disposal system failure, said failure shall constitute a violation of § 51.051(E).
(Ord. G-07-97, passed 7-9-97)

§ 51.057 ECONOMIC HARDSHIP.

(A) *Economic hardship.* In the event an owner/permittee is unable to comply with the provisions of § 51.051(B) due to the economic hardship that might be imposed, then the Health Commissioner may, upon application and proof of inability to pay the cost of compliance, extend the period within which said owner/permittee shall be required to make the hook-up provided the owner/permittee has an existing private sewage disposal system which is operating properly.
(Ord. G-07-97, passed 7-9-97)

§ 51.058 DENIAL; SUSPENSION; REVOCATION.

(A) *Denial and approval of permit.*

(1) In the event the Health Commissioner determines that the application for the Construction Permit and/or Operating Permit does not meet the standards set forth in this chapter, then the Health Commissioner shall be required to notify the Permittee of such denial in writing, within thirty (30) days of the original application, stating the specific reasons for the denial of the permit.

(2) Failure of the Health Commissioner to issue a written denial of a permit and/or to issue specific written directions regarding corrective actions that need to be taken to obtain the permit within thirty (30) days from the date of application of the Construction Permit shall be construed as an approval of the Construction Permit. In the event the Health Commissioner issues written directives regarding corrective actions, then the permittee and/or his agent shall have a reasonable amount of time to address the items set forth in the directives in order to be able to obtain the Construction Permit.

(3) Failure of the Health Commissioner to issue a written denial of an Operating Permit and/or to issue specific written directions regarding corrective actions that need to be taken to obtain the permit within ten (10) days from the date of application of the Operating Permit shall be construed as an approval of the Operating Permit. In the event the Health Commissioner issues written directives regarding corrective actions, then the Permittee and/or his agent shall have a reasonable amount of time to address the items set forth in the directives in order to be able to obtain the Operating Permit.

(B) *Suspension of permit/registration.* The Health Commissioner may order the suspension of a Construction Permit or Operation Permit or installer registration. The Health Commissioner may order the suspension of a permit or registration for any of the following reasons:

(1) Failure to meet any of the standards of any of the provisions of this chapter or violations of any of provisions of this chapter.

(2) Interference with the Health Commissioner in the performance of his/her duties. Interference shall be defined as the process of obstructing, hampering or blocking the Health Commissioner in the performance of his/her duties.

(3) At the request of the permittee or installer, a hearing shall be afforded him/her/it within twenty-four (24) hours of the issuance of the written suspension order. Said hearing shall be conducted as set forth in 51.058(E).

(C) *Revocation of permit/registration.* Any permit and/or registration issued hereunder may be revoked by the Health Commissioner as the result of the willful or continued violation of any provision of this chapter. No such revocation shall be ordered by the Health Commissioner except after a hearing held pursuant to § 51.058(E) upon at least ten (10) days written notice to the owner/permittee/installer of the time, place and nature of said hearing. Said notice of hearing shall be served upon the owner/permittee/installer by leaving, or mailing (certified mail) the notice to the address listed by the owner/permittee/installer at his/her/its address on the permit, application or installer registration application.

(D) *Immediate revocation.* Notwithstanding any of the other provisions of this chapter, whenever the Health Commissioner finds unsanitary or other conditions, which, in his/her opinion constitute an imminent health hazard, he/she may, without notice or hearing, issue and serve a written order on the owner/permittee/installer requiring the immediate cessation of operation/installation. Said written order shall site the existence of the imminent health hazard and shall specify the corrective action to be taken. Such order shall be effective immediately. Upon petition to the Health Commissioner, the permittee/installer shall be afforded a hearing within twenty-four (24) hours of the issuance of the written order. Said hearing shall be conducted as set forth in 51.058(E).

(E) *Hearing.* At any hearing required under this chapter, every owner/permittee/installer who is a party to such proceeding shall have the right to submit evidence, to cross examine witnesses and to be represented by counsel. All such hearings shall be conducted in an informal manner, but irrelevant, immaterial or unduly repetitious material shall be excluded. Upon the conclusion of the hearing, the Health Commissioner shall issue a final order determining the issue(s) which shall be conclusive on all parties subject to the right of appeal.

(F) *Appeal.*

(1) Any owner/permittee/installer aggrieved by an final order of the Health Commissioner shall be entitled to a review of the final order before the Board by filing a written request with the Secretary for the Board within fifteen (15) days of the Health Commissioner's final order.

(2) Upon the Secretary's receipt of such request, the Board shall hear the matter de novo in open hearing upon at least ten (10) days written notice of the time, place and nature thereof. The notice shall be issued by the Secretary for the Board to owner/ permittee/installer filing the request.

(3) The notice shall be served upon the owner/permittee/installer by leaving or mailing (certified mail) the notice to the address listed on the application as his/her/its address or such other address he/she/it shall designate in writing.

(4) At such hearing, the same rules of procedure shall apply as in the case of the hearing before the Health Commissioner. Upon written demand by the owner/permittee/installer, the Board shall cause the proceedings before it to be recorded by a stenographer or reporter employed for such purpose, and the same, together with all papers and documents filed therein, shall be reproduced by said Commissioners of Allen County, Indiana in the form of a transcript, a copy of which shall be available to any party.

(5) The expense of such proceedings shall be charged to the owner/permittee/installer who applied for the review, except that copies of the transcript shall be at the expense of the party obtaining same. The Commissioners of Allen County, Indiana may require the deposit of an amount determined to secure such expense.

(6) The Board shall make written findings of facts and shall enter its final order or determination of the matter in writing in the permanent records of the Board.
(Ord. G-07-97, passed 7-9-97)

§ 51.059 PENALTIES.

(A) *Enforcement.* It shall be the duty of the Department and/or the Health Commissioner to enforce the provisions of this chapter. Any permit or registration issued in conflict with the provisions of this chapter shall be null and void. A violation of an order issued by the Health Commissioner or Board shall be considered to be a violation of this chapter.

(B) *Violations.* Whenever the Health Commissioner determines that any owner, permittee, installer or any other person, is in willful violation of any of the provisions of this chapter, the Health Commissioner shall furnish evidence of said willful violation to the Prosecuting Attorney of Allen County, Indiana or the attorney for the Board who shall seek all appropriate legal remedies against the person(s).

(C) *Penalty.* Any person who willfully violates any of the provisions of this chapter shall be subject to a fine of not more than $500.00 for each violation. Each day of the existence of any violation of this chapter shall be considered to be a separate offense.

(D) *Injunction.* The Health Commissioner may bring an action for an injunction in the Circuit or Superior Court of Allen County, Indiana, to restrain any person from violating the provisions of this chapter, or to cause such violation to be prevented, abated or removed.

(E) *Expense.* Any person violating any of the provisions of this chapter shall be liable to the Department for the expense, loss or damage occasioned by reason of such violation, including reasonable attorney's fees and court costs.

(F) *Cumulative.* The remedies provided in this section shall be cumulative, and not exclusive, and shall be in addition to any other remedy provided by law.
(Ord. G-07-97, passed 7-9-97)

SEWER RATES AND CHARGES

§ 51.065 CHARGES BASED ON WATER USAGE/ FLAT CHARGES.

The charges made for sewer service rendered to each lot, parcel of real estate or building having any connection with the city's sewer system or otherwise discharging sewage into the system, either directly or indirectly, shall be based upon the quantity of water presumed to enter the public sewers after being used in or on the property, as the quantity is measured by the water meter or meters there in use by the city's water utility, except as herein otherwise provided. Flat charges shall be assessed on a monthly basis. For the purposes of this chapter, a month shall constitute 25-35 days. Service periods falling outside this parameter shall be prorated.
('74 Code, § 24-25) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.066 WATER OBTAINED FROM SOURCES OTHER THAN CITY'S WATER UTILITY.

Where the property obtains any part or all of the water used from sources other than the city's water utility, the owner or the tenant may be required by the city to install and maintain at the user's own expense a meter or meters acceptable to the city for the quantity of water obtained from these other sources. Once installed, no such meter may be bypassed for any reason.
('74 Code, § 24-26) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.067 EXEMPT WATER - GENERAL.

Where a significant portion of the metered water does not and cannot enter the sewer system, either directly or indirectly, the person having charge of the property may request permission from the city to install at the user's expense either an approved meter or meters to determine the quantity of water that cannot enter the sewer system or an approved sewage-measuring device or devices to determine the volume of sewage that actually enters the sewer system. In any case the service charge shall be based on the quantity of water that can or actually does enter the public sewers but in no case shall it be less than the minimum charge for the class of user served. Plans and specifications for all such meters shall be submitted to the Superintendent of the Water Pollution Control Plant and approved prior to installation.
('74 Code, § 24-27) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.068 METERING OF SEWAGE.

The city may require a person to install and maintain at the user's expense an approved device to measure directly the volumes of wastes discharged to the sewer system if those volumes cannot otherwise be determined from the metered-water consumption records. The city shall inspect and approve such installation and no such services, once installed, shall be removed without the city's approval.
('74 Code, § 24-28) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.068.5. DEPOSIT TO ENSURE PAYMENT OF SEWER FEES; REFUNDS; FORFEITURES; USES.

(A) Pursuant to I.C. 36-9-23-28, City Utilities may require the owner, lessee, or user of property served by the Utility to pay a deposit to ensure payment of sewer fees.

(B) The deposit required shall equal the estimated average payment due from the property served by the Utility for a three (3) month period. Deposits shall be retained in a separate fund.

(C) The deposit, less any outstanding penalties and service fees, shall be refunded to the depositor after a notarized statement from the depositor that as of a certain date the property being served:

(1) Has been conveyed or transferred to another person; or

(2) No longer uses or is connected with any part of the municipal sewage system.

A statement under subdivision (1) must include the name and address of the person to whom the property is conveyed or transferred.

(D) If a depositor fails to satisfy costs and fees within sixty (60) days after the termination of his use or ownership of the property served, the deposit and all accrued interest is forfeited. The forfeited amount shall be applied to the depositor's outstanding fees. Any excess that remains due after application of the forfeiture may be collected in the manner set out in §§ 51.099 and 51.100 herein. A deposit may be used to satisfy all or part of any judgment awarded the municipality under this chapter.

(E) A deposit made under this section that has remained unclaimed by the depositdr for more than seven (7) years after the termination of the services for which the deposit was made becomes the property of City Utilities.
(Ord. G-07-97, passed 7-9-97)

§ 51.069 RESIDENTIAL USER CHARGES.

(A) *In city service charge.*

(1) In city. Charges for services rendered within the corporate boundaries of the City of Fort Wayne shall be based on metered water consumption, unless otherwise measured in accordance, with the following charges for this classification of service:

	Cents per 100 cu. ft.
Treatment	83.60
Conveyance, Collection, Billing	70.53
Capital	39.99
Total User Charge	194.12

(2) *In city billing charge.* Residential users inside the city shall be billed a monthly billing fee of $2.22.

(C) *User flat charges.* In the event that any user in this classification is not a metered water customer, there shall be imposed flat charge rates as follows:

Classification of Customer	Monthly Flat Charge (1)	
	In city	Outside city
Residential User-Single Family Dwelling	$15.68	$19.20
Residential User-Multi Family Dwelling	To be estimated by City	

(1) Monthly flat charges for multi-family dwellings shall be based on the number of family units accommodated by the system multiplied by the single family dwelling monthly charges. A 25% surcharge shall apply to the rates charged to users outside the city.

(2) The Utility shall retain documentation supporting its estimates and the billings.
('74 Code, § 24-30) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

(B) *Outside city service charge.*

(1) *Outside city.* Charges for services rendered to residents outside the corporate boundaries of the City of Fort Wayne shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

	Cents per 100 cu. ft.
Treatment	104.51
Conveyance, Collection, Billing	88.17
Capital	50.00
Total User Charge	242.68

(2) *Outside city billing charge.* Residential users residing outside the corporate boundaries of Fort Wayne shall be billed a monthly billing fee of $2.78.

Hereinafter "inside city" or "outside city" shall be read to distinguish users located within or outside the corporate boundaries of the City of Fort Wayne.

(C) *User flat charges.* In the event that any user in this classification is not a metered water customer, there shall be imposed flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to such users located out the city.
('74 Code, § 24-31) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 0-24-00)

§ 51.070 INDUSTRIAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption unless otherwise measured in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User minimum charges and other fixed payments.* In the event the monthly sewage service charge calculated in accordance with the schedule above does not exceed the minimum monthly charge for each class of user set forth hereafter, user shall pay said minimum monthly charge, in lieu of the charge calculated based on water usage, as follows:

Water Meter Size (inches)	***Minimum Monthly Charge***
5/8 - 3/4	$ 4.96
1 - 1½	17.52
2	36.23
3	72.86
4	121.12
6 or larger	336.28

(C) *Other industrial user charges.*

	Inside City	Outside City
(1) Monthly billing charge -per bill:	$2.22	2.78.

(2) Excess strength of wastes surcharge - in the event an industrial user contributes waste having strength of sewage in excess of domestic waste characteristics, as hereinbefore defined, a surcharge based on the following unit process charges will be in effect for all waste found to be in excess of limitations:

	Cents Per Pound
Suspended Solids - (SS)	9.43
Biochemical Oxygen Demand - (BOD)	19.55
Phosphorus - (P)	132.71
Ammonia - (NH-3)	28.62

(D) *User flat charges.* In the even any user in this classification is not a metered water customer, there shall be imposed a flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to such users located outside the city.
('74 Code, § 24-32) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am Ord. G-27-00, passed 10-24-00)

§ 51.071 COMMERCIAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User flat charges.* In the event any user in this classification is not a metered water customer, there shall be imposed a flat charge rate estimated by the city. A 25% surcharge shall apply to the rate charged to users located outside the city.

Other commercial charges.

(1) Monthly billing charge - per bill.

(a) Inside city: $2.22.

(b) Outside city: $2.78.

(2) Excess strength.

(a) In the event any user under this classification contributes waste having a strength of sewage in excess of domestic waste characteristics as herein defined, such user will be charged for surveillance and surcharges as set forth elsewhere herein for industrial users, except as set forth in the following paragraph.

(2) Restaurants. Commercial users primarily engaged in the business of preparing and selling cooked food items and beverages shall pay an extra-strength surcharge of 50.73 cents per 100 cubic feet in lieu of those scheduled surcharges otherwise set forth herein. For the purposes of this chapter, a user qualified to hold a supplemental retailer's permit under I.C. 7.1-3-16.5-2(a) or (b) shall be presumed to fall within this category.
(Ord. G-17-91, passed 6-12-91; ; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.072 INSTITUTIONAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.

	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User flat charges.* In the event any user in this classification is not a metered water customer, there shall be imposed a flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to users located outside the city.

(C) *Other institutional charges.*

(1) Monthly billing charge - per bill.

(a) Inside city: $2.22.

(b) Outside city: $2.78.

(2) In the event any user under this classification contributes waste having a strength of sewage in excess of domestic waste characteristics as herein defined, such user will be charged for surveillance and surcharges as set forth elsewhere herein for industrial users.
(Ord. G-17-91, passed 6-12-91; ; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.073 GOVERNMENTAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.

	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User flat charges.* In the event any user in this classification is not a metered water customer, there shall be imposed a flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to users located outside the city.

(C) *Other governmental user charges.*

(1) Monthly billings charge - per bill.

(a) Inside city: $2.22.

(b) Outside city: $2.78.

(2) Excess strength. In the event any user under this classification contributes waste having a strength of sewage in excess of domestic waste characteristics as hereinbefore defined, such user will be charged for surveillance and surcharges as set forth elsewhere herein for industrial users.
(Ord. G-17-91, passed 6-12-91; ; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.074 CONTRACT CUSTOMERS - UNIT AND OTHER CHARGES.

(A) In the event the city consummates a contract to serve as a regional treatment plant for any other municipality or private sewage utility, either contiguous to the city or in its environs, said contract shall provide for the following unit charges:

Volume charge (cents per 100 cu. ft.).

Treatment	83.60

(B) *Variable charge (cents per 100 cu. ft.).* A variable charge for conveyance and collection costs attributable to each contract customer's portion of the conveyance system and operating costs associated therewith shall be computed by the city and added to the treatment cost to arrive at the contractee's total metered rate.

(C) *Flat charge.* In addition to the foregoing charge based on volume of sewage treated and conveyed each contract customer will pay a monthly billing charge of $2.22 and an appropriate monthly surveillance charge, as set out in § 51.078 herein, based on the type of testing necessary according to the contractee's customer base.

(D) *Excess strength of waste surcharge.* In the event a contract customer user contributes waste having a toxic strength in excess of domestic waste characteristics, as hereinbefore defined, a surcharge based on the following unit process charges will be in effect for all waste found to be in excess of limitations:

	Cents Per Pound
Suspended Solids - (SS)	9.43
Biochemical Oxygen Demand - (BOD)	19.55
Phosphorus - (P)	132.71
Ammonia - (NH-3)	28.62

(E) Where a contract calls for the payment of a capital charge, such shall be billed to the contract customer (Allen County Institutional Power Plant).

(F) *Capital surcharge.* In the event a contract customer delivers sewage for treatment to the city for a period of 90 consecutive days which is in excess of base MGD contracted for, then customer will be subject to a capital charge, computed at the rate per 100 cu. ft. in effect for outside the city customers set out elsewhere herein, times the excess percentage of MGD represented by dividing actual MGD by contracted MGD.

(G) *Other provisions.* In the event sewage received pursuant to any contract entered into under this section exceeds any of the limitations imposed by this chapter, the city shall have the right to impose all charges, limitations and penalties applicable to any non-contract user by the city. Each contract entered into by the city pursuant to the foregoing rate classification shall provide that the contract customer shall agree to enact and maintain a sewer use ordinance and user charge system acceptable to the city and in conformance with the city's obligations under Sec. 204 (b) (1), Public Law 92-500 as amended and supplemented, and guidelines and regulations promulgated thereunder by the U.S. Environmental Protection Agency and 40 CFR 35-905-8, 35-928-1 and 35-928-2 and 35-935-13.
('74 Code, § 24-33) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am Ord. G-27-00, passed 10-24-00)

§ 51.075 BULK WASTE CHARGES.

(A) *Industrial:* For all industrial waste suitable for disposal which has been delivered by an approved Water Hauler to City's plant - $118.09 per load. For purposes of computing charges hereunder, a load is defined as 1,000 gallons of tank capacity or any fraction thereof.

(B) *Domestic:* For all domestic waste delivered to the city's plant by customer's truck or tank - $70.79 per load. For purposes of computing charges hereunder, a load is defined as 1,000 gallons of tank capacity or any fraction thereof.

(C) All bulk waste loads delivered to the Water Pollution Control Plant shall be accompanied by a "Waste Hauler Manifest," the form for which will be provided by the city.

(D) All bulk waste haulers shall also be assessed a billing charge of $2.22 per bill.
('74 Code, § 24-34) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-96, passed 2-27-96; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.076 LIABILITY FOR SURCHARGE.

Each user discharging wastes into the collection system shall be subject to a strength-of-wastes surcharge, in addition to other sewage service charges imposed by this chapter, based on the following minimum strength characteristics to the extent that such wastes are in concentrations greater than:

(A) Biochemical oxygen demand of 300 milligrams per liter.

(B) Chemical oxygen demand of 600 milligrams per liter.

(C) Suspended solids content of 300 milligrams per liter.

(D) Phosphorus content of 10 milligrams per liter.

(E) Ammonia content of 25 milligrams per liter.
('74 Code, § 24-36) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.077 COMPUTATION OF SURCHARGE.

The surcharge shall be determined as follows: The excess pounds of BOD or COD (whichever results in the higher charge) suspended solids, phosphorus and ammonia will each be computed by first multiplying the user's billing sewage volume measured in units of 100 cubic feet for the current billing period by the factor 0.0062321 and then multiplying this product by the difference between (a) the concentrations measured in milligrams per liter, of the BOD (or COD), suspended solids, phosphorus and ammonia respectively in the user's sewage and (b) the allowed concentrations set out in § 51.076. The surcharge for each constituent will then be determined by multiplying the excess pounds of each constituent by the appropriate rate of surcharge. In the event COD measurement is used, as hereinbefore provided, 50% of the excess pounds measured will be used to compute the equivalent BOD charge.
('74 Code, § 24-37) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.078 CONTINUING SURVEILLANCE SAMPLING/WASTE EVALUATION CHARGES.

(A) All users discharging wastes into the system requiring continuing surveillance sampling and waste evaluation shall be subject to the following fixed charge to cover the costs of such services per discharge point.

(1) Monthly evaluation charges.

(a) Type 1 Evaluation: $104.33

(b) Type 2 Evaluation: 153.58

(2) Evaluation charges - per occurence.

(a) Type 1 Evaluation: $313.00

(b) Type 2 Evaluation (includes metals): 460.75

(c) Grab compliance (FOG): 76.00

(d) Composite compliance: 190.00*

Plus applicable laboratory testing charges.
('74 Code, § 24-38) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.079 ANNUAL REVIEW OF SERVICE CHARGES AND SURCHARGES; REVISION OF CHARGES AND RATES.

Prior to May 1 of each year, the Chief Financial Officer of the city utilities and an independent certified public accountant employed for that purpose shall submit to the Board of Public Works a comparison of the calculated unit cost for flow, removal of BOD, suspended solids, ammonia and phosphorus from the Water Pollution Control Plant influent during the previous year with unit charges currently in effect, from which the Board shall determine whether the current service charges and surcharges are adequate or should be changed, and to request legislative enactment of said changes by the Common Council. The methodology used in developing this cost comparison shall include:

(A) A system including the distribution of the cost of operation and maintenance of the treatment works of the WPC utility to each user class in proportion to such user's contribution to the total waste loading of the treatment works. Factors such as strength, volume and delivery flow characteristics shall be considered and included as the basis for the user's contribution to insure a proportional distribution of operation and maintenance and replacement costs to each user class.

(B) Total annual service charges and surcharges collected from each individual user class shall be deemed sufficient if said charges have generated during the prior operating period sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the utility, including cost of management, system repair and replacement, debt retirement and other costs incidental to the utility operation attributable to such class.
('74 Code, § 24-35) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

DELINQUENT ACCOUNTS; BILLING OF SERVICE CHARGES

§ 51.090 BILLING PERIOD.

(A) Charges for sewer services shall be computed and billed by the General Office of the City Utilities. Bills shall be rendered approximately monthly, unless additional billing is required to reflect customer changes, meter changes, service terminations, initial billings or is otherwise required to adjust billing cycles. For the purpose of this chapter, a month shall constitute 25-35 days. Service periods falling outside this parameter shall be prorated.

(B) Billings for sewer service shall be rendered with and shall be due and payable on the same due date as billings for water service to the same premises, if any, and if none, then within such billing cycle as the utility may determine.
('74 Code, § 24-40) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.091 LIABILITY FOR PAYMENT; EXAMINATION OF UTILITY RECORDS.

(A) Charges for sewer service shall be billed to the person being billed for water service, if any, unless by contract with the utility, another person assumes responsibility for payment. Notwithstanding billing to, and assumption of responsibility by any person, charges for sewer service shall remain the responsibility of the owner of the real estate, who shall hold the utility harmless from any loss occasioned by the delinquency of the person billed, including all penalties, recording fees, attorney's fees, interest, and court costs, if any.

(B) The owner of the real estate or person billed shall have the right to examine the utility's records of billing and collection to ascertain whether such charges have been paid, and the amount thereof.

(C) Nothing herein contained shall permit any person other than the owner, or the person being billed, to inspect, examine or otherwise obtain confidential information including the payment/credit history, income, employment, finances or social security number of the person being billed.
('74 Code, § 24-41) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.092 FIRST BILLINGS.

The rates, charges and surcharges fixed in this chapter shall extend to and cover any additional premises hereafter served, without hearing or notice. If the first billing to a new user covers a period other than a full billing month, then the charges for sewer service for such billing shall be made in accordance with standard practice employed by the city's water utility.
('74 Code, § 24-42) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.093 CITY SUBJECT TO CHARGES.

For sewer services rendered to the city, or any department, structure, or property, thereof, the city shall be subject to the same rates and charges herein established for other persons, or to rates and charges established in harmony herewith.
('74 Code, § 24-43) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.094 CONSOLIDATION OF ACCOUNTS.

Where an industrial, commercial or other non-residential enterprise is operating in a unified manufacturing or service arena composed of two or more contiguous parcels of real estate and is supplied with water through two or more meters, upon application by the owner or his authorized agent, a consolidation of the wager meter readings may be made for the purpose of calculating the sewer service charge.
('74 Code, § 24-44) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.095 NOTICE OF CAPITAL SURCHARGE.

The City Clerk shall certify a copy of Special Ordinance No. 2-233-81, enacted October 28, 1981, and all amendments thereto, heretofore or hereafter adopted, and shall record such certified copy in the Office of the Recorder of Allen County, Indiana to provide constructive notice to the owners and purchasers of real property in Adams Township and St. Joseph Township that a capital surcharge may be imposed upon properties connected to, or to be connected to, the city utility sewer system, in those areas of said townships formerly served by sewer system purchased or otherwise acquired by the city utility.
('74 Code, § 24-45) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.096 DELINQUENT ACCOUNTS; PENALTIES.

Charges for sewer service levied pursuant to this chapter shall be due and payable on or before the due date stated on the bill. Any charge for sewer and/or stormwater service not paid by the due date shall be delinquent, and may be collected, with any applied penalty, recording fees, service charges, attorney's fees, interest and court costs, if any, in accordance with this chapter and with IC 36-9-23-31 through 36-9-23-34. A penalty of 10% of the amount of the charges for sewer service and/or stormwater service shall be attached to the delinquent charges.
('74 Code, § 24-46) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.097 TERMINATION OF WATER SERVICE DUE TO DELINQUENCY.

Where the property having a delinquent account for charges for sewer service is served by the city's water utility, the utility may, after reasonable notice to the person being billed, as provided by the rules and regulations of the utility adopted by the Board of Public Works, shut off water service to the property. Water service shall not be restored until the delinquent account, together with any required deposit and the costs of turning off/turning on the water, shall have been paid.
('74 Code, § 24-47) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.098 TERMINATION OF SEWER SERVICE DUE TO DELINQUENCY.

In addition to all other remedies provided, the utility may, after reasonable notice to the person being billed, as provided by the rules and regulations of the utility adopted by the Board of Works, terminate sewer service to the property. Sewer service shall not be restored until the delinquent account, together with the costs of terminating and reconnecting service, shall have been paid.
('74 Code, § 24-48) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.099 DELINQUENT FEES AND PENALTIES AS LIENS; DUPLICATES; COLLECTION.

Delinquent charges for sewer services and/or stormwater services, and applied penalties, recording fees and service charges may be made a lien upon the property when the delinquent party is the property owner and may be collected in accordance with the provisions of I.C. 36-9-23-31, 36-9-23-32 and 36-9-23-33.
('74 Code, § 24-49) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.100 COLLECTION THROUGH COURT ACTIONS.

In addition to the foregoing remedies, the city may recover the amount of the charges for sewer

services, penalties of 10% of the delinquent fees and reasonable attorney's fees in a civil action, and may foreclose liens established by this chapter in accordance with I.C. 36-9-23-34.
('74 Code, § 24-50) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

ADMINISTRATION AND ENFORCEMENT

§ 51.110 RULES AND REGULATIONS; BOARD OF WORKS AUTHORITY.

The Board of Public Works of the city shall, in accordance with the statutes of the state, and subject to the provisions and requirements of this chapter, make and enforce appropriate rules and regulations for the safe, economical and efficient management and operation of the city's sewage works, for the construction and use of sewers, building sewers, appurtenances and connections to the sewer system; for the regulation, collection and refunding of rates and charges for sewer service; and for the implementation and enforcement of the provisions of this chapter.
('74 Code, § 24-2) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94)

§ 51.111 ENFORCEMENT.

Those provisions of this chapter not specifically dealt with elsewhere shall be enforced by the Director of City Utilities and such deputies as Director, with the approval of the Board of Public Works, may be appointed for such purposes. Whenever said Director or any such deputy shall deem it appropriate to charge any person with a violation(s) of this chapter, he shall issue to such person a Notice of Violation and/or Summons, which shall be processed according to the provisions of IC 34-28-5 and sewer rules and regulations, or pursuant to an ordinance adopted in accordance with I.C. 36-1-6-9.
('74 Code, § 24-6) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.112 SEWER WORKS IMPROVEMENT FUND.

The City Controller shall establish and maintain, for as long as user charges and surcharges are collected under the rate schedule instituted herein, accounts for the Sewer Works Improvement Fund as required by prior ordinances relating to the issuance of sewer works revenue bonds now outstanding and further in accordance with the laws of the State of Indiana relative to the deposit and disbursement of public funds.
('74 Code, § 24-52) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.999 PENALTY FOR VIOLATION.

Any person who violates or fails to comply with any provision of this chapter or of the rules and regulations of the Board of Public Works or administrative orders pertaining thereto, shall be subject to a fine of up to $2,500 per day as set out at § 10.99 of the City of Fort Wayne Code of Ordinances or as otherwise provided by IC 34-28-5. Each day that such violation(s) or noncompliance continues shall constitute a separate offense.
('74 Code, § 24-7) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

EXHIBIT C-4

Memorandum

Date: Friday, August 20, 2004

To: Pat Callahan, PE

Copy: Jim Cornell

From: Kenneth L. Sedmak

Re: City of Fort Wayne Significant Industrial Users Impact on CSO

After discussing the low dissolved oxygen issue with Pat Callahan, Pat requested that Donohue provide a matrix to attempt to identify why a low dissolved oxygen value was recorded in the rivers that flow through Fort Wayne. The low dissolved oxygen values were identified in a report from a study to determine the impact on the rivers of significant industrial users discharge during a CSO event.

On August 17, 2004 Jim Cornell and I discussed the low dissolved oxygen issue that occurred around August 12, 2002 and in 2003 on the St. Mary's River at the Spy Run Bridge Station No. 5. Jim explained that the City of Fort Wayne tests for dissolved oxygen and other parameters as well as samples river water on a weekly basis. The testing is then recorded and information is provided and has been used for the report for this project.

This memorandum puts forth a start to investigate the low dissolved oxygen issue.

Our initial premise is that the low dissolved oxygen came from one of the following three sources:

1. Low pool level in the river allowed for stagnant conditions and bottom sediment degrading causing a low dissolved oxygen.
2. A discharge of some pollutant from the Spy Run Creek water shed.
3. A discharge of waste upstream of Spy Run Creek, potentially the third street CSO pump station.

In order to determine if any of these issues occurs again, we have decided to implement additional dissolved oxygen testing. The City will conduct dissolved oxygen testing and additional sampling on the Harrison Street Bridge, Spy Run Creek Bridge, and continue on the Spy Run Avenue Bridge. Additionally, dissolved oxygen testing will be done five days a week at all one of these three locations. In addition to dissolved oxygen testing, river and creek level will be recorded along with any other general observations.

If low dissolved oxygen is noted on the St. Mary's River at Spy Run Avenue bridge, as well as the Spy Run Creek, then additional investigation upstream on the Spy Run Creek will be done by the City. If dissolved oxygen level is low on the Spy Run Avenue bridge and not on Spy Run Creek, then additional investigation will be done up river on the St. Mary's River.

Since the low dissolved oxygen reading on August 12, 2002 occurred when the river was its lowest level, it is important that the City conduct this analysis during August of 2004 at the low river stage. The condition of low river stage is present now and therefore the City will implement daily dissolved oxygen testing beginning on August 18, 2004.

As analysis and observations are made, changes to and adjustments of this investigation will be done. If no low dissolved oxygen is found during the low pool period of the river, daily dissolved oxygen testing may be eliminated. Weekly testing at Spy Run Creek and at Harrison Street Bridge should continue to ensure that the low dissolved oxygen issue may have been either an anomaly or a one time occurrence without explanation.

The City may consider continuous dissolved oxygen monitoring at specific locations, if low dissolved oxygen is found. Also, a dissolved oxygen profile across the rivers may be important to ensure a representative dissolved oxygen value in the river.

IDEM River Exceedences	Date	Station	Hardness	Limit (CCC)	Limit (CMC)	Sample
Dissolved Oxygen	6/16/2003	4		< 4.0 mg/L	< 4.0 mg/L	3.11 mg/L
		5		< 4.0 mg/L	< 4.0 mg/L	3.14 mg/L
		7		< 4.0 mg/L	< 4.0 mg/L	3.64 mg/L
		8		< 4.0 mg/L	< 4.0 mg/L	3.56 mg/L
Copper	7/21/2003	5	159	13.85 ug/L	21.66 ug/L	18.7 ug/L
		8	209	17.51 ug/L	28.03 ug/L	26.4 ug/L
Lead	7/21/2003	5	159	11.61 ug/L	221.44 ug/L	17.5 ug/L
		6	194	14.94 ug/L	284.94 ug/L	15.0 ug/L
		8	209	16.43 ug/L	313.31 ug/L	25.6 ug/L
Mercury	Testing not performed to standard limit			.0012 ug/L	.0012 ug/L	<0.2 ug/L

FTW River Exceedences	Date	Station	Hardness	Limit (CCC)	Limit (CMC)	Sample
Dissolved Oxygen	8/12/2002	St. Mary's @ Spy Run		< 4.0 mg/L	< 4.0 mg/L	1.9 mg/L
	8/26/2002	St. Mary's @ Spy Run		< 4.0 mg/L	< 4.0 mg/L	2.69 mg/L
	9/23/2002	St. Mary's @ Spy Run		< 4.0 mg/L	< 4.0 mg/L	0.77 mg/L
	9/30/2002	St. Mary's @ Spy Run		< 4.0 mg/L	< 4.0 mg/L	3.21 mg/L
	6/16/2003	St. Mary's @ Ferguson		< 4.0 mg/L	< 4.0 mg/L	3.11 mg/L
		St. Mary's @ Spy Run		< 4.0 mg/L	< 4.0 mg/L	3.14 mg/L
		St. Joe's @ Tennessee		< 4.0 mg/L	< 4.0 mg/L	4.22 mg/L
		Maumee @ Landin		< 4.0 mg/L	< 4.0 mg/L	3.64 mg/L
	7/7/2003	St. Mary's @ Ferguson		< 4.0 mg/L	< 4.0 mg/L	2.78 mg/L
		Maumee @ Landin		< 4.0 mg/L	< 4.0 mg/L	2.84 mg/L
	7/15/2003	St. Mary's @ Ferguson		< 4.0 mg/L	< 4.0 mg/L	1.38 mg/L
		St. Mary's @ Spy Run		< 4.0 mg/L	< 4.0 mg/L	1.43 mg/L
		Maumee @ Anthony		< 4.0 mg/L	< 4.0 mg/L	2.77 mg/L
		Maumee @ Landin		< 4.0 mg/L	< 4.0 mg/L	2.74 mg/L
	8/4/2003	St. Mary's @ Ferguson		< 4.0 mg/L	< 4.0 mg/L	2.3 mg/L
		St. Joe's @ Mayhew		< 4.0 mg/L	< 4.0 mg/L	3.32 mg/L
		St. Joe's @ Tennessee		< 4.0 mg/L	< 4.0 mg/L	3.45 mg/L
		Maumee @ Landin		< 4.0 mg/L	< 4.0 mg/L	2.66 mg/L
Phosphorus	5/5/2003	St. Mary's @ Ferguson			1.0 mg/L	1.38 mg/L
		St. Mary's @ Ferguson			1.0 mg/L	1.904 mg/L
		St. Mary's @ Spy Run			1.0 mg/L	1.248 mg/L
		St. Joe's @ Mayhew			1.0 mg/L	1.426 mg/L
		Maumee @ Anthony			1.0 mg/L	1.131 mg/L
		Maumee @ Landin			1.0 mg/L	1.133 mg/L

City of Fort Wayne
Saint Marys Dissolved Oxygen Project 2004
Saint Marys River @ Spy Run Avenue

Wk	Date	D.O.	Temp F	Depth	Weather	Third St.	
1	08/23/04	6.74			Dry		
	08/24/04	6.40	68		Dry		
	08/25/04	7.45	74	8.9	Dry		
	08/26/04	6.87	73	9.4	Dry		
	08/27/04	6.29	74	9.1	Dry		
2	08/30/04	6.25	69	10.9	Dry		
	08/31/04	6.22	70	10.3	Dry		
	09/01/04	6.02	70	10.6	Dry		
	09/02/04	5.90	68	10.0	Dry		
	09/03/04	5.90	69	10.1	Rain		
3	09/07/04	5.77	71	10.4	Dry		
	09/08/04	6.06	70	9.5	Dry		
	09/09/04	6.14	68	8.7	Dry		
	09/10/04	6.06	69	8.9	Dry		
4	09/13/04	6.23	68	9.9	Dry		
	09/14/04	16.12	76	8.9	Dry		
	09/15/04	9.36	72	6.5	Dry		
	09/16/04	8.94	71	4.4	Dry		
	09/17/04	12.62	70	3.9	Dry		
5	09/20/04	16.50	66	4.0	Dry		
	09/21/04	13.23	64	3.9	Dry		
	09/22/04	16.63	67	3.2	Dry		
	09/23/04	13.75	66	4.1	Dry		
	09/24/04	16.51	69	3.3	Dry		
6	09/27/04	10.56	65	3.5	Dry		
	09/28/04	11.00	64	4.0	Dry		
	09/29/04	10.46	63	4.2	Dry		
	09/30/04	10.04	60	3.5	Dry		
	10/01/04	12.53	61	3.8	Dry		
7	10/04/04	12.21	57	4.2	Dry		
	10/05/04	11.89	56	4.0	Dry		
	10/06/04	13.48	58	7.1	Dry		
	10/07/04	13.65	60	8.7	Dry		
	10/08/04	18.13	60	8.6	Dry		
8	10/11/04	14.70	58	9.0	Dry		
	10/12/04	14.03	59	8.4	Dry		
	10/13/04	13.25	58	8.5	Dry		
	10/14/04	13.66	58	8.6	Dry		
	10/15/04	10.52	57	8.4	Wet		
9	10/18/04	8.42	51	9.0	Wet		
	10/19/04	7.87	48	8.4	Dry		
	10/20/04	7.16	48	9.4	Dry		
	10/21/04	6.10	51	9.0	Dry		
	10/22/04	7.66	52	7.7	Dry		
	Max.	18.13	76	10.9			
	Min.	5.77	48	3.2			
	Avg.	10.12	63.86	7.31			

City of Fort Wayne
Saint Marys Dissolved Oxygen Project 2004
Saint Marys River @ Spy Run Avenue

Wk	Date	D.O.	Temp F	Depth	Weather	Third St.	
10	10/25/04	6.89	54	6.0	Dry		
	10/26/04	7.40	55	5.7	Dry		
	10/27/04	8.31	57	5.3	Dry		
	10/28/04	7.50	56	5.0	Dry		
	10/29/04	7.08	58	5.4	Dry		
11	11/01/04	6.13	55	5.0	Wet		
	11/02/04	6.51	55	5.3	Wet		
	11/03/04	6.56	53	5.3	Dry		
	11/05/04	7.95	50	8.3	Dry		
12	11/08/04	na	na	na	Dry		
	11/09/04	9.38	47	6.2	Dry		
	11/10/04	9.76	46	6.2	Dry		
	11/12/04	10.18	44	5.0	Dry		
13	11/15/04	na	na	na	Dry		
	11/16/04	9.92	43	5.2	Wet		
	11/18/04	9.47	49	4.9	Dry		
14							
15							
16							
17							
18							
	Max.	10.18	58	8.3			
	Min.	6.13	43	4.9			
	Avg.	8.07	51.57	5.63			

Sample Date: ______________________

SIU Impact Study
St. Marys River D.O. Project
Water Depth Worksheet

	Benchmark	Distance	Depth (feet)
SM @ Spy Run	32.0		
SM @ Harrison	33.8		
SRC @ Lawton	15.5		
MA @ Tecumseh	34.9		

Benchmark - Distance = Depth

Weather: Dry Wet Comments: ______________________

Signed: ______________________

9/21/2004

Discharging SIUs January 2002-December 2003

Highlighted companies are SIUs with potential to impact CSOs as of September 2004.

PERMIT	COMPANY	FACILITY ADDRESS	Permit Effective Date	Permit Expiration Date	Modified Permit Date	Closed Permit Date
01801	Cintas Corp.	3201 Brooklyn Avenue	7/31/03	7/31/08		
08521	Creative Coatings	7505 Freedom Way	10/6/00	10/6/04		
04301	Crown Group, F.W. Plant	4301 Engle Road	2/26/99	2/26/04		
02401	Edy's Grand Ice Cream	3426 North Wells Street	9/18/03	9/18/08		
03101	Fort Wayne Anodizing	2535 Wayne Trace	1/30/04	1/30/09		
03102	Fort Wayne Anodizing	2535 Wayne Trace	1/30/04	1/30/09		
03301	Fort Wayne Newspapers	600 West Main Street	8/14/03	8/14/08		
03371	Fort Wayne Reduction Site	5225 Old Maumee Road	8/31/03	8/31/08		
03501	Franke Plating Works, Inc.	2109 E. Washington Blvd	10/31/03	10/31/08		
05701	Fujicolor Processing	3420 North Wells Street	10/31/03	10/31/08	non - major	note 1
03802	General Electric Company	1635 Broadway	9/1/03	No Discharge		note 2
03803	General Electric Company	1701 College Street	9/1/03	No Discharge		note 3
03807	General Electric Company	2000 Taylor St.	1/1/00	12/31/04		
03701	General Motors Corporation	12200 Lafayette Ctr. Rd.	12/18/03	12/18/08		
03921	Harris Kayot, Inc.	2801 West State Blvd.	7/31/03	7/31/08		
01551	Hospital Laundry Service, Inc.	3322 Cavalier Drive	9/25/03	9/25/08		
04501	ITT Industries	7310 Innovation blvd.	2/19/04	2/19/09	non - major	note 4
04661	Johnson Controls	8710 Indianapolis Rd.	8/1/99	7/31/04		
10101	Karl Schmidt Unisia	2425 S. Coliseum Blvd.	2/6/04	No Discharge		note 5
10102	Karl Schmidt Unisia	2425 S. Coliseum Blvd.	7/31/00	7/31/05		
05301	Lincoln Foodservice Products	1111 North Hadley Rd	8/21/03	8/21/08		
04621	Olde York Potato Chips	918 West Cook Road	9/11/03	9/11/08		
06661	Metaldyne Forming Technologies	6710 Innovation Blvd.	6/30/03	6/30/08		
05831	Metal Plate Polishing Co.	2413 Meyer Road	10/6/00	10/6/04		
INH00051	Parker Hannifin Corporation	10801 Rose Ave.	8/10/00	8/10/05	Dec-01	
00801	Prairie Farms	3400 Northrop (46805)	9/18/03	9/18/08		
01801	Slater Steel	2400 West Taylor St.	8/31/03	8/31/08		
08551	Three Rivers Gold	1506 Wall Street	2/19/99	2/19/04	Jul-00	
08603	Tokheim Corporation	1600 Wabash Avenue	10/1/99	9/30/04		
08801	TriTech Mfg. Inc.	2728 Commercial Road	8/31/03	8/31/08		
09401	Valspar Corp	202 Jacobs Avenue	12/11/98	12/11/03		3/1/02
09451	Van Dyne Crotty, Inc.	3115 Independence Dr	9/18/03	9/18/08		
09551	Venture Powder Coaters	517 Southview Ave.	6/16/00	6/16/05	May-01	
09601	Wayne Black Oxide	4505 Executive Blvd.	8/31/03	8/31/08		
09901	Wayne Metal Protection	1511 Wabash Avenue	10/31/03	10/31/08		
01201	White Electronic Designs	8000 Bluffton Road	12/31/03	12/31/08		

Note 1: Facility bacame non - major effective with current permit

Note 2: Facility became "no discharge" effective with current permit

Note 3: Facility became "no discharge" effective with current permit

Note 4: Facility bacame non - major effective with current permit

Note 5: Facility became "no discharge" effective with current permit

Rev 9-30-04

Crown Group 2004 Exceedences Test	Date	Limit (Daily Max) (mg/L)	Sample (mg/L)
Chemical Oxygen Demand	8/27/2004	600	2228
Nickel	2/23/2004	3.00	3.94
Nickel	3/17/2004	3.00	3.49
Nickel	5/6/2004	3.00	32.9
Nickel	5/7/2004	3.00	28.9
Nickel	11/23/2004	3.00	3.76
Total Phosphorus	5/6/2004	10	52
Zinc	1/6/2004	2.56	3.19
Zinc	5/6/2004	2.56	30.2
Zinc	5/7/2004	2.56	27.6
Zinc	8/17/2004	2.56	16.18
Zinc	8/19/2004	2.56	15.6
Zinc	11/23/2002	2.56	3.89

ips/rivers/siu impact study 2004

APPENDIX A

Fort Wayne City Utilities

Industrial Pretreatment Program

FORT WAYNE CITY UTILITIES

INDUSTRIAL PRETREATMENT PROGRAM

General Description

Fort Wayne is the largest residential and industrial community in northeastern Indiana and operates a 60 MGD activated sludge wastewater treatment plant having advanced waste treatment. The POTW is a regional plant serving Fort Wayne, New Haven, Leo-Cedarville, Grabill, Huntertown, Zanesville, and the Allen County Regional Water and Sewer District.

The original plant was built in 1940 and has had updates completed in 1959, 1971, and 1978. Combined sewer overflow facilities were added in 1972 and advanced waste treatment in 1983. Combined sewer overflow and infiltration/inflow studies were carried out during the 1970s and the City has had ongoing programs of sewer renovation, separation, and extension.

The POTW currently treats, on average, 48 MGD of which 7.5 MGD is contributed by 33 significant industries in the service area. Of these, 20 industries are subject to categorical pretreatment standards. The remaining 13 significant industries meet the definition found at 40 CFR 403.3 (t) (1) (ii).

During the mid-1950s, phenolic compounds from the wire drawing industry were a major problem, as well as metals and cyanides from the electroplating industry. Operational problems at the POTW related to industrial discharges have been minimal since the advent of industrial monitoring in the early 1970s. The City now enforces its sewer use ordinance with much success to continually reduce pollutants entering the system.

Program Development

The City of Fort Wayne has had a sewer use ordinance and an industrial surveillance program since the early 1970s to protect the biological processes of the treatment plant and the quality of its discharges.

The City's NPDES permit was modified in 1979 requiring the City to develop a pretreatment program. Activities 1, 2, 3, and 4a were submitted on July 27, 1979. The remainder of Activities 4 and 5 were submitted on October 30, 1979. The program was approved and incorporated into the NPDES permit in 1986.

Evaluation of Legal Authority

In the opinion of the City Attorney, the City of Fort Wayne has adequate powers as delegated by the provisions of Chapter 51 of the Municipal Code to enforce the pretreatment program as prescribed in 40 CFR 403.8(f)(1).

Development of Monitoring/Enforcement Program

The monitoring and enforcement program has been in effect for several years. In the early 1970s the program consisted of industrial monitoring and enforcement on the large industrial accounts. During the mid-1970s, additional personnel were added and additional industrial accounts were monitored along with a number of commercial accounts.

The initial monitoring and enforcement program met the requirements specified in 40 CFR 403 when it was promulgated in 1977. Today's program meets or exceeds the guidelines outlined in this regulation.

Program Implementation

Personnel

The Industrial Pretreatment Section (IPS) currently consists of three fulltime staff. The Supervisor of Water Quality is charged with overall program administration. This includes supervision of the field crew, issuing Industrial Wastewater Discharge permits, reviewing self-monitoring and compliance reports, issuing non-compliance orders and notices of violation, calling hearings, and issuing court summons.

The Industrial Pretreatment Coordinator and Industrial Pretreatment Inspector are the remainder of the fulltime pretreatment staff. The Pretreatment Coordinator and Inspector report to the Supervisor of Water Quality and are responsible for the collection of samples, reviewing of industry reports, data tracking, and facility inspections.

The POTW laboratory consists of four chemists and performs most of the analytical work required by the pretreatment program in accordance with methods specified in 40 CFR 136. The laboratory is a self-managed team reporting to the plant superintendent.

Ordinance

Chapter 51 of the Fort Wayne Municipal Code contains our sewer use ordinance and was developed to control discharges to the municipal sewer system. The ordinance is designed to protect the POTW from harmful discharges of toxic materials which: (a) will interfere with the operation of the POTW, including beneficial use of biosolids, or (b) will pass through the POTW into the receiving stream.

Procedures

To ensure that the industrial survey remains updated, IPS participates in the review process for the issuance of building construction permits, receives notification of new or changed industrial and commercial accounts from the City's billing information system manager, and participates with the local Chamber of Commerce.

IPS regularly reviews the Federal Register and scrutinizes the publication for any changes in the regulations pertaining to pretreatment, solid waste disposal, and hazardous waste. When changes are found or new regulations are promulgated, affected industries are notified of the changes. In the event of the promulgation of a new categorical standard, affected industries are notified to submit a Baseline Monitoring Report.

The City has a vigorous enforcement and monitoring program which requires self-monitoring and reporting by all significant industrial users (SIUs) as outlined in 40 CFR 403.12. Should an industry be required to install, modify, or up-grade its pretreatment facilities, they are required to submit all plans and specifications for review and approval prior to construction.

Compliance monitoring samples are collected from all SIUs as required under 40 CFR 403.8 (f) (2) (v). These samples are composites and grabs taken of the discharge effluent at a point determined by the City to provide representative samples. Should any parameters tested show non-compliance with permitted limits, the procedures outlined in the Enforcement Response Plan are followed. Failure to comply with any order of non-compliance or a notice of violation results in escalated enforcement per the Enforcement Response Plan.

Annual physical inspections are made at each SIU to check operating records, ensure proper operation of pretreatment facilities, and to verify that the information provided by the user is accurate.

All records of analytical data, compliance schedules, required reports, orders of non-compliance, and court actions are kept in the IPS office and are retained for a minimum of 3 years. These records are open to review by representatives of the USEPA or the IDEM at all times. Public access to the records contained in user files may be obtained through Freedom of Information Act requests but will not include access to any information meeting the definition of confidential under 40 CFR 2.

IPS publishes legal notices in the daily local newspapers to comply with the requirement to publish the list of SIUs that were determined to be in significant non-compliance during the prior 12-month reporting period.

APPENDIX B

Fort Wayne Public Works

Code of Ordinances: Chapter 51 Sewers

CHAPTER 51: SEWERS

Administration and Enforcement

Editor's note: *Ord. G-17-91 and amending Ord. G-25-91 and Ord. G-35-92 made substantive changes to the sections of this chapter where they are recorded in the section history. These ordinances are not included in the section history where the section was only renumbered using the enumeration of the 1974 Code, which is obsolete in this edition of the code of ordinances.*

GENERAL PROVISIONS

§ 51.001 DEFINITIONS.

Unless the context specifically indicates otherwise, the meanings of the following terms as used in this chapter and as used in the Rules and Regulations adopted by the Board of Public Works implementing the provisions of this chapter for the Fort Wayne sewer system are as set out below respectively:

ACT. The Federal Water Pollution Control Act, also known as "The Clean Water Act," as amended, 33 U.S.C. 466, as referred to at IC 13-18-13.

APPLICABLE PRETREATMENT STANDARDS. Any pretreatment limit or prohibitive standard (federal, state and/or local) contained in the ordinance and considered to be the more restrictive with which non-domestic users shall be required to comply.

BIOCHEMICAL OXYGEN DEMAND (BOD). The quantity of dissolved oxygen, in milligrams per liter, required during the stabilization of the decomposable organic matter by aerobic biochemical action of sewage, sewage effluent, polluted waters or industrial wastes under standard laboratory procedures for five days at 20° centigrade. The laboratory determinations shall be made in accordance with procedures set forth in 40 CFR 136.

BUILDING (OR HOUSE) DRAIN. That part of the lowest piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer.

(1) ***COMBINED.*** A building drain which conveys both sewage and storm water or other drainage.

(2) ***SANITARY.*** A building drain which conveys sewage only.

(3) ***STORM.*** A building drain which conveys storm water or other drainage, but not sewage.

BUILDING (OR HOUSE) DRAIN CONNECTION. The point where the building (or house) sewer is connected to the building drain at a location approximately three feet outside the foundation wall of the building.

BUILDING (OR HOUSE) SEWER. That part of the drainage system which extends from the end of the building drain and conveys its discharge to a public sewer, private sewer, individual sewage disposal system or other point of disposal.

(1) ***COMBINED.*** A building sewer which conveys both sewage and storm water or other drainage.

(2) ***SANITARY.*** A building sewer which conveys sewage only.

(3) ***STORM.*** A building sewer which conveys storm water or other drainage, but not sewage.

BUILDING (OR HOUSE) SEWER CONNECTION. The point where the building sewer is connected to the public sewer. This connection to the public sewer may be accomplished as follows:

(1) Where a tap-in connection is employed, the point of connection shall be where the end of the building sewer meets the inside face of the sewage system and the tapping "saddle and/or joint" shall be considered part of the building sewer.

(2) Where fittings (T's or Y's) are employed the connection shall be where the end of the first pipe meets the end of the fitting and the said T or Y fitting shall be considered a part of the building sewer.

CATEGORICAL INDUSTRY. An industry whose effluent is regulated by 40 CFR 403.6.

CATEGORICAL PRETREATMENT STANDARD OR NATIONAL STANDARD. Any regulation containing pollutant discharge limits promulgated by the U.S. EPA in accordance with Section 307(b) and (c) of the Act (33 U.S.C. 1317) which apply to a specific category of industrial users which appear in 40 CFR Chapter I, Subchapter N Part 405-471.

CHEMICAL OXYGEN DEMAND (COD). A measure of oxygen equivalent to that portion of the organic matter in a sample of sewage, sewage effluent, polluted waters or industrial wastes that is susceptible to oxidation by a strong chemical oxidant. The laboratory determinations shall be made in accordance with procedures set forth in 40 CFR 136.

CITY. The City of Fort Wayne, Indiana.

CLASSIFICATION OF USERS.

(1) ***RESIDENTIAL USERS.*** Includes any user of the city's treatment works whose lot, parcel or real estate or building is used for domestic dwelling purposes only.

(2) ***COMMERCIAL USER.*** Includes all retail stores, restaurants, office buildings, laundries and other private business and service establishments, including those identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget Division I - Services.

(3) ***INDUSTRIAL USER.*** Includes any user of the city's treatment works which is identified in the Standard Industrial Classification manual, 1972, Office of Management and Budget, as amended and supplemented, under the following divisions; Division A-Agriculture, Forestry and Fishing; Division B-Mining; Division D-Manufacturing; Division E-Transportation, Communications, Electric, Gas and Sanitary. ***INDUSTRIAL USERS*** shall be classified as follows:

(a) ***NON-DISCHARGE USERS.*** Includes all industries which discharge sanitary sewage only, and industrial users whose discharge is limited to non-contact cooling water, or boiler blowdown water.

(b) ***NON-MAJOR INDUSTRIAL USER.*** Includes all industries which discharge process water but do not meet the criteria of ***SIGNIFICANT INDUSTRIAL USERS.***

(c) ***SIGNIFICANT INDUSTRIAL USERS (SIU).*** Includes all industries comprised of categorical and non-categorical industries and shall further be defined as set out at 40 CFR 403.3(t).

(4) ***INSTITUTIONAL USER.*** Includes social, charitable, religious and educational activities such as schools, churches, hospitals, nursing homes, penal institutions and similar institutional users.

(5) ***GOVERNMENTAL USER.*** Includes legislative, judicial, administrative and regulatory activities of federal, state and local governments.

COMPLIANCE SAMPLE. A sample taken of a user's effluent approximately 30 days after a violation of this chapter, the user's permit or the federal pretreatment standards and regulations has been discovered or reported. The user shall be billed for any compliance sample taken.

COMPOSITE SAMPLE. The sample resulting from the combination of discrete wastewater samples taken at selected intervals while the discharge rate is at or above normal based on an increment of either flow or time. Time intervals between discrete samples not to exceed two hours. The total duration of collection shall not exceed 24 hours.

DWELLING. A building, or portion thereof, under one roof used primarily as the abode of one or more persons, but not including hotels, motels, lodging or boarding houses or tourist homes.

EFFLUENT. The water, together with any wastes that may be present, flowing out of a drain, sewer receptacle or outlet.

EMERGENCY. An unforeseen circumstance or combination of circumstances that may cause an eminent endangerment to the health and/or welfare of persons, the environment, or which may interfere with the operation of the sewer collection system or the Water Pollution Control Plant.

FOLLOW-UP SAMPLE. A sample taken of a user's effluent at the city's discretion from a user receiving scheduled sampling, at times other than those regularly scheduled. A follow-up sample shall be done at no cost to the user.

GARBAGE. Any solid wastes from the preparation, cooking or dispensing of food or from the handling, storage or sale of produce.

GRAB SAMPLE. An individual discrete effluent sample collected over a period of time not to exceed 15 minutes.

GROUND GARBAGE. Garbage that is shredded to such a degree that all particles will be carried freely in suspension under the conditions normally prevailing in public sewers, with no particle being greater than one-half inch in any dimension.

INDIRECT DISCHARGE. The introduction of pollutants into the sewer system from any nondomestic source regulated under Section 307(b), (c) or (d) of the Act.

INDUSTRIAL WASTES. Any solid, liquid or gaseous substance or form of energy discharged, permitted to flow or escape, or transported from an industrial, manufacturing, commercial or business operation or process or from the development, recovery or processing of any natural resource carried on by any person.

INFLUENT. The water, together with any wastes that may be present, flowing into a drain, sewer, receptacle or outlet.

NORMAL DOMESTIC SEWAGE. Sewage having an average daily suspended solids concentration of not more than 300 milligrams per liter, an average daily BOD concentration of not more than 300 milligrams per liter, an average daily COD concentration of not more than 600 milligrams per liter, an average daily phosphorus concentration of not more than 10 milligrams per liter, and an average daily ammonia concentration of not more than 25 milligrams.

NPDES PERMIT. The National Pollutant Discharge Elimination System Permit issued by the Indiana Department of Environmental Management for discharges of waste waters to navigable waters of the United States pursuant to Section 402 of 33 U.S.C. 466.

OPERATION AND MAINTENANCE COSTS. All costs direct and indirect, other than debt services including replacement costs as defined herein, necessary to insure adequate wastewater treatment on a continuing basis conforming with federal, state or local requirements and to insure longterm facilities management.

OUTLET. Any outlet, natural or constructed, which is the point of final discharge of sewage or of treatment plant effluent into any watercourse, pond, ditch, lake or other body of surface or ground water.

PERSON. Any individual, owner, discharger, lessee, occupant, firm, partnership, company, municipal or private corporation, commercial establishment, association, society, institution, enterprise, governmental agency or other legal unit or entity.

pH. An expression of the intensity of the base or acidic conditions of a liquid.

POLLUTANTS.

(1) ***COMPATIBLE POLLUTANTS.*** Waste containing biochemical oxygen demand, chemical oxygen demand, suspended solids, phosphorus, pH and fecal coliform bacteria and ammonia (NH_3).

(2) ***INCOMPATIBLE POLLUTANTS.*** Wastes with any pollutant that is not a compatible pollutant which is regulated by the NPDES permit or that would cause damage to the sewage system and/or treatment plant.

RANDOM SAMPLE. A sample taken at no charge to the user, at the city's discretion of effluent produced by any user.

RECEIVING STREAM. The watercourse, stream or body of water receiving the waters finally discharged from the sewage treatment plant.

REPLACEMENT COSTS. That cost, stated in current monetary values, as an operating cost which represents and measures the expenditures required to replace equipment, accessories or appurtenances of the property in order to maintain capacity and performance during the useful life of the property of the Water Pollution Control Utility.

REPLACEMENT FUND. A fund maintained to provide resources to pay for replacement expenditures annually as required to maintain the capacity and performance of the property of the sewage works.

SANITARY SEWAGE. Sewage discharged from the sanitary conveniences of dwellings, apartment houses, condominiums, motels, hotels, lodging or boarding houses, office buildings, factories or institutions, and free from storm water, surface water, groundwater and industrial wastes.

SCHEDULED SAMPLE. Routine sampling of a user's effluent, usually twice a year for a commercial user and quarterly for industrial users.

SERVICE CHARGE. A charge levied on a user of the treatment works which includes the user charge, a charge for local capital costs, and may include other charges for current services.

SEWAGE. The water-carried wastes from residences, business buildings, institutions and industrial establishments, singularly or in any combination, together with such ground, surface and storm waters as may be present.

SEWAGE TREATMENT PLANT or ***WATER POLLUTION CONTROL PLANT (WPC PLANT).*** The arrangement of devices, structures and equipment used for treating and disposing of sewage and sludge.

SEWAGE WORKS or ***WATER POLLUTION CONTROL UTILITY.*** All facilities and systems for collecting, transporting, pumping, treating, disposing of sewage and sludge, including the sewage treatment plant and the sanitary, storm and combination sewer collection systems whether or not in active use.

SEWER. A pipe or conduit for carrying sewage and other waste liquids as differentiated below:

(1) ***COMBINED OR COMBINATION SEWER.*** A sewer which carries storm, surface and groundwater runoff as well as sewage.

(2) ***PUBLIC SEWER.*** A sewer to the use of which all owners of abutting property have equal rights and is controlled and maintained by the city or other public authority.

(3) ***SANITARY SEWER.*** A sewer which carries domestic and unpolluted industrial sanitary sewage and to which storm, surface, groundwaters and unpolluted industrial waste waters are not intentionally admitted.

(4) ***STORM SEWER.*** A sewer which carries storm, surface and groundwater drainage but excludes sanitary sewage.

SEWER ENGINEER. The Chief Sewer Engineer of the city or his duly authorized representative; the term is synonymous with the term "Water Pollution Control Engineer."

SEWER SYSTEM. The network of sewers and appurtenances used for collecting, transporting and pumping sewage to the Sewage Treatment Plant.

SHALL. Means mandatory; "may" means permissible.

SLUGLOAD. Any discharge at a flow rate or concentration which could cause a violation of the prohibited discharge limits set in the Rules and Regulations Section 6.

STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE. A classification pursuant to the Standard Industrial Classification Manual used by the U.S. Office of Management & Budget.

STANDARD METHODS. The examination and analytical procedures set forth in the most recent edition of "Standard Methods for the Examination of Water and Wastewater," published jointly by the American Water Works Association and the Water Pollution Control Federation, a copy of which is on file in the Office of the Superintendent.

STRENGTH-OF-WASTE SURCHARGE. The additional charges for sewage service collected from users discharging sewage into the system having a strength measurement in excess of the limits imposed by the provisions of this chapter.

SUPERINTENDENT. The Superintendent of the Sewage Treatment Plant (Water Pollution Control Plant) of the city, or his duly authorized representative.

SUSPENDED SOLIDS. Solids which either float on the surface of or are in suspension in water, sewage or other liquid and which are removable by laboratory filtration. Their concentration is expressed in milligrams per liter. Quantitative determinations are made in accordance with procedures set forth in 40 CFR 136.

TOXIC POLLUTANT. One of 126 pollutants, or combinations of those pollutants, listed as toxic in regulations promulgated by the EPA under the provisions of Section 307 (33 USC 1317) of the Act.

USER CHARGE. A charge imposed on users of a treatment works to defray the cost of operation, maintenance and replacement.

USER REQUESTED SAMPLE. Any effluent sampled taken by the city at the request of the user, the cost for which shall be billed to the user.

WASTE SURVEILLANCE CHARGE. A monthly charge collected from users, qualifying as industrial or commercial class users, to defray the cost of evaluating that user's waste by metering, sampling, laboratory analysis and/or other methods deemed necessary. Said charges are set forth in § 51.065 et seq. and are subject to review annually as provided in § 51.079.

WATERCOURSE. A channel in which the flow of water occurs either continuously or intermittently.
('74 Code, § 24-1) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.002 DAMAGE TO CITY PROPERTY PROHIBITED.

It shall be unlawful for any unauthorized person to maliciously, willfully or negligently break, damage, destroy, remove, deface or tamper with any structure, appurtenance or equipment which is part of the city sewage system, the city's Water Pollution Control Plant or property of others assigned to the city for operation and maintenance and shall be liable for damage.
('74 Code, § 24-8) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.003 DILUTION.

It shall be unlawful for any person to increase the use of potable water or process water in any way, or mix separate waste streams for the purpose of diluting a discharge as a partial or complete substitute for adequate treatment to achieve compliance with pretreatment standards or requirements. The city may impose discharge limitations on any persons using dilution to meet applicable pretreatment standards or discharge permit requirements. The city may also impose discharge limitations in other circumstances deemed appropriate by the Board of Public Works.
('74 Code, § 24-9) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.004 ACCIDENTAL DISCHARGES.

(A) Each person shall provide protection from accidental discharge of prohibited or regulated materials or substances to sewers of the city. Where necessary, procedures and facilities to prevent the accidental discharge of prohibited materials shall be provided and maintained at said discharger's expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the Superintendent for review, and be approved by the city before construction of the facility. Review and approval of plans and operating procedures by the city shall not relieve the discharger from the responsibility to modify its facility as necessary to meet applicable federal, state and local requirements.

(B) All responsible persons shall notify the Superintendent of the Water Pollution Control Plant, or his representative, immediately when a "slug load" or accidental discharge occurs. A written report shall be submitted within five days of the incident. The notification must include the location of the discharge, date and time of occurrence, type of waste, concentration and volume and corrective actions taken. Any person who discharges a "slug load" of prohibited materials will be liable for any expense, including loss or damage to the city's sewer system and treatment facilities in addition to the amount of any fines imposed upon the city under state or federal law.

(C) Signs must be permanently posted in conspicuous places on the dischargers' premises, advising employees whom to call in the event of an accidental discharge. Employers shall adequately instruct all employees who may cause or discover such discharges of the emergency notification procedures.
('74 Code, § 24-10) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

CONNECTIONS AND EXTENSIONS

§ 51.015 REQUIREMENTS FOR CONNECTION TO PUBLIC SEWERS.

City Utilities shall have the authority to require an owner of real property to disconnect any downspouts, yard drains or other drains which carry the runoff of natural precipitation from a building sewer which drains into a sanitary sewer, or in areas served by combined sewers where City Utilities determines the additional load placed on the system has been found

to be detrimental to properties in that area. Property owners shall have thirty (30) days after notice thereof to comply with any such requirement.
('74 Code, § 24-3) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97) Penalty, see § 51.999

§ 51.016 EXTENSIONS OF SEWERS OUTSIDE CORPORATE LIMITS.

The installation, construction, or extension of sanitary sewers by private developers or by the city outside the corporate limits of the city and the con-nection of said sanitary sewers into the city's sewage system from, by, to, or for properties located outside such limits is prohibited, except with the approval of the Board of Public Works by duly enacted resolution, provided that a resolution ratifying and agreement and/or contract for such construction and connection shall be deemed to constitute such approval.
('74 Code, § 24-4) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.017 CONNECTIONS TO SEWER SYSTEM BY CERTAIN PROPERTIES OUTSIDE CORPORATE LIMITS.

Notwithstanding the provisions of § 51.016, the Board of Public Works shall have the authority to permit a property located outside the corporate limits of the city to connect to an existing sanitary sewer which is part of the city's sewer system, when the property abuts, adjoins or is immediately contiguous to the street, alley or easement in which such sewer is located and provided the property owner or occupant has complied with the requirements prescribed by § 51.015 of this chapter.
('74 Code, § 24-5) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

COMMERCIAL AND INDUSTRIAL WASTES AND DISCHARGES

§ 51.030 PRIOR APPROVAL FOR CERTAIN WASTES.

(A) Review and acceptance by the Superintendent shall be obtained prior to the discharge into the sewage works sewers by any persons having sewage wastes which contain:

(1) Either a BOD content greater than 300 milligrams per liter or a COD greater than 600 milligrams per liter.

(2) A suspended solids content greater than 300 milligrams per liter.

(3) A phosphorus content greater than 10 milligrams per liter.

(4) An ammonia content greater than 25 milligrams per liter.

(5) Other contaminants which either from their constituents or quantities will:

(a) Interfere with the operation of any portion of the sewage works;

(b) Pass through the treatment works or otherwise be incompatible with such works;

(c) Prevent the reclamation and/or recycling of municipal or industrial wastewaters and sludges.

(B) However, nothing in this section or elsewhere in this chapter shall be read to allow the user to discharge pollutants which shall cause interference or pass through and/or to absolve the user from liability in the occurrence of a discharge which causes such interference or pass through.
('74 Code, § 24-11) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.031 PRETREATMENT FACILITIES; APPROVAL OF PROPOSED PLANS, OPERATION.

(A) General. When, after making such a review, the Superintendent concludes that, before the person discharges waste into the public sewers, the person must modify or eliminate those constituents which would be harmful to the structures, processes, or operations of any portion of the sewage works or injurious to the health of the general public, then that person shall either modify the wastes at the point of origin or shall provide and operate, at said person's expense, such treatment and processing facilities as may be deemed necessary to render said person's waste acceptable for admission to the public sewers. ('74 Code, § 24-12)

(B) Prior approval. Plans, specifications and any other pertinent information relating to proposed treatment or processing facilities shall be submitted to the Superintendent for examination and approval. No construction of such facilities shall begin until the Superintendent has given written approval. Such approval shall not exempt the person from the obligation to make further reasonable adaptations of such facilities when such adaptations prove necessary to secure the results of acceptable waste concentrations desired. The approval of proposed facilities and/or equipment by the Superintendent does not in any way guarantee that such facilities and/or equipment will function in the manner described by the person's constructor or the manufacturer of said facilities and equipment, nor shall such approval relieve any person of the responsibility of enlarging or otherwise modifying such facilities to accomplish the intended purposes. ('74 Code, § 24-13)

(C) Operation. Where pretreatment facilities are provided pursuant to the Superintendent's approval, they shall be maintained continuously in satisfactory and effective operating condition at the person's expense and shall be subject to periodic and random inspection and sampling by the city. The person responsible for such facilities shall maintain suitable operating records which shall be open to inspection by the city, and shall submit to the Superintendent such monthly summary reports of the character of the influent and effluent of the facilities as the Superintendent may require. All records and reports shall be retained for a minimum of three years. All industry whether defined as categorical or noncategorical industry by state and federal regulations shall comply with all requirements of 40 CFR 403.12. ('74 Code, § 24-14)

(D) Pursuant to 40 CFR 403.12(o), the city may, at its discretion, require that records be kept for a longer period in the case of unresolved litigation or when requested by the Approval Authority.

(E) All industries whether defined as categorical or noncategorical industry by state and federal regulation shall comply with all requirements of 40 CFR 403.12, including, when applicable, Baseline Monitoring Reports (BMRs), 90 Day Compliance Reports, and Periodic Compliance Reports.
(Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91); Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.032 FEDERAL PRETREATMENT STANDARDS.

(A) As part of this chapter the city shall enforce all federal pretreatment standards including but not limited to categorical pretreatment standards upon persons within its service area or within the service area of any contract customers.

(B) Categorical industrial users must comply with all applicable National Categorical Pretreatment Standards found in 40 CFR Chapter 1, Subchapter N, Parts 405-471. These standards are hereby incorporated into this chapter.
('74 Code, § 24-15) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.033 PROHIBITED DISCHARGES AND LIMITATIONS.

Except as hereinbefore provided, no person shall discharge or cause or permit to be discharged into the public sewer any of the following described substances, wastes or waters:

(A) Any liquid or vapor having a temperature greater than 140° F. (60° C), or any wastewater which will cause the WPC Plant's influent to exceed 104° F. (40° C).

(B) Any waters or wastes from industrial sources containing more than 100 milligrams per liter of total oil and grease (TOG). Acceptable limits for animal-vegetable based fats, oils and grease shall be determined by the Board of Public Works and set out in the Sewer Utility Rules and Regulations. Said maximum limits shall be calculated and set at an amount shown not to cause interference or obstruction in the collection system and/or sewer works, and shall be reevaluated and adjusted as necessary to protect the integrity of the sewer utility.

(C) Any gasoline, benzene, naphtha, fuel oil, mineral oil or any other flammable or explosive solid, liquid or gas.

(D) Any noxious or malodorous gas or substance which either alone or by interaction with other wastes, is capable of creating a public nuisance or hazard to life or of preventing entry into the sewers of their maintenance or repair.

(E) Any garbage that has not been properly pretreated and reduced as provided for in the definition of ground garbage in § 51.001.

(F) Any ashes, cinders, sand, mud, straw, shavings, wood, metal, glass, rags, feathers, tar, plastics, paunch manure, butchers' offal or any other solid or viscous substances capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewer system or the sewage treatment plant.

(G) Any waters or wastes having a pH less than 6.0 or greater than 10.0 or having any other corrosive property capable of causing damage or posing hazards to the structures, equipment or personnel of the sewage works.

(H) Any waters or wastes containing toxic substances, as defined under Section 307 (b) and (c) of the Clean Water Act in sufficient quantity to interfere with the biological process of the sewage treatment plant or that will pass through the plant into the receiving stream in amounts exceeding the standards set forth by federal, interstate, or other competent authority having jurisdiction, or will prevent the disposal of the sludges by the plant in accordance with Section 405 of said Act.

(I) Any toxic radioactive isotopes, without a special permit. The radioactive isotopes of I 131 and P 32 used in hospitals are not prohibited, if they are properly diluted before being discharged into the sewer system, as further defined in the general rules and regulations.

(J) Any waters or wastes that for a duration of 15 minutes or more have a concentration more than five times the average concentration of BOD or suspended solids of the user's sewage discharged during a 24 hour period of normal operation.

(K) Any waters or wastes containing suspended solids of such character and quantity that unusual provisions, attention and expense would be required to handle such materials at the sewage treatment plant, its pumping stations or other facilities.

(L) Any waters or wastes containing incompatible pollutants as herein described.

(M) Any waters or wastes containing any toxic substances in quantities that are sufficient to interfere with the biochemical processes of the sewage treatment plant, that will pass through the plant into the receiving waters or accumulate in the sludges in an amount exceeding the limitations, set forth by any federal, state, interstate or local limitations whichever is more stringent. Specifically excluded are any waters or wastes containing toxic ions, compounds, or substances in concentrations or amounts exceeding the limitations set forth by the Board of Public Works and published in the general rules and regulations.

(N) Any bulk waste, either industrial or domestic, without prior written approval of the Superintendent.

(O) Any substances with objectional color not removed by the treatment process, such as, but not limited to dye waste and vegetable tanning solutions.

(P) The city reserves the right to refuse, deny or revoke the connection of any user in the event the sewer service requirements of the user, in the judgment of the Superintendent could or would impose an excessive burden on the sewage works or in the event the user is or has been in repeated violation of this chapter. The city further reserves the right in the event of any emergency, to restrict the allowable discharge received from any or all large users of the sewer system during the time of such emergency.

(Q) Pollutants which create a fire or explosion hazard in the city's treatment works or sewage system, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140° Fahrenheit, or 60° centigrade using test methods specified in 40 CFR 261.21.
('74 Code, § 24-16) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92); Am. Ord. G-17-94, passed 8-23-94; Am. Ord. (Ord. G-07-97, passed 7-9-97) Penalty, see § 51.999

§ 51.034 RESPONSIBILITY FOR OBSTRUCTION OR DAMAGE TO SEWERS.

If a public sewer becomes obstructed or damaged because any of the aforementioned substances were improperly discharged, the person or persons

responsible for such discharges shall reimburse the city for the expenses incurred by the city for cleaning out, repairing, rebuilding the sewer or for any litigations or damage claims resulting therefrom, including legal fees and court costs. For multiple offenders, each responsible person shall be assessed a proportionate percentage of the damage.
('74 Code, § 24-17) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.035 SUBMISSION OF DATA ON INDUSTRIAL WASTE.

(A) The following conditions are required for all SIU permits, and also may be incorporated into other permits at the discretion of the Superintendent:

(1) A statement of duration;

(2) A statement of non-transferability;

(3) Applicable federal, state and local effluent limits;

(4) Self-monitoring, sampling, reporting, notification, and recordkeeping requirements; and

(5) A statement of applicable civil and criminal penalties, pursuant to 40 CFR 403.8(f) (1)-(iii).

(B) Any person who discharges industrial waste into the city's sewer system either directly or indirectly, shall forthwith fill out and file, with the Superintendent, an industrial waste questionnaire, baseline monitoring report or permit application, the form for which will be furnished by the city, in which shall be set forth the quantity and characteristics of the wastes discharged into the city's sewer system. Any owner desiring to establish a new connection to the public sewer or to establish a new account with sewage works for the purpose of discharging industrial or commercial waste shall 90 days prior to discharge first fill out and file with the Superintendent such a questionnaire, baseline monitoring report or permit application, which shall contain the actual or predicted data relating to the quantity and characteristics of the wastes to be discharged. After review of the submitted documents and permit application, the Superintendent shall issue an industrial wastewater discharge permit which shall contain conditions and requirements with which the person shall comply. All rules and regulations of the sewer utility must also be followed by a permitted user.

(C) Any person who adds, changes, modifies or proposes to change manufacturing or pretreatment processes shall first notify the Water Pollution Control Plant, in writing, and submit a new or revised Baseline Monitoring Report for review by the Superintendent.

(D) Industrial users must provide prior notification to the Superintendent of the WPC Plant before any changes are made to their effluent.

(E) Any person who knowingly makes any false statement, representation or certification in any application, report or other document required by this chapter or other applicable regulations shall, upon conviction, be punished by the imposition of a criminal penalty as required by local and/or state statutes.

(F) When special circumstances render it an unreasonable burden to comply with the time schedule determined by the sewage works for the correction of any industrial waste discharge problem, an extension of time, not to exceed 90 days, may be granted by the Superintendent upon presentation in writing of an application for such relief.
('74 Code, § 24-18) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97) Penalty, see § 51.999

§ 51.036 CONFIDENTIAL INFORMATION.

Information and data furnished to the city by any person shall be made available to the public or other governmental agency without restriction unless the person specifically requests and is able to demonstrate in accordance with 40 CFR 2.203 and 330 IAC 5-1.5-8 that the release of such information would divulge information and/or methods of production entitled to protection as trade secrets or proprietary information of said person. The above limitation to access has no application to the USEPA, which shall be entitled to immediate and unlimited access to all information collected by the city under its Pretreatment Program. Further, under no circumstances may the volume or the components of the discharge be considered confidential. All requests, by the user, for confidentiality of information shall be made in

accordance to and governed by the provisions of 330 IAC 5 and 40 CFR 2.
('74 Code, § 24-19) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.037 CONTROL MANHOLES.

Any person who discharges or may discharge industrial wastes into a public sewer via any means such as floor drains, sinks, catch basins, and the like, shall be required by the Superintendent to construct and maintain, at his own expense, one or more control manholes, at a specified location or locations, to facilitate the observation, measurement and sampling of owner's waste. Such manholes shall be constructed in accordance with the standards and specifications of the city. The Superintendent may also require the person to install and maintain in any such manhole, at said person's expense, an approved volume-measuring device. Plans and/or shop drawings for the installation of control manholes and related equipment shall be approved by the Superintendent before any construction is begun.
('74 Code, § 24-20) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.038 GREASE AND SAND TRAPS.

Whenever the Superintendent determines that interceptors or traps are needed to protect the city's sewer collection system or the city's treatment plant from grease, oil, sand or similar substances occurring in any person's sewage and so notifies said person, then such traps shall be promptly installed by said person, at said person's expense and shall be so maintained by that person that none of such substances can be discharged or carried over into the public sewers. All traps or interceptors shall meet the city's standards as to construction, location and installation.
('74 Code, § 24-21) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.039 INSPECTIONS; WASTE SAMPLING.

(A) Any person shall be subject to periodic and random inspections by the city for the purpose of determining compliance with permit limitations, solvent management plans or spill prevention plans, identifying dilution streams or to categorize regulated processes. These inspections may consist of monitoring waste streams, inspection of the premises, inspection and/or copying of production records, pretreatment operating records and other records or data deemed necessary by the inspector for the purposes stated above.

(B) The installation, operation and maintenance of the sampling facilities shall be the responsibility of the person discharging the wastes and shall be subject to the approval of the Superintendent. Access to the sampling facilities shall be granted, at all times, to the Superintendent.

(C) Where any person's operations have security measures in force which require proper identification and clearance before entry onto said person's property is granted, such person shall make the necessary arrangements with their security personnel that upon showing of proper identification personnel from the city shall be permitted to enter, without delay, for the purpose of observing or monitoring of wastes being discharged at a given point or points or that person shall install suitable control manholes outside of the security area or areas, which at all times will be immediately available to city personnel.
('74 Code, § 24-22) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94) Penalty, see § 51.999

§ 51.040 WASTE ANALYSIS PROCEDURES AND CHARGES.

Laboratory procedures used in the examination of industrial wastes shall be those set forth in Code of Federal Regulations 40 CFR 136 or approved EPA methods.

(A) *Charges to users.* Alternate methods for certain analyses of commercial, industrial or institutional establishments may be used subject to mutual agreement between the Superintendent and the user. All such analyses shall be binding in determining strength-of-waste surcharges and other matters dependent upon the character and concentration of wastes. When surveillance sampling is conducted by the city, a split shall be made available for analysis by user upon request. In the event of a dispute between the Superintendent and the user as to the toxic nature or other particulars of the sample taken and analyzed by the city, the dispute shall be resolved through an appeals process consistent with approved USEPA or IDEM guidance documents and methodology, the specific procedures for which shall be set out in the rules and regulations of the WPC Utility. Analyses made by the city at the request of the user shall be charged to the user according to the sewage works' standard work order billing procedure.

(B) *Charges to governmental agencies.* Analyses performed by the Water Pollution Control Plant Laboratory for any governmental agency, or political subdivision of a city, county or state shall be billed to such agency or subdivision for direct labor and expenses according to the sewage works' standard work order billing procedure. Analyses performed for other agencies shall not have priority over the regular Water Pollution Control Plant analyses unless in the judgment of the Superintendent the urgency of the analyses warrants such priority.

(C) *Charges of outside services.* Analyses performed by the Water Pollution Control Plan Laboratory for any person shall be billed at the rate established by the Water Pollution Control Plan Laboratory for such analyses.

(D) *Charges collected.* All waste analysis charges collected under divisions (A) through (B) above shall be recorded as credits to the operating costs of the Water Pollution Control Plant and a quarterly accounting thereof shall be forwarded to the Superintendent. All such charges are to be used to defray the operation and maintenance expenses incurred by the Water Pollution Control Plant in performing said analyses.
('74 Code, § 24-23) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.041 USE OF REPRESENTATIVE ANALYSIS.

Until an adequate analysis of a representative sample of user's wastes has been obtained, the city may, for the purpose of this chapter, make a determination of the character and concentration of the wastes by using data based on analysis of similar processes or data for this type of business that are available from the United States Environmental Protection Agency or from industry-recognized authoritative sources. This method, if selected by the city, shall continue at the city's pleasure or until an adequate analysis has been made.
('74 Code, § 24-24) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

PRIVATE SEWAGE DISPOSAL

This subchapter (§§ 51.050 through 51.059) applies to matters under the jurisdiction of the State and Allen Country Board of Health.

§ 51.050 DEFINITIONS.

(A) The words and phrases used in this subchapter (§§ 51.050 through 51.059) are herein defined, and for the purpose of this subchapter only, shall be construed as follows, except when otherwise expressly provided.

(1) ***STATE DEFINITIONS.*** All definitions set forth in 410 IAC 6-8.1, Bulletin SE-11(1986) and Bulletin SE-13 (1988), as amended from time to time, from the Indiana State Department of Health are hereby incorporated by reference.

(2) ***BOARD.*** The Fort Wayne-Allen County Board of Public Health, Fort Wayne, Allen County, Indiana.

(3) ***BUILDING.*** A structure having a roof supported by columns or walls built or used for the enclosure, shelter, protection or occupancy or persons, fixtures or personal property, and from which there emanates any sewage.

(4) ***COMMERCIAL.*** Any building which is not a one or two family dwelling.

(5) ***DEPARTMENT.*** The Fort Wayne-Allen County Department of Public Health, Fort Wayne, Allen County, Indiana, and/or its employees.

(6) ***ENVIRONMENTAL HEALTH SPECIALIST.*** An individual as defined in IC 25-32-1-2(b).

(7) ***HEALTH COMMISSIONER.*** The Director of Public Health for the Fort Wayne-Allen County Department of Public Health for Fort Wayne, Allen County, Indiana, (designated as "Health Officer" in the state rules and regulations) and/or his/her authorized representative.

(8) ***INSTALLER.*** Any person who constructs, installs, replaces, alters, modifies or repairs any residential or commercial sewage disposal system subject to the provisions of this chapter, other than one which serves his/her/its building. In the event that the person is any association of two or more people, then said association shall designate one individual who shall be designated as the installer and responsible for compliance with all provisions hereunder.

(9) ***PERMIT.*** A certificate of a size and style approved by the Health Commissioner.

(10) ***PERMITTEE.*** The person who is the owner of the real estate, his/her/its authorized representative, who is responsible for the application of a construction permit and/or operating permit and who shall be responsible for the acceptance of notices at the address listed on the permit applications.

(11) ***PUBLIC SEWER.*** A sewer to the use of which all owners of abutting property have equal rights and is controlled and maintained by the city or other public authority.

(12) ***RESIDENTIAL.*** A building used as a one or two-family dwelling.

(13) ***SEWAGE.*** The water-carried wastes from residences, business buildings, institutions and industrial establishments, singularly or in any combination, together with such ground, surface and storm waters as may be present.

(14) ***SOILS SCIENTIST.*** An individual who is a Specialist or Classifier, registered with the American Registry or Certified Professionals in Agronomy, Crops and Soils (ARCPACS).
(Ord. G-07-97, passed 7-9-97)

§ 51.051 SEWAGE DISPOSAL.

(A) *State rules.* All rules and regulations of 410 IAC 6-8.1, 410 IAC 6-10, Bulletin SE-11 (1986) and Bulletin SE-13 (1988), as amended from time to time, from the Indiana State Department of Health are hereby incorporated by reference.

(B) *Public sewer available.* Whenever a public sewer is or becomes available within 300 feet of a residential or commercial lot line, a direct connection shall be made to said public sewer, provided direct access is reasonably available via easement or other appropriate means. All existing septic tanks, sewage pits, outhouses, privy pits and similar sewage disposal systems or treatments facilities shall be abandoned and filled in a safe an sanitary manner. Permittee shall have ninety (90) days from the date that the public sewer becomes available to make a direct connection to the public sewer and to abandon and fill in the existing sewage disposal system.

(C) *Public sewer not available.* All residential and commercial buildings which are not connected to a public sewer shall be connected to a private sewage disposal system which shall comply with the standards set forth herein.

(D) *Construction of privy.* Sanitary vault privies constructed and maintained pursuant to Bulletin SE-11 (1986) shall be approved by the Health Commissioner.

(E) *Correction of defects.* Should any defect exist or occur in any private sewage disposal system or privy which would cause the sewage disposal system or privy to fail to meet the requirements of this Chapter, then the defect shall be corrected by the owner/permittee pursuant to the time table established by the Health Commissioner. Failure to correct the defect within the time table established by the Health Commissioner shall be considered a violation of this chapter and shall subject the owner/permittee to the sanctions set forth in § 51.059 subject, however, to the hearing provisions of § 51.058.

(F) *Adaptation of residential systems.* Whenever there is any alteration of the structure or change in the use or occupancy of a residential building that would affect the functioning of the existing private sewage disposal system, including the addition of bathrooms, kitchens or other related water disposal mechanisms, then the system shall be modified, enlarged or replaced in accordance with the requirements of this chapter.

(G) *Adaptation of commercial system.* Whenever there is any alteration of the structure or significant change in the use or occupancy of a commercial

building which would affect the functioning of the existing private sewage disposal system, including the addition of bathrooms, kitchens or other related water disposal mechanisms, then the system shall be modified, enlarged or replaced in accordance with the requirements of this chapter.
(Ord. G-07-97, passed 7-9-97)

§ 51.052 CONSTRUCTION REQUIREMENTS OF PRIVATE SEWAGE DISPOSAL SYSTEMS.

(A) *Indiana State Department of Health Requirements.* All rules and regulations of 410 IAC 6-8.1, Bulletin SE-11 (1986) and Bulletin SE-13 (1988), as amended from time to time, from the Indiana State Department of Health are hereby incorporated by reference.

(B) *Lot dimensions.*

(1) Lots or tracts of real estate on which residential or commercial sewage disposal systems are to be installed and which are rated slight or moderate for septic tank absorption fields by the U.S. Department of Agricultural Soil Conservation Service, shall contain a minimum of one (1.0) acre or 43,560 square feet and suitable soils and topgraphy to permit compliance with this chapter.

(2) Lots or tracts of real estate on which residential or commercial sewage disposal systems are to be installed and which are rated severe for septic tank absorption fields by the U.S. Department of Agriculture Soil Conservation Service shall contain a minimum of two (2.0) acres or 87,120 square feet and suitable topography to permit compliance with this chapter.

(3) A permittee, whose real estate was a separate parcel for tax purposes as shown on the tax records of the Auditor of Allen County, Indiana, and recorded prior to the effective date of this chapter as set forth in 51.059 (I) shall not be prohibited from the construction, installation and eventual operation of a residential sewage disposal system solely as the result of his/hers/its lot dimensions being less than those set forth above in (1) and (2), provided that he/she/it meets all other requirements of this chapter.

(C) *On-site evaluation.* At least one boring from the submitted septic disposal system location shall be done with a soil auger. A second sample from the submitted septic disposal system location, and any additional confirmation samples, may be taken with a push probe.

(D) *Requirements for septic tanks.*

(1) Residential septic tanks shall have the following number of gallons:

(a) If the number of bedrooms in a dwelling are one, two, three or four: 1,250 gallon tank.

(b) If the number of bedrooms in a dwelling are five: 1,500 gallon tank.

(c) If the number of bedrooms in a dwelling are more than five: 1,500 gallon tank + 150 gallons x the number of bedrooms over five.

(E) *Final grade.* All distribution boxes shall be extended full size to ground level or final grade.

(F) *Access openings.* All septic tanks shall have at least one (1) access opening of at least ten (10) inches in diameter, for each compartment in said tank for inspection and cleaning purposes. All such access opening shall be extended to ground level and shall be fitted with safely secured, gas tight covers.

(G) *Abandoned septic tanks.* Abandoned septic tanks shall be filled with earth, sand or gravel or shall be removed.

(H) *Inspection pike.* Each private sewage disposal system shall have at least one suitable inspection pipe, which shall be accessible to the Health Commissioner at all reasonable times for the inspection or sampling of effluent. If an inspection pipe does not exist, is not in good repair or is not accessible, such fact shall constitute a defect in the system under 51.051(E).

(1) The inspection pipe shall be installed at the far end of one of the absorption lines, or just beyond the last equipment or device in any other treatment system.

(2) The inspection pipe shall be not less than an eight (8) inch riser of Schedule 40, SDR 22 or SDR 26 PVC pipe or vitrified clay pipe extending above the surface of the grounds with a safely secured easily removable cap or cover and with its lower end connected and arranged to permit the collection, by dipping, of an effluent sample.
(Ord. G-07-97, passed 7-9-97)

§ 51.053 CONSTRUCTION PERMIT.

(A) *Construction permit required.* An owner or permittee shall first obtain a construction permit from the Health Commissioner prior to the commencement of any excavation, construction, alteration, repair, modification or addition to any existing or new private sewage disposal system.

(B) *Permit to be posted.* No person shall perform any work on a private sewage disposal system project unless a valid construction permit is first obtained and is properly posted in a conspicuous place at or near the building where the private sewage disposal system is to be constructed. The permit shall be plainly visible from the public thoroughfare serving the building until the project is completed.

(C) *Application for permit.* The application for such permit shall be submitted to the Health Commissioner on a form provided by the Health Commissioner and shall be supplemented by any plans, specification and other information deemed necessary by the Health Commissioner or as required by 410 IAC 6-8.1-48.

(D) *Permit fees.* Prior to the issuance of any permit, each owner/permittee shall first tender to the Treasurer of Allen County, Indiana, a fee or fees, which shall be deposited into the City-County Health Fund, for each system being constructed, modified, altered or repaired in accordance with the following schedule.

(1) New construction - $75.00.

(2) Alteration, modification or repair of existing system - $50.00.

(3) Revision of existing permit prior to construction - $20.00.

(E) *Term and renewal.* A construction permit shall be valid for one (1) year from the date of issuance, and may be renewed for up to an additional six (6) months upon application. If the permit is renewed, the permittee shall comply with any changes in the rules, standards or requirements which may have come into effect subsequent to the original date of issuance. The construction permit is not transferable.
(Ord. G-07-97, passed 7-9-97)

§ 51.054 INSTALLERS REGISTRATION.

(A) *Registration requirements.* Except for a person working on his/her/its own private sewage disposal system which serves the dwelling in which he/she/it resides, no person shall construct, install, replace, alter, modify or repair any private sewage disposal system unless that person has first registered with the Department as an installer. Persons required to be registered shall be given a grace period of up to six (6) months after the effective date of this chapter in which to register with the Department. Application for registration shall be on forms provided by the Department.

(B) *Conditions for registraton.*

(1) Every person required to register under this section shall be knowledgeable of all laws, rules and regulations of both the state and county governing private sewage disposal systems. Prior to registration, the applicant must demonstrate knowledge of the applicable laws, rules and regulation by passing a proficiency exam conducted by the Department with a score of eighty percent (80%) or higher. The registration exam shall be reviewed from time to time to determine its applicability to current laws, rules and regulations. Where taking a written exam is not feasible, due to language or reading difficulties, arrangements will be made to allow for an oral examination to assure proficiency. Opportunity for reexamination shall be afforded to an applicant upon request but no more frequently than once per month.

(C) Seminar. At the request of the Health Commissioner, but not more than once per year, a person registered under this section shall attend a seminar on sewage disposal conducted by the Department of the Indiana State Department of Health.

(D) *Expiration.* Registrations under this section shall expire annually on December 31. Each installer shall be required to re-register annually on or before January 15 of each succeeding year.

(E) *Annual fee.* For a period of six (6) months after the effective date of this chapter, registration under this section shall be without fee. After that date, an annual registration fee of $40.00 will be charged which shall be paid not later than January 31 of each year.

(F) *Notice of violation.* Whenever the Health Commissioner determines that there has been a violation of any provision of this chapter or the applicable rules and regulations of the Indiana State Department of Health by an installer, the Health Commissioner shall give written notice, in person or by certified mail, of the alleged violation to the installer. Such notice shall include the following:

(1) A statement of the alleged violation.

(2) An order allowing a reasonable time for the performance of any act required to correct the violation.

(G) *Suspension or revocation.* If the violation is not corrected within the designated time, the Health Commissioner may suspend or revoke the installer's registration subject to the provisions contained in 51.058 (B), (C) or (D).

(1) If the registration is suspended, the installer may be reinstated by the Health Commissioner upon correction of all violations.

(2) If the registration is revoked, the Health Commissioner shall require, at a minimum, that the installer: 1) be retested; 2) pay the registration fee; and, 3) correct all outstanding violation to the satisfaction of the Health Commissioner prior to being re-registered.

(H) *Not registered.* Any person constructing, installing, replacing, altering or repairing any private sewage disposal system who is not registered as an installer under this section shall be deemed to be in violation of this chapter and shall be subject to all penalties set forth in § 51.059.
(Ord. G-07-97, passed 7-9-97)

§ 51.055 INSPECTION.

(A) *Commencement of construction.* Upon issuance of a construction permit under § 51.053(A), the permittee may commence installation and construction of the private sewage disposal system. The Health Commissioner may inspect the work at any state of construction.

(B) *Inspection.* Upon substantial completion of the installation, the permittee shall notify the Health Commissioner that the work is ready for inspection. No portion of the installation shall be covered until the inspection is made.

(1) No portion of the installation shall be used and, when the system serves a new building, no person shall be permitted to use the building or buildings until the inspection has been completed and the system is found to be in compliance and an operation permit has been issued.

(2) The inspection shall be made within two (2) working days of the receipt of notice by the Health Commissioner that the system is ready for inspection.

(C) *Issuance of operation permit.* If the system meets all requirements and is in compliance with the law, the Health Commissioner shall issue an Operating Permit.

(D) *Operating permit required.* It shall be unlawful for any person to use or operate a private sewage disposal system unless said person possesses a valid operating permit issued by the Health Commissioner.

(E) *Valid period.* The Operating Permit shall be valid until there is a change in the use associated with the system. The issuance date shall appear on the Permit. The operation permit is not transferable.

(F) *Application for permit.* The application for an operation permit shall be made to the Health Commissioner on forms provided by the Health Commissioner.

(G) *Time of issuance.* An operating permit shall be issued within five (5) days of the inspection of the system once the Health Commissioner has determined that the permittee has complied with all applicable provisions of this chapter, the related state rules and regulations and tendered the appropriate permit fee.

(H) *Renewal.* Renewal of the Operating Permit is the duty of the permittee.
(Ord. G-07-97, passed 7-9-97)

§ 51.056 MAINTENANCE AND SAMPLING.

(A) *Sanitary Condition Mandatory.* Every private sewage disposal system shall be constructed and maintained so that the effluent leaving the Permittee's system shall be sanitary.

(B) *Inspection and sampling.* The Health Commissioner shall be permitted to enter upon any property at any reasonable time to inspect and take samples from a private sewage disposal system. If said test results should indicate a residential or commercial sewage disposal system failure, said failure shall constitute a violation of § 51.051(E).
(Ord. G-07-97, passed 7-9-97)

§ 51.057 ECONOMIC HARDSHIP.

(A) *Economic hardship.* In the event an owner/permittee is unable to comply with the provisions of § 51.051(B) due to the economic hardship that might be imposed, then the Health Commissioner may, upon application and proof of inability to pay the cost of compliance, extend the period within which said owner/permittee shall be required to make the hook-up provided the owner/permittee has an existing private sewage disposal system which is operating properly.
(Ord. G-07-97, passed 7-9-97)

§ 51.058 DENIAL; SUSPENSION; REVOCATION.

(A) *Denial and approval of permit.*

(1) In the event the Health Commissioner determines that the application for the Construction Permit and/or Operating Permit does not meet the standards set forth in this chapter, then the Health Commissioner shall be required to notify the Permittee of such denial in writing, within thirty (30) days of the original application, stating the specific reasons for the denial of the permit.

(2) Failure of the Health Commissioner to issue a written denial of a permit and/or to issue specific written directions regarding corrective actions that need to be taken to obtain the permit within thirty (30) days from the date of application of the Construction Permit shall be construed as an approval of the Construction Permit. In the event the Health Commissioner issues written directives regarding corrective actions, then the permittee and/or his agent shall have a reasonable amount of time to address the items set forth in the directives in order to be able to obtain the Construction Permit.

(3) Failure of the Health Commissioner to issue a written denial of an Operating Permit and/or to issue specific written directions regarding corrective actions that need to be taken to obtain the permit within ten (10) days from the date of application of the Operating Permit shall be construed as an approval of the Operating Permit. In the event the Health Commissioner issues written directives regarding corrective actions, then the Permittee and/or his agent shall have a reasonable amount of time to address the items set forth in the directives in order to be able to obtain the Operating Permit.

(B) *Suspension of permit/registration.* The Health Commissioner may order the suspension of a Construction Permit or Operation Permit or installer registration. The Health Commissioner may order the suspension of a permit or registration for any of the following reasons:

(1) Failure to meet any of the standards of any of the provisions of this chapter or violations of any of provisions of this chapter.

(2) Interference with the Health Commissioner in the performance of his/her duties. Interference shall be defined as the process of obstructing, hampering or blocking the Health Commissioner in the performance of his/her duties.

(3) At the request of the permittee or installer, a hearing shall be afforded him/her/it within twenty-four (24) hours of the issuance of the written suspension order. Said hearing shall be conducted as set forth in 51.058(E).

(C) *Revocation of permit/registration.* Any permit and/or registration issued hereunder may be revoked by the Health Commissioner as the result of the willful or continued violation of any provision of this chapter. No such revocation shall be ordered by the Health Commissioner except after a hearing held pursuant to § 51.058(E) upon at least ten (10) days written notice to the owner/permittee/installer of the time, place and nature of said hearing. Said notice of hearing shall be served upon the owner/permittee/installer by leaving, or mailing (certified mail) the notice to the address listed by the owner/permittee/installer at his/her/its address on the permit, application or installer registration application.

(D) *Immediate revocation.* Notwithstanding any of the other provisions of this chapter, whenever the Health Commissioner finds unsanitary or other conditions, which, in his/her opinion constitute an imminent health hazard, he/she may, without notice or hearing, issue and serve a written order on the owner/permittee/installer requiring the immediate cessation of operation/installation. Said written order shall site the existence of the imminent health hazard and shall specify the corrective action to be taken. Such order shall be effective immediately. Upon petition to the Health Commissioner, the permittee/installer shall be afforded a hearing within twenty-four (24) hours of the issuance of the written order. Said hearing shall be conducted as set forth in 51.058(E).

(E) *Hearing.* At any hearing required under this chapter, every owner/permittee/installer who is a party to such proceeding shall have the right to submit evidence, to cross examine witnesses and to be represented by counsel. All such hearings shall be conducted in an informal manner, but irrelevant, immaterial or unduly repetitious material shall be excluded. Upon the conclusion of the hearing, the Health Commissioner shall issue a final order determining the issue(s) which shall be conclusive on all parties subject to the right of appeal.

(F) *Appeal.*

(1) Any owner/permittee/installer aggrieved by an final order of the Health Commissioner shall be entitled to a review of the final order before the Board by filing a written request with the Secretary for the Board within fifteen (15) days of the Health Commissioner's final order.

(2) Upon the Secretary's receipt of such request, the Board shall hear the matter de novo in open hearing upon at least ten (10) days written notice of the time, place and nature thereof. The notice shall be issued by the Secretary for the Board to owner/ permittee/installer filing the request.

(3) The notice shall be served upon the owner/permittee/installer by leaving or mailing (certified mail) the notice to the address listed on the application as his/her/its address or such other address he/she/it shall designate in writing.

(4) At such hearing, the same rules of procedure shall apply as in the case of the hearing before the Health Commissioner. Upon written demand by the owner/permittee/installer, the Board shall cause the proceedings before it to be recorded by a stenographer or reporter employed for such purpose, and the same, together with all papers and documents filed therein, shall be reproduced by said Commissioners of Allen County, Indiana in the form of a transcript, a copy of which shall be available to any party.

(5) The expense of such proceedings shall be charged to the owner/permittee/installer who applied for the review, except that copies of the transcript shall be at the expense of the party obtaining same. The Commissioners of Allen County, Indiana may require the deposit of an amount determined to secure such expense.

(6) The Board shall make written findings of facts and shall enter its final order or determination of the matter in writing in the permanent records of the Board.
(Ord. G-07-97, passed 7-9-97)

§ 51.059 PENALTIES.

(A) *Enforcement.* It shall be the duty of the Department and/or the Health Commissioner to enforce the provisions of this chapter. Any permit or registration issued in conflict with the provisions of this chapter shall be null and void. A violation of an order issued by the Health Commissioner or Board shall be considered to be a violation of this chapter.

(B) *Violations.* Whenever the Health Commissioner determines that any owner, permittee, installer or any other person, is in willful violation of any of the provisions of this chapter, the Health Commissioner shall furnish evidence of said willful violation to the Prosecuting Attorney of Allen County, Indiana or the attorney for the Board who shall seek all appropriate legal remedies against the person(s).

(C) *Penalty.* Any person who willfully violates any of the provisions of this chapter shall be subject to a fine of not more than $500.00 for each violation. Each day of the existence of any violation of this chapter shall be considered to be a separate offense.

(D) *Injunction.* The Health Commissioner may bring an action for an injunction in the Circuit or Superior Court of Allen County, Indiana, to restrain any person from violating the provisions of this chapter, or to cause such violation to be prevented, abated or removed.

(E) *Expense.* Any person violating any of the provisions of this chapter shall be liable to the Department for the expense, loss or damage occasioned by reason of such violation, including reasonable attorney's fees and court costs.

(F) *Cumulative.* The remedies provided in this section shall be cumulative, and not exclusive, and shall be in addition to any other remedy provided by law.
(Ord. G-07-97, passed 7-9-97)

SEWER RATES AND CHARGES

§ 51.065 CHARGES BASED ON WATER USAGE/ FLAT CHARGES.

The charges made for sewer service rendered to each lot, parcel of real estate or building having any connection with the city's sewer system or otherwise discharging sewage into the system, either directly or indirectly, shall be based upon the quantity of water presumed to enter the public sewers after being used in or on the property, as the quantity is measured by the water meter or meters there in use by the city's water utility, except as herein otherwise provided. Flat charges shall be assessed on a monthly basis. For the purposes of this chapter, a month shall constitute 25-35 days. Service periods falling outside this parameter shall be prorated.
('74 Code, § 24-25) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.066 WATER OBTAINED FROM SOURCES OTHER THAN CITY'S WATER UTILITY.

Where the property obtains any part or all of the water used from sources other than the city's water utility, the owner or the tenant may be required by the city to install and maintain at the user's own expense a meter or meters acceptable to the city for the quantity of water obtained from these other sources. Once installed, no such meter may be bypassed for any reason.
('74 Code, § 24-26) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.067 EXEMPT WATER - GENERAL.

Where a significant portion of the metered water does not and cannot enter the sewer system, either directly or indirectly, the person having charge of the property may request permission from the city to install at the user's expense either an approved meter or meters to determine the quantity of water that cannot enter the sewer system or an approved sewage-measuring device or devices to determine the volume of sewage that actually enters the sewer system. In any case the service charge shall be based on the quantity of water that can or actually does enter the public sewers but in no case shall it be less than the minimum charge for the class of user served. Plans and specifications for all such meters shall be submitted to the Superintendent of the Water Pollution Control Plant and approved prior to installation.
('74 Code, § 24-27) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.068 METERING OF SEWAGE.

The city may require a person to install and maintain at the user's expense an approved device to measure directly the volumes of wastes discharged to the sewer system if those volumes cannot otherwise be determined from the metered-water consumption records. The city shall inspect and approve such installation and no such services, once installed, shall be removed without the city's approval.
('74 Code, § 24-28) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.068.5. DEPOSIT TO ENSURE PAYMENT OF SEWER FEES; REFUNDS; FORFEITURES; USES.

(A) Pursuant to I.C. 36-9-23-28, City Utilities may require the owner, lessee, or user of property served by the Utility to pay a deposit to ensure payment of sewer fees.

(B) The deposit required shall equal the estimated average payment due from the property served by the Utility for a three (3) month period. Deposits shall be retained in a separate fund.

(C) The deposit, less any outstanding penalties and service fees, shall be refunded to the depositor after a notarized statement from the depositor that as of a certain date the property being served:

(1) Has been conveyed or transferred to another person; or

(2) No longer uses or is connected with any part of the municipal sewage system.

A statement under subdivision (1) must include the name and address of the person to whom the property is conveyed or transferred.

(D) If a depositor fails to satisfy costs and fees within sixty (60) days after the termination of his use or ownership of the property served, the deposit and all accrued interest is forfeited. The forfeited amount shall be applied to the depositor's outstanding fees. Any excess that remains due after application of the forfeiture may be collected in the manner set out in §§ 51.099 and 51.100 herein. A deposit may be used to satisfy all or part of any judgment awarded the municipality under this chapter.

(E) A deposit made under this section that has remained unclaimed by the depositdr for more than seven (7) years after the termination of the services for which the deposit was made becomes the property of City Utilities.
(Ord. G-07-97, passed 7-9-97)

§ 51.069 RESIDENTIAL USER CHARGES.

(A) *In city service charge.*

(1) In city. Charges for services rendered within the corporate boundaries of the City of Fort Wayne shall be based on metered water consumption, unless otherwise measured in accordance, with the following charges for this classification of service:

	Cents per 100 cu. ft.
Treatment	83.60
Conveyance, Collection, Billing	70.53
Capital	39.99
Total User Charge	194.12

(2) *In city billing charge.* Residential users inside the city shall be billed a monthly billing fee of $2.22.

(C) *User flat charges.* In the event that any user in this classification is not a metered water customer, there shall be imposed flat charge rates as follows:

Classification of Customer	Monthly Flat Charge (1)	
	In city	Outside city
Residential User-Single Family Dwelling	$15.68	$19.20
Residential User-Multi Family Dwelling	To be estimated by City	

(1) Monthly flat charges for multi-family dwellings shall be based on the number of family units accommodated by the system multiplied by the single family dwelling monthly charges. A 25% surcharge shall apply to the rates charged to users outside the city.

(2) The Utility shall retain documentation supporting its estimates and the billings.
('74 Code, § 24-30) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

(B) *Outside city service charge.*

(1) *Outside city.* Charges for services rendered to residents outside the corporate boundaries of the City of Fort Wayne shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

	Cents per 100 cu. ft.
Treatment	104.51
Conveyance, Collection, Billing	88.17
Capital	50.00
Total User Charge	242.68

(2) *Outside city billing charge.* Residential users residing outside the corporate boundaries of Fort Wayne shall be billed a monthly billing fee of $2.78.

Hereinafter "inside city" or "outside city" shall be read to distinguish users located within or outside the corporate boundaries of the City of Fort Wayne.

(C) *User flat charges.* In the event that any user in this classification is not a metered water customer, there shall be imposed flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to such users located out the city.
('74 Code, § 24-31) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 0-24-00)

§ 51.070 INDUSTRIAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption unless otherwise measured in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User minimum charges and other fixed payments.* In the event the monthly sewage service charge calculated in accordance with the schedule above does not exceed the minimum monthly charge for each class of user set forth hereafter, user shall pay said minimum monthly charge, in lieu of the charge calculated based on water usage, as follows:

Water Meter Size (inches)	***Minimum Monthly Charge***
5/8 - 3/4	$ 4.96
1 - 1½	17.52
2	36.23
3	72.86
4	121.12
6 or larger	336.28

(C) *Other industrial user charges.*

	Inside City	Outside City
(1) Monthly billing charge -per bill:	$2.22	2.78.

(2) Excess strength of wastes surcharge - in the event an industrial user contributes waste having strength of sewage in excess of domestic waste characteristics, as hereinbefore defined, a surcharge based on the following unit process charges will be in effect for all waste found to be in excess of limitations:

	Cents Per Pound
Suspended Solids - (SS)	9.43
Biochemical Oxygen Demand - (BOD)	19.55
Phosphorus - (P)	132.71
Ammonia - (NH-3)	28.62

(D) *User flat charges.* In the even any user in this classification is not a metered water customer, there shall be imposed a flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to such users located outside the city.
('74 Code, § 24-32) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am Ord. G-27-00, passed 10-24-00)

§ 51.071 COMMERCIAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User flat charges.* In the event any user in this classification is not a metered water customer, there shall be imposed a flat charge rate estimated by the city. A 25% surcharge shall apply to the rate charged to users located outside the city.

Other commercial charges.

(1) Monthly billing charge - per bill.

(a) Inside city: $2.22.

(b) Outside city: $2.78.

(2) Excess strength.

(a) In the event any user under this classification contributes waste having a strength of sewage in excess of domestic waste characteristics as herein defined, such user will be charged for surveillance and surcharges as set forth elsewhere herein for industrial users, except as set forth in the following paragraph.

(2) Restaurants. Commercial users primarily engaged in the business of preparing and selling cooked food items and beverages shall pay an extra-strength surcharge of 50.73 cents per 100 cubic feet in lieu of those scheduled surcharges otherwise set forth herein. For the purposes of this chapter, a user qualified to hold a supplemental retailer's permit under I.C. 7.1-3-16.5-2(a) or (b) shall be presumed to fall within this category.
(Ord. G-17-91, passed 6-12-91; ; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.072 INSTITUTIONAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.

	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User flat charges.* In the event any user in this classification is not a metered water customer, there shall be imposed a flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to users located outside the city.

(C) *Other institutional charges.*

(1) Monthly billing charge - per bill.

(a) Inside city: $2.22.

(b) Outside city: $2.78.

(2) In the event any user under this classification contributes waste having a strength of sewage in excess of domestic waste characteristics as herein defined, such user will be charged for surveillance and surcharges as set forth elsewhere herein for industrial users.
(Ord. G-17-91, passed 6-12-91; ; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.073 GOVERNMENTAL USER CHARGES.

(A) *Service charge.* Charges for services rendered shall be based on metered water consumption, unless otherwise measured, in accordance with the following charges for this classification of service:

Cents per 100 cu. ft.

	Inside City	Outside City
Treatment	83.60	104.51
Conveyance, Collection, Billing	70.53	88.17
Capital	39.99	50.00
Total User Charge	194.12	242.68

(B) *User flat charges.* In the event any user in this classification is not a metered water customer, there shall be imposed a flat charge estimated by the city. A 25% surcharge shall apply to the rate charged to users located outside the city.

(C) *Other governmental user charges.*

(1) Monthly billings charge - per bill.

(a) Inside city: $2.22.

(b) Outside city: $2.78.

(2) Excess strength. In the event any user under this classification contributes waste having a strength of sewage in excess of domestic waste characteristics as hereinbefore defined, such user will be charged for surveillance and surcharges as set forth elsewhere herein for industrial users.
(Ord. G-17-91, passed 6-12-91; ; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.074 CONTRACT CUSTOMERS - UNIT AND OTHER CHARGES.

(A) In the event the city consummates a contract to serve as a regional treatment plant for any other municipality or private sewage utility, either contiguous to the city or in its environs, said contract shall provide for the following unit charges:

Volume charge (cents per 100 cu. ft.).

Treatment	83.60

(B) *Variable charge (cents per 100 cu. ft.).* A variable charge for conveyance and collection costs attributable to each contract customer's portion of the conveyance system and operating costs associated therewith shall be computed by the city and added to the treatment cost to arrive at the contractee's total metered rate.

(C) *Flat charge.* In addition to the foregoing charge based on volume of sewage treated and conveyed each contract customer will pay a monthly billing charge of $2.22 and an appropriate monthly surveillance charge, as set out in § 51.078 herein, based on the type of testing necessary according to the contractee's customer base.

(D) *Excess strength of waste surcharge.* In the event a contract customer user contributes waste having a toxic strength in excess of domestic waste characteristics, as hereinbefore defined, a surcharge based on the following unit process charges will be in effect for all waste found to be in excess of limitations:

	Cents Per Pound
Suspended Solids - (SS)	9.43
Biochemical Oxygen Demand - (BOD)	19.55
Phosphorus - (P)	132.71
Ammonia - (NH-3)	28.62

(E) Where a contract calls for the payment of a capital charge, such shall be billed to the contract customer (Allen County Institutional Power Plant).

(F) *Capital surcharge.* In the event a contract customer delivers sewage for treatment to the city for a period of 90 consecutive days which is in excess of base MGD contracted for, then customer will be subject to a capital charge, computed at the rate per 100 cu. ft. in effect for outside the city customers set out elsewhere herein, times the excess percentage of MGD represented by dividing actual MGD by contracted MGD.

(G) *Other provisions.* In the event sewage received pursuant to any contract entered into under this section exceeds any of the limitations imposed by this chapter, the city shall have the right to impose all charges, limitations and penalties applicable to any non-contract user by the city. Each contract entered into by the city pursuant to the foregoing rate classification shall provide that the contract customer shall agree to enact and maintain a sewer use ordinance and user charge system acceptable to the city and in conformance with the city's obligations under Sec. 204 (b) (1), Public Law 92-500 as amended and supplemented, and guidelines and regulations promulgated thereunder by the U.S. Environmental Protection Agency and 40 CFR 35-905-8, 35-928-1 and 35-928-2 and 35-935-13.
('74 Code, § 24-33) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97; Am Ord. G-27-00, passed 10-24-00)

§ 51.075 BULK WASTE CHARGES.

(A) *Industrial:* For all industrial waste suitable for disposal which has been delivered by an approved Water Hauler to City's plant - $118.09 per load. For purposes of computing charges hereunder, a load is defined as 1,000 gallons of tank capacity or any fraction thereof.

(B) *Domestic:* For all domestic waste delivered to the city's plant by customer's truck or tank - $70.79 per load. For purposes of computing charges hereunder, a load is defined as 1,000 gallons of tank capacity or any fraction thereof.

(C) All bulk waste loads delivered to the Water Pollution Control Plant shall be accompanied by a "Waste Hauler Manifest," the form for which will be provided by the city.

(D) All bulk waste haulers shall also be assessed a billing charge of $2.22 per bill.
('74 Code, § 24-34) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-96, passed 2-27-96; Am. Ord. G-07-97, passed 7-9-97; Am. Ord. G-27-00, passed 10-24-00)

§ 51.076 LIABILITY FOR SURCHARGE.

Each user discharging wastes into the collection system shall be subject to a strength-of-wastes surcharge, in addition to other sewage service charges imposed by this chapter, based on the following minimum strength characteristics to the extent that such wastes are in concentrations greater than:

(A) Biochemical oxygen demand of 300 milligrams per liter.

(B) Chemical oxygen demand of 600 milligrams per liter.

(C) Suspended solids content of 300 milligrams per liter.

(D) Phosphorus content of 10 milligrams per liter.

(E) Ammonia content of 25 milligrams per liter.
('74 Code, § 24-36) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.077 COMPUTATION OF SURCHARGE.

The surcharge shall be determined as follows: The excess pounds of BOD or COD (whichever results in the higher charge) suspended solids, phosphorus and ammonia will each be computed by first multiplying the user's billing sewage volume measured in units of 100 cubic feet for the current billing period by the factor 0.0062321 and then multiplying this product by the difference between (a) the concentrations measured in milligrams per liter, of the BOD (or COD), suspended solids, phosphorus and ammonia respectively in the user's sewage and (b) the allowed concentrations set out in § 51.076. The surcharge for each constituent will then be determined by multiplying the excess pounds of each constituent by the appropriate rate of surcharge. In the event COD measurement is used, as hereinbefore provided, 50% of the excess pounds measured will be used to compute the equivalent BOD charge.
('74 Code, § 24-37) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.078 CONTINUING SURVEILLANCE SAMPLING/WASTE EVALUATION CHARGES.

(A) All users discharging wastes into the system requiring continuing surveillance sampling and waste evaluation shall be subject to the following fixed charge to cover the costs of such services per discharge point.

(1) Monthly evaluation charges.

(a) Type 1 Evaluation: $104.33

(b) Type 2 Evaluation: 153.58

(2) Evaluation charges - per occurence.

(a) Type 1 Evaluation: $313.00

(b) Type 2 Evaluation (includes metals): 460.75

(c) Grab compliance (FOG): 76.00

(d) Composite compliance: 190.00*

Plus applicable laboratory testing charges.
('74 Code, § 24-38) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.079 ANNUAL REVIEW OF SERVICE CHARGES AND SURCHARGES; REVISION OF CHARGES AND RATES.

Prior to May 1 of each year, the Chief Financial Officer of the city utilities and an independent certified public accountant employed for that purpose shall submit to the Board of Public Works a comparison of the calculated unit cost for flow, removal of BOD, suspended solids, ammonia and phosphorus from the Water Pollution Control Plant influent during the previous year with unit charges currently in effect, from which the Board shall determine whether the current service charges and surcharges are adequate or should be changed, and to request legislative enactment of said changes by the Common Council. The methodology used in developing this cost comparison shall include:

(A) A system including the distribution of the cost of operation and maintenance of the treatment works of the WPC utility to each user class in proportion to such user's contribution to the total waste loading of the treatment works. Factors such as strength, volume and delivery flow characteristics shall be considered and included as the basis for the user's contribution to insure a proportional distribution of operation and maintenance and replacement costs to each user class.

(B) Total annual service charges and surcharges collected from each individual user class shall be deemed sufficient if said charges have generated during the prior operating period sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the utility, including cost of management, system repair and replacement, debt retirement and other costs incidental to the utility operation attributable to such class.
('74 Code, § 24-35) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

DELINQUENT ACCOUNTS; BILLING OF SERVICE CHARGES

§ 51.090 BILLING PERIOD.

(A) Charges for sewer services shall be computed and billed by the General Office of the City Utilities. Bills shall be rendered approximately monthly, unless additional billing is required to reflect customer changes, meter changes, service terminations, initial billings or is otherwise required to adjust billing cycles. For the purpose of this chapter, a month shall constitute 25-35 days. Service periods falling outside this parameter shall be prorated.

(B) Billings for sewer service shall be rendered with and shall be due and payable on the same due date as billings for water service to the same premises, if any, and if none, then within such billing cycle as the utility may determine.
('74 Code, § 24-40) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.091 LIABILITY FOR PAYMENT; EXAMINATION OF UTILITY RECORDS.

(A) Charges for sewer service shall be billed to the person being billed for water service, if any, unless by contract with the utility, another person assumes responsibility for payment. Notwithstanding billing to, and assumption of responsibility by any person, charges for sewer service shall remain the responsibility of the owner of the real estate, who shall hold the utility harmless from any loss occasioned by the delinquency of the person billed, including all penalties, recording fees, attorney's fees, interest, and court costs, if any.

(B) The owner of the real estate or person billed shall have the right to examine the utility's records of billing and collection to ascertain whether such charges have been paid, and the amount thereof.

(C) Nothing herein contained shall permit any person other than the owner, or the person being billed, to inspect, examine or otherwise obtain confidential information including the payment/credit history, income, employment, finances or social security number of the person being billed.
('74 Code, § 24-41) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.092 FIRST BILLINGS.

The rates, charges and surcharges fixed in this chapter shall extend to and cover any additional premises hereafter served, without hearing or notice. If the first billing to a new user covers a period other than a full billing month, then the charges for sewer service for such billing shall be made in accordance with standard practice employed by the city's water utility.
('74 Code, § 24-42) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.093 CITY SUBJECT TO CHARGES.

For sewer services rendered to the city, or any department, structure, or property, thereof, the city shall be subject to the same rates and charges herein established for other persons, or to rates and charges established in harmony herewith.
('74 Code, § 24-43) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.094 CONSOLIDATION OF ACCOUNTS.

Where an industrial, commercial or other non-residential enterprise is operating in a unified manufacturing or service arena composed of two or more contiguous parcels of real estate and is supplied with water through two or more meters, upon application by the owner or his authorized agent, a consolidation of the wager meter readings may be made for the purpose of calculating the sewer service charge.
('74 Code, § 24-44) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.095 NOTICE OF CAPITAL SURCHARGE.

The City Clerk shall certify a copy of Special Ordinance No. 2-233-81, enacted October 28, 1981, and all amendments thereto, heretofore or hereafter adopted, and shall record such certified copy in the Office of the Recorder of Allen County, Indiana to provide constructive notice to the owners and purchasers of real property in Adams Township and St. Joseph Township that a capital surcharge may be imposed upon properties connected to, or to be connected to, the city utility sewer system, in those areas of said townships formerly served by sewer system purchased or otherwise acquired by the city utility.
('74 Code, § 24-45) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.096 DELINQUENT ACCOUNTS; PENALTIES.

Charges for sewer service levied pursuant to this chapter shall be due and payable on or before the due date stated on the bill. Any charge for sewer and/or stormwater service not paid by the due date shall be delinquent, and may be collected, with any applied penalty, recording fees, service charges, attorney's fees, interest and court costs, if any, in accordance with this chapter and with IC 36-9-23-31 through 36-9-23-34. A penalty of 10% of the amount of the charges for sewer service and/or stormwater service shall be attached to the delinquent charges.
('74 Code, § 24-46) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.097 TERMINATION OF WATER SERVICE DUE TO DELINQUENCY.

Where the property having a delinquent account for charges for sewer service is served by the city's water utility, the utility may, after reasonable notice to the person being billed, as provided by the rules and regulations of the utility adopted by the Board of Public Works, shut off water service to the property. Water service shall not be restored until the delinquent account, together with any required deposit and the costs of turning off/turning on the water, shall have been paid.
('74 Code, § 24-47) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.098 TERMINATION OF SEWER SERVICE DUE TO DELINQUENCY.

In addition to all other remedies provided, the utility may, after reasonable notice to the person being billed, as provided by the rules and regulations of the utility adopted by the Board of Works, terminate sewer service to the property. Sewer service shall not be restored until the delinquent account, together with the costs of terminating and reconnecting service, shall have been paid.
('74 Code, § 24-48) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-17-94, passed 8-23-94)

§ 51.099 DELINQUENT FEES AND PENALTIES AS LIENS; DUPLICATES; COLLECTION.

Delinquent charges for sewer services and/or stormwater services, and applied penalties, recording fees and service charges may be made a lien upon the property when the delinquent party is the property owner and may be collected in accordance with the provisions of I.C. 36-9-23-31, 36-9-23-32 and 36-9-23-33.
('74 Code, § 24-49) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.100 COLLECTION THROUGH COURT ACTIONS.

In addition to the foregoing remedies, the city may recover the amount of the charges for sewer

services, penalties of 10% of the delinquent fees and reasonable attorney's fees in a civil action, and may foreclose liens established by this chapter in accordance with I.C. 36-9-23-34.
('74 Code, § 24-50) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

ADMINISTRATION AND ENFORCEMENT

§ 51.110 RULES AND REGULATIONS; BOARD OF WORKS AUTHORITY.

The Board of Public Works of the city shall, in accordance with the statutes of the state, and subject to the provisions and requirements of this chapter, make and enforce appropriate rules and regulations for the safe, economical and efficient management and operation of the city's sewage works, for the construction and use of sewers, building sewers, appurtenances and connections to the sewer system; for the regulation, collection and refunding of rates and charges for sewer service; and for the implementation and enforcement of the provisions of this chapter.
('74 Code, § 24-2) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-35-92, passed 7-15-92; Am. Ord. G-17-94, passed 8-23-94)

§ 51.111 ENFORCEMENT.

Those provisions of this chapter not specifically dealt with elsewhere shall be enforced by the Director of City Utilities and such deputies as Director, with the approval of the Board of Public Works, may be appointed for such purposes. Whenever said Director or any such deputy shall deem it appropriate to charge any person with a violation(s) of this chapter, he shall issue to such person a Notice of Violation and/or Summons, which shall be processed according to the provisions of IC 34-28-5 and sewer rules and regulations, or pursuant to an ordinance adopted in accordance with I.C. 36-1-6-9.
('74 Code, § 24-6) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

§ 51.112 SEWER WORKS IMPROVEMENT FUND.

The City Controller shall establish and maintain, for as long as user charges and surcharges are collected under the rate schedule instituted herein, accounts for the Sewer Works Improvement Fund as required by prior ordinances relating to the issuance of sewer works revenue bonds now outstanding and further in accordance with the laws of the State of Indiana relative to the deposit and disbursement of public funds.
('74 Code, § 24-52) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-94, passed 8-23-94)

§ 51.999 PENALTY FOR VIOLATION.

Any person who violates or fails to comply with any provision of this chapter or of the rules and regulations of the Board of Public Works or administrative orders pertaining thereto, shall be subject to a fine of up to $2,500 per day as set out at § 10.99 of the City of Fort Wayne Code of Ordinances or as otherwise provided by IC 34-28-5. Each day that such violation(s) or noncompliance continues shall constitute a separate offense.
('74 Code, § 24-7) (Ord. G-16-86, passed 4-22-86; Am. Ord. G-17-91, passed 6-12-91; Am. Ord. G-25-91, passed, 9-10-91; Am. Ord. G-17-94, passed 8-23-94; Am. Ord. G-07-97, passed 7-9-97)

APPENDIX C

Fort Wayne Water Pollution Control Utility

General Rules and Regulations, As Amended May 2002

FORT WAYNE WATER POLLUTION CONTROL UTILITY
(WASTEWATER UTILITY)

FORT WAYNE, INDIANA

GENERAL RULES AND REGULATIONS

AS AMENDED MAY, 2002

In accordance with the statutes of the State of Indiana and the Fort Wayne Code of Ordinances, as most recently amended, the Board of Public Works has established the following General Rules and Regulations for the safe, economical and efficient management and operation of the City's Water Pollution Control (Wastewater) Utility, for the construction and use of sewers, building sewers, appurtenances, and connections to the collection system; for the regulation, collection, and refunding of rates and charges for sewer service; and for the implementation of the provisions of Chapter 51 of the Fort Wayne Code of Ordinances.

THE NATIONAL CATEGORICAL PRETREATMENT STANDARDS LOCATED AT 40 CFR CHAPTER 1, SUBCHAPTER N, PARTS 405-471 ARE HEREBY INCORPORATED INTO THESE RULES AND REGULATIONS AS FULLY AS IF SET OUT HEREIN.

1. <u>DEFINITIONS</u>

For the purposes of these Rules and Regulations, words and terms shall have their ordinary and usual meanings.

Words and terms used herein shall have meanings as defined in either the Fort Wayne Code of Ordinances, as most recently amended (Chapter 51), or as appropriate to the context used.

"Shall" means mandatory; **"may"** means permissible.

Pursuant to 40 CFR 403.3, the following definitions are adopted.

"ACT" - The Federal Water Pollution Control Act, also known as "The Clean Water Act," as amended, 33 U.S.C. 466, as referred to at IC 13-18-13.

"APPLICABLE PRETREATMENT STANDARDS" - Any pretreatment limit or prohibitive standard (federal, state and/or local) contained in the ordinance and considered to be the more restrictive with which non-domestic users shall be required to comply.

"AVAILABLE" - A sewer is considered to be available for use by a property if it is abutting that property or is located within the public right-of-way or an easement adjacent to the property, has capacity available, and is of a nature intended to collect sewage from individual properties.

"BOARD OF WORKS" - The Board of Public Works of the City of Fort Wayne, Indiana.

"BUILDING (OR HOUSE) DRAIN" - That part of the lowest piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer.

a) **COMBINED.** A building drain which conveys both sewage and storm water or other drainage.

b) **SANITARY.** A building drain which conveys sewage only.

c) **STORM.** A building drain which conveys storm water or other drainage, but not sewage.

"BUILDING (OR HOUSE) DRAIN CONNECTION" - The point where the building (or house) drain is connected to the building sewer at a location approximately three feet outside the foundation wall of the building.

"BUILDING (OR HOUSE) SEWER" - A private sewer that connects building plumbing to a public sewer. A building sewer normally begins outside the building foundation.

a) **COMBINED.** A building sewer which conveys both sewage and storm water or other drainage.

b) **SANITARY.** A building sewer which conveys sewage only.

c) **STORM.** A building sewer which conveys storm water or other drainage, but not sewage.

"BUILDING (OR HOUSE) SEWER CONNECTION (SEWER TAP)" - The point where the building sewer is connected to the public sewer.

"CATEGORICAL INDUSTRY" - An industry whose effluent is regulated by 40 CFR 403.6.

"CATEGORICAL PRETREATMENT STANDARD OR NATIONAL STANDARD" - Any regulation containing pollutant discharge limits promulgated by the U.S. EPA in accordance with Section 307(b) and (c) of the Act (33 U. S. C. 1317) which apply to a specific category of industrial users which appear in 40 CFR Chapter 1, Subchapter N.

"CLASSIFICATION OF USERS" - Customers of the Water Pollution Control (Wastewater) Utility can be classified into the following general categories:

a) **RESIDENTIAL USERS.** Includes any user of the City's treatment works whose lot, parcel or real estate or building is used for domestic dwelling purposes only.

b) **COMMERCIAL USERS.** Includes all retail stores, restaurants, office buildings, laundries and other private business and service establishments, including those identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget Division I - Services.

c) **INDUSTRIAL USERS.** Includes any user of the City's treatment works which is identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget, as amended and supplemented, under the following divisions; Division A-Agriculture, Forestry and Fishing; Division B-Mining; Division D-Manufacturing; Division E-Transportation, Communications, Electric, Gas and Sanitary. **INDUSTRIAL USERS** shall be classified as follows:

   1) **NON-DISCHARGE USERS.** Includes all industries which discharge sanitary sewage only, and industrial users whose discharge is limited to non-contact cooling water, or boiler blowdown water.

   2) **NON-MAJOR INDUSTRIAL USERS.** Includes all industries that discharge process water but do not meet the criteria of **SIGNIFICANT INDUSTRIAL USERS.**

3) **SIGNIFICANT INDUSTRIAL USERS (SIU).** Includes all industries comprised of categorical and non-categorical industries and shall further be defined as set out at 40 CFR 403.3(t).

d) **INSTITUTIONAL USERS.** Includes social, charitable, religious and educational activities such as schools, churches, hospitals, nursing homes, penal institutions and similar institutional users.

e) **GOVERNMENTAL USERS.** Includes legislative, judicial, administrative and regulatory activities of federal, state and local governments.

"CITY" - City of Fort Wayne, Indiana.

"CLEANOUT" - A pipe or some other opening through which a device may be run to unplug a sewer.

"COLLECTION SYSTEM" - The network of sewers and appurtenances used for collecting, transporting and pumping sewage to the Water Pollution Control (Wastewater Treatment) Plant.

"COLLECTOR SEWER" - Sewer that is primarily installed to receive wastewater directly from building or house sewers and convey the wastewater to an interceptor sewer.

"COMPATIBLE POLLUTANT" - Any pollutant that is treatable at the Water Pollution Control (Wastewater Treatment) Plant and that does not cause interference or pass through.

"COMPLIANCE SAMPLE" - A sample taken of a user's effluent approximately 30 days after a violation of Chapter 51, the user's permit or the federal pretreatment standards and regulations has been discovered or reported. The user shall be billed for any compliance sample taken.

"COMPOSITE SAMPLE" - The sample resulting from the combination of discrete wastewater samples taken at selected intervals while the discharge rate is at or above normal based on an increment of either flow or time. Time intervals between discrete samples not to exceed two hours. The total duration of collection shall not exceed 24 hours.

"CUSTOMER OR CONSUMER" - The person having any interest, whether legal or equitable, sole or only partial, either as tenant, contract purchaser or owner, in any property which is, or is to be, connected to a public sanitary sewer, either temporarily or permanently, by the Water Pollution Control (Wastewater) Utility and all those having such interest.

"DEFRAUDING THE UTILITY" - The act of requesting or receiving utility service(s)under fictitious circumstances or any other act done with the intent to deprive City Utilities of its right to payment.

"DEVELOPER" - An individual, corporation or organization that is engaged in or proposes activity on real estate for the purpose of providing infrastructure, lots, tracts or structures for residential, commercial, industrial public or quasi-public purposes.

"DIRECTOR" - The director or chief administrative officer of City Utilities, or authorized designee.

"DWELLING" - A building, or portion thereof, under one roof used primarily as the abode of one or more persons, but not including hotels, motels, lodging or boarding houses or tourist homes.

"EFFLUENT" - The water, together with any wastes that may be present, flowing out of a building (or house) drain, sewer receptacle or outlet.

"EPA or U.S. EPA" - United States Environmental Protection Agency

"EMERGENCY" - An unforeseen circumstance or combination of circumstances that may cause an eminent endangerment to the health and/or welfare of persons, the environment, or which may interfere with the operation of the sewer collection system or the Water Pollution Control (Wastewater Treatment) Plant.

"FOLLOW-UP SAMPLE" - A sample taken of a user's effluent at the city's discretion from a user receiving scheduled sampling, at times other than those regularly scheduled. A follow-up sample shall be done at no cost to the user.

"GARBAGE" - Any solid wastes from the preparation, cooking or dispensing of food or from the handling, storage or sale of produce.

"GRAB SAMPLE" - An individual discrete effluent sample collected over a period of time not to exceed 15 minutes.

"GROUND GARBAGE" - Garbage that is shredded to such a degree that all particles will be carried freely in suspension under the conditions normally prevailing in public sewers, with no particle being greater than one-half inch in any dimension.

"IMPERVIOUS SURFACE" – Areas that have been paved and/or covered with buildings and materials which include, but are not limited to, concrete, asphalt, rooftop and blacktop, such that the infiltration of water into the soil is prevented.

"INCOMPATIBLE POLLUTANTS" - Any pollutant that is not a compatible pollutant or that would cause damage to the collection system and/or Water Pollution Control (Wastewater Treatment) Plant.

"INDIRECT DISCHARGE" - The introduction of pollutants into the collection system from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

"INDUSTRIAL WASTE" - Any solid, liquid or gaseous substance, or form of energy discharged, permitted to flow or escape, or transported from an industrial, manufacturing, commercial or business operation or process, or from the development, recovery or processing of any natural resource carried on by any person.

"INFLUENT" - The water, together with any wastes that may be present, flowing into a drain, sewer, receptacle or outlet.

"INTERCEPTOR SEWER" - Principal sewer to which collector sewers are tributary. Interceptor sewers convey wastewater to the Water Pollution Control (Wastewater Treatment) Plant or other disposal facilities.

"INTERFERENCE" - A discharge, alone or in conjunction with a discharge or discharges from other sources, which both:

a) inhibits or disrupts the Water Pollution Control (Wastewater Treatment) Plant, its treatment processes or operations, or its sludge processes, use or disposal; and

b) therefore, is a cause of a violation of any requirement of the Water Pollution Control (Wastewater Treatment) Plant's National Pollutant Discharge Elimination System (NPDES) permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

"IPS" - Industrial Pretreatment Section of the Water Pollution Control (Wastewater Treatment) Plant.

"METER" - A mechanical device used to measure and record the quantity of water supplied to a customer or the quantity of wastewater discharged from a customer. The meter is the official recorder of the amount of water consumed or wastewater discharged by a customer.

"MONTH" - The period between any two consecutive regular billings by the City Utilities for service rendered to a customer at his premises. Such billings are scheduled at intervals of approximately thirty (30) days. For purposes of billing, a month is 25 - 35 days. Any bills produced outside this parameter shall be pro-rated on a per day basis.

"MONTHLY METER SERVICE FEE" - A charge assessed each customer to recover administrative costs and those associated with billing, meter reading and maintenance of the water system, based on the size of the meter.

"NPDES PERMIT" - The National Pollutant Discharge Elimination System Permit issued by the Indiana Department of Environmental Management (IDEM) for discharges of waste waters to navigable waters of the United States pursuant to Section 402 of 33 U.S.C. 466.

"OPERATION AND MAINTENANCE COSTS" - All costs direct and indirect, other than debt services including replacement costs as defined herein, necessary to insure adequate wastewater treatment on a continuing basis conforming with federal, state or local requirements and to insure long-term facilities management.

"OWNER" - Designates the person holding the deed or record title to a premises. For the purposes of these Rules and Regulations, a contract purchaser is not considered an owner unless the contract has been duly recorded in the Allen County Recorders Office.

"PASS THROUGH" - A discharge which exits the Water Pollution Control (Wastewater Treatment) Plant into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the Water Pollution Control (Wastewater Treatment) Plant's NPDES permit (including an increase in the magnitude or duration of a violation.)

"PERSON" - Any individual, owner, discharger, lessee, occupant, firm, partnership, company, municipal or private corporation, commercial establishment, association, society, institution, enterprise, governmental agency or other legal unit or entity.

"pH" - An expression of the intensity of the base or acidic conditions of a liquid.

"PRETREATMENT REQUIREMENTS" - Any substantive or procedural requirement related to pretreatment, other than a National Pretreatment Standard, imposed on an industrial user.

"PUBLICLY OWNED TREATMENT WORKS (POTW)" - All facilities and systems for collecting, transporting, pumping, treating, and disposing of sewage and sludge, including the Water Pollution Control (Wastewater Treatment) Plant and the sanitary, storm, and combination sewer collection systems, whether or not in active use, which are owned by a state, municipality, city, town, special sewer district, or other publicly owned or financed entity.

"REPLACEMENT COSTS" - That cost, stated in current monetary values, as an operating cost which represents and measures the expenditures required to replace equipment, accessories or appurtenances of the property in order to maintain capacity and performance during the useful life of the property of the Water Pollution Control (Wastewater) Utility.

"SANITARY SEWAGE" - Sewage discharged from the sanitary conveniences of dwellings, apartment houses, condominiums, motels, hotels, lodging or boarding house, office buildings, factories or institutions, and free from storm water, surface water, and groundwater.

"SCHEDULED SAMPLE" - Routine sampling of a user's effluent, usually twice a year for a commercial user and quarterly for industrial users.

"SERVICE CHARGE" - A charge levied on a user of the treatment works that includes the user charge, a charge for local capital costs, and may include other charges for current services.

"SEWAGE" - The water-carried wastes from residences, business buildings, institutions and industrial establishments, singularly or in any combination, together with such ground, surface and storm waters as may be present.

"SEWER" - A pipe or conduit for carrying sewage and other waste liquids as differentiated below:

a) **COMBINED OR COMBINATION SEWER.** A sewer that carries storm, surface and groundwater runoff as well as sewage.

b) **PRIVATE SEWER.** Sewer owned and maintained by a private company, person, group of persons or other private entity.

c) **PUBLIC SEWER.** A sewer to the use of which all owners of abutting property have equal rights and is controlled and maintained by City Utilities.

d) **SANITARY SEWER.** A sewer that carries domestic and industrial sanitary sewage and to which storm, surface, groundwaters and unpolluted industrial wastewaters are not intentionally admitted.

e) **STORM SEWER.** A sewer designated or intended to convey only stormwater, surface runoff, street wash waters and drainage and not intended for sanitary sewage and industrial wastes other than unpolluted cooling water.

"SEWER BILLING FEE" - The monthly billing charge that covers administrative costs associated with billing, which includes the costs of reading the meter.

"SEWER SECTION" - A continuous length of sanitary sewer that is between two (2) manholes or between a manhole and a cleanout.

"SIGNIFICANT NON-COMPLIANCE" (SNC) - Significant Non-Compliance is defined as set out in 40 CFR 403.8(f)(2)(vii).

"SLUG DISCHARGE" *OR "SLUGLOAD"* - Any discharge of a non-routine, episodic nature, including but not limited to, an accidental spill or a non-customary batch discharge.

"STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE" - A classification pursuant to the Standard Industrial Classification Manual used by the U.S. Office of Management & Budget.

"STANDARD METHODS" - The examination and analytical procedures set forth in the most recent edition of *Standard Methods for the Examination of Water and Wastewater,* published jointly by the American Water Works Association (AWWA) and the Water Environment Federation (WEF), a copy of which is on file in the Office of the Superintendent.

"SUPERINTENDENT" - The Superintendent of the Water Pollution Control (Wastewater Treatment) Plant, or a designee.

"TEN STATE STANDARDS" - *Recommended Standards for Wastewater Facilities on the Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers.* Most recent addition.

"TOXIC POLLUTANT" - One of 126 pollutants, or combinations of those pollutants, listed as toxic in regulations promulgated by the U.S. EPA under the provisions of Section 307 (33 USC 1317) of the Act.

"USER" - Any domestic or non-domestic discharger of wastewater which introduces pollutants to the Publicly Owned Treatment Works (POTW)

"USER CHARGE" - A charge imposed on the users of the Water Pollution Control (Wastewater) Utility to defray the cost of operation, maintenance and replacement.

"USER REQUESTED SAMPLE" - Any effluent sample taken by City Utilities at the request of the user, the cost for which shall be billed to the user.

"UTILITY" - The Water Pollution Control Utility (Wastewater Utility) of the City of Fort Wayne, Indiana.

"WASTE SURVEILLANCE CHARGE" - A monthly charge collected from users, qualifying as industrial or commercial class users, to defray the cost of evaluating that user's waste by sampling, laboratory analysis and/or other methods deemed necessary. Said charges are set forth in Section 51.065 et seq. and are subject to review annually as provided in Section 51.079 of the Fort Wayne Code of Ordinances.

"WATER POLLUTION CONTROL (WASTEWATER TREATMENT) PLANT (WPC PLANT)" - The arrangement of devices, structures and equipment used for treating and disposing of sewage and sludge, which is owned, controlled and maintained by City Utilities.

"WATER POLLUTION CONTROL UTILITY (WASTEWATER UTILITY)" - All facilities and systems for collecting, transporting, pumping, treating, disposing of sewage and sludge, including the sewage treatment plant and the sanitary, storm and combination sewer collection systems whether or not in active use.

2. <u>CONNECTION TO PUBLIC SANITARY SEWER</u>

A new connection may be made to a City sewer or sewers connected to the City system only after there has been adequate assurance by City Utilities that the downstream facilities of the collection system have adequate capacity to transmit and treat the new waste loadings.

The Fort Wayne Code of Ordinances requires that every property in the City of Fort Wayne shall connect to the municipal collection system whenever a sanitary sewer is available for use. The connection to the municipal collection system shall be made within ninety (90) days after such sanitary sewer is available.

A sewer is considered to be available for use by a property if it is abutting that property, or is located in the public right-of-way or easement adjacent to the property, has capacity available, and is of a nature intended to collect sewage from individual properties--a collector sewer as opposed to an interceptor. An interceptor sewer is not intended to collect sewage via direct building (house) sewer connections. A sewer is considered to abut a property if it is located within a public right of way or easement that is adjacent to or abuts any part of the property that could be served.

Those properties not abutting a City sewer, but within three hundred feet (300') of an available sewer, shall make arrangements to have sewer extended to their property. Public sewers may be extended by private property owners once plans have been reviewed and approved by the City Utilities Water Resources Department in accordance with Section 5 - EXTENSION OF CITY SEWERS of these Rules and Regulations. Property owners may also petition the Board of Public Works for a sewer extension project. Property owners shall pay for a portion of the sewer extended through a petition-initiated project in accordance with the funding guidelines in effect at the time of the petition. Connection to the new sewer may not be made until the Board of Public Works accepts the main, or a Prime Contractor's Release is executed by the City Utilities Water Resources Department.

A connection to the public sewer may be accomplished as follows:

a) Where a tap-in connection is employed, the point of connection shall be where the end of the building sewer meets the inside face of the public sewer and the tapping "saddle and/or joint" shall be considered part of the building sewer.

b) Where fittings (T's or Y's) are employed, the connection shall be where the end of the first pipe meets the end of the fitting and the said T or Y fitting shall be considered a part of the building sewer.

Any property that has a public sewer available but is not connected shall be referred to the Fort Wayne/Allen County Board of Health for enforcement of applicable sanitary codes requiring connection to such public sewer.

Per 51.057 of the Fort Wayne Code of Ordinances, the Health Commissioner may, on written application and proof of economic hardship, extend the time within which a property shall be connected to the municipal collection system.

3. BUILDING OR HOUSE SEWERS

A. No unauthorized person shall uncover, make any connection with or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the New Water & Sewer Permit Office, Room 270, City-County Building, Fort Wayne, IN.

B. All costs and expenses incidental to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the City for any loss or damage directly or indirectly occasioned by the installation of the building sewer, including water damages from the backup of the public sewer system.

C. A separate and independent building sewer shall be required for every building, except where one building stands at the rear of another on an interior lot and where no private sewer is available or can be constructed to the rear building through an adjoining alley, courtyard, or driveway. The building sewer from the front building may be extended to the rear building and the whole pipe considered as one building sewer.

D. A building sewer shall not cross the property of another private owner unless such private owner has granted a permanent easement for such building sewer which is duly recorded in the Office of the Allen County Recorder.

E. Existing building sewers may be used in connection with new buildings only when they are found, upon examination and test, to meet the current code requirements for building sewers.

F. The installation of a building or house sewer shall comply with Chapter 51 of the Fort Wayne Code of Ordinances and applicable sections of the City Utilities Water Resources Department Development Criteria/Standards Manual.

G. City Utilities shall have no responsibility for the installation, maintenance and repair of building sewers, nor shall it be responsible for repair of building sewer connections including joints and fittings, if installed by a private contractor.

H. It is recommended that gravity building sewer connections only be constructed for homes or buildings where the lowest elevation to have sanitary services is one foot (1') or more above the top of the manhole casting elevation of the first upstream manhole on the public sewer to which the connection is proposed to be made. In instances where this one-foot distance is not achievable and in areas susceptible to back-ups, proper backflow prevention shall be designed. If the first upstream manhole is at a higher elevation due to the natural topography of the area, an alternate method may be selected by the City Utilities Water Resources Department for the purpose of determining the feasibility of gravity connection.

I. A gravity building sewer connection will NOT be allowed for homes or buildings where the lowest elevation to have gravity sanitary services is less than one foot (1') above the top of the manhole casting elevation of the first upstream manhole on the public sewer to which the connection is proposed to be made. If the first upstream manhole is at a higher elevation due to the natural topography of the area, an alternate method may be selected by the City Utilities Water Resources Department for the purpose of determining the feasibility of gravity connection. In instances in which gravity flow is not permitted, sanitary sewage carried by building sewers shall be lifted by an approved means (i.e., grinder pumps) and subsequently discharged to the public sewer.

J. No person shall connect any roof downspout, exterior foundation drain, or other source of surface runoff or groundwater to a building sewer or building drain that is connected either directly or indirectly to a sanitary sewer of the Water Pollution Control Utility (Wastewater Utility).

K. The connection of the building sewer into the public sewer shall conform to these applicable Rules and Regulations. All such connections shall be made gastight and watertight. Any deviation of the prescribed procedure or material must be approved by the City Utilities Water Resources Department before installation.

L. The Board of Public Works shall have the authority to require an owner of real property to disconnect any downspouts, yard drains or other drains which carry natural precipitation runoff from a building sewer and which drain into a sanitary sewer. Property owners shall have thirty (30) days after notice thereof to comply with any such requirement.

M. The Board of Public Works shall have the authority to require that runoff from new construction or redevelopment tributary to any combined sewer be designed to minimize or delay inflow contribution to the existing combined sewer system.

N. The Board of Public Works shall have the authority to require that for any new construction with new impervious surface, any new storm sewer connection to any existing combined sewer shall be made separate and apart from the sanitary sewer connection in order to facilitate future disconnection from the combined sewer in the event a separate storm sewer subsequently becomes available.

O. No owners of or persons controlling any real property shall allow soil to enter any building sewer constructed to serve said property at any time.

P. All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the City.

Q. No owners of or persons controlling any real property shall tap or drain either directly or indirectly into any public sewer until a sewer tap permit has been obtained from City Utilities, and until owner has satisfied the obligation to pay all assessments, reimbursements and pro rata shares of sewer extension costs levied against that property for public sewers which serve it. A sewer tap permit given in error shall not operate to nullify any such obligation that has been duly recorded nor estop the City Utilities from charging and collecting such costs at any subsequent time.

R. From time to time, the Board of Public Works may permit any persons to tap or drain into a public sewer and to defer, in whole or in part, payment of the obligation, upon the execution and delivery to the Board of Public Works of a note, mortgage, lien document or other evidence of obligation acceptable to the Board of Public Works.

S. All such deferred obligations shall be considered for the purposes of Indiana Code Sections 36-9-23-31 through 36-9-23-34 to be fees assessed against real property.

T. Installments of deferred obligations, including any finance charges or interest chargeable thereon, shall be deemed to be "charges for sewer service" for the purposes of Chapter 51 of the Fort Wayne Code of Ordinances.

U. Sewer tap permits shall be obtained from the City Utilities New Water and Sewer Permit Office and shall be issued only to licensed sewer tap contractors, who shall pay a fee based on service size and connection point at the time of permit application. The cost of all permits shall be per Chapter 51 of the Fort Wayne Code of Ordinances, as most recently amended. Six-inch (6") tap connections into a sewer structure as opposed to direct connection into a sewer line, or taps larger than six inches (6") shall require approval from the City Utilities Water Resources Department. Not later than forty-eight (48) hours after making each sewer tap and building sewer installation, the tap contractor or property owner shall notify the New Water and Sewer Permit Office of such connections so that an inspection may be made by City Utilities prior to backfilling the sewer installation. Hours during which inspection requests will be accepted will be established by the New Water and Sewer Permit Office.

V. In cases of requests for connections to newly constructed mains prior to acceptance by the Board of Public Works, a Prime Contractor's Release must be executed and granted through the City Utilities Water Resources Department and submitted to the New Water and Sewer Permit Office. Upon satisfaction of all other requirements, a permit for connection may be issued.

W. No person shall make use of a sewer tap or backfill or otherwise conceal a sewer installation unless and until the same has been inspected and approved by City Utilities. In addition to all other remedies, City Utilities may cause the installation of sewer tap to be excavated and exposed, may terminate the connection and may require the owner or occupant to pay or reimburse City Utilities for its costs and expenses in such excavation, exposure, termination, reconnection and restoration. Such costs and expenses shall be considered as charges for sewage treatment services and may be collected in accordance with the provisions of Indiana Code 36-9-23-31 through 36-9-23-34 and Chapter 51 of the Fort Wayne Code of Ordinances.

X. City Utilities shall have the authority to repair, as deemed necessary, building sewers or building sewer connections when City Utilities has determined that the disrepair has a detrimental effect on the public sewer system or is causing damage to a surface improvement or any other City facility, structure or property.

The property owner shall reimburse City Utilities for a portion of its costs and expenses associated with making such repair. Such costs and expenses shall be considered as charges for sewage treatment services and shall be billed to the property owner.

The cost of the repair billed to the property owner may be limited and the property owner's share may be financed over time when the property owner qualifies under the guidelines established by the Board of Public Works' "Tap Repair Policy," which is specifically incorporated as a part of these Rules and Regulations.

4. **LICENSED BUILDING SEWER CONTRACTORS**

A. In order to maintain strict control and quality of the collection system, all contractors and/or plumbers who connect, install, repair and/or replace a sanitary sewer tap shall be required to have a valid sewer license or registration. Examinations shall be required for new applicants, for those whose licenses have been expired for more than one (1) year and for those whose licenses have been suspended (see paragraph H).

B. Plumbers who connect, install, repair and/or replace sanitary sewer taps and are currently licensed with the State of Indiana shall register with the City Utilities New Water and Sewer Permit Office as a building sewer contractor, and upon registration shall be exempt from examination.

C. The examinations will require the knowledge of installation, workmanship, materials, safety and health regulations, liability, Department of Water Resources Development Criteria/Standards Manual, Chapter 51 of the Fort Wayne Code of Ordinances, and any other necessary information to determine the experience and knowledge of the contractor to install a building sewer. A score of seventy (70%) percent shall be required in order to pass the examination. There shall be a one-week time interval before the applicant can repeat the examination.

D. After successfully passing the examination, or being exempted therefrom, the Contractor may purchase a license or registration for the current calendar year, renewable annually on the first day of each succeeding year, to install building sewer taps.

E. An annual fee of Fifty ($50.00) Dollars shall be paid to the New Water and Sewer Permit Office by each licensed or registered sewer tap contractor.

F. The contractor shall post a Performance Bond and Certificate of Liability Insurance with City Utilities New Water and Sewer Permit Office.

G. Contractor/Plumber must obtain a City Utilities Water Resources Department Development Criteria/Standards Manual and maintain it in an up-to-date form.

H. At the request of the Board of Public Works, but not more than once a year, all licensed or registered sewer tap contractors shall be required to attend a seminar sponsored by Fort Wayne City Utilities. This seminar shall include information about installation, workmanship, materials, safety and health regulations, liability, Department of Water Resources Development Criteria/Standards Manual and Chapter 51 of the Fort Wayne Code of Ordinances.

I. License/registration may be suspended if proper compliances are not met as outlined in Chapter 51. If the license is suspended as a result of lack of compliance with any section of Chapter 51 or these Rules and Regulations, the Director shall require that the contractor: 1) bring into compliance the work that was the cause of the suspension, 2) successfully pass the registration examination as outlined in paragraph A above, and 3) pay the registration fee prior to being re-licensed.

5. EXTENSION OF CITY SEWERS

A. All new developments, subdivisions, apartment complexes, shopping centers, hotels, restaurants, or any other residential, commercial or industrial development shall include adequate public sanitary and storm sewer systems.

B. If adequate public sewers do not exist, the developer shall extend or cause to be extended adequate public sewers. Plans for any public sewer extension must be approved by City Utilities Water Resources Department. All extensions must be designed and constructed in accordance with the City Utilities Water Resources Department Development Criteria/Standards Manual, and in compliance with the "Ten State Standards".

The public sewer extension shall be extended within the right-of-way or an approved easement. The extension shall terminate at the point where the most remote tap would be made. In instances where the sewer extension parallels or is in close proximity to adjacent property, a public right of way or easement must be provided to permit the extension of the sewer by others to serve the adjacent property.

C. If a sewer is in an easement for several sewer sections, a manhole shall be installed on that sewer within the right-of-way of a crossing street in order to provide access for truck mounted maintenance equipment.

D. Review of the plans and inspection prior to and during construction by the Industrial Pretreatment Section (IPS) of the Water Pollution Control (Wastewater Treatment) Plant and/or City Utilities

Water Resources Department shall be at the expense of the developer. The charge for review and approval of the sewer plans and inspection during installation of the sewers shall be satisfied by the developer at the time a contract for sewer extension is executed.

E. No person shall make use of a sewer extension, backfill or otherwise conceal a sewer installation unless and until the same has been inspected and approved by City Utilities. In addition to all other remedies, City Utilities may cause the said installation to be excavated and exposed, may terminate the connection, and may require the developer or contractor to pay or reimburse City Utilities for its costs and expenses in such excavation, exposure, termination, reconnection, and restoration.

F. The Board of Public Works may accept petitions from property owners requesting the extension of public sanitary sewers. Under the Board's policy, property owners abutting the sewer line shall pay for a portion of the cost of the sewer extension. For properties inside the City limits, the revolving Barrett Law program provides a financing mechanism for the property owners' share of the costs of a petition-initiated project. Contact the City Utilities Water Resources Department for more information about the petition process.

6. LIMITATION OF CONCENTRATIONS PERMITTED IN INDUSTRIAL WASTES

A. In accordance with the provisions of Section 51.033 of the Fort Wayne Code of Ordinances, the Board of Public Works, in order to protect the operation of the Water Pollution Control (Wastewater Treatment) Plant, the disposal of its sludge, and its discharge to the receiving stream, hereby limits the discharge of toxic ions, compounds, or substances entering the public sewage system not to exceed the concentration listed below:

Constituent	**Daily Maximum Limitation (mg/l)**
Arsenic	0.10
Cadmium	0.70

Chromium (Hexavalent)	0.50
Chromium (Total)	10.00
Copper	2.00
Cyanide	1.20
Lead	0.60
Mercury	0.01
Nickel	3.00
Phenol	1.00
Silver	0.30
Zinc	6.00

In addition to those pretreatment limitations specified in their individual pretreatment permits, photographic finishing industries will be limited to a daily maximum silver effluent limitation of 4.00 mg/l based on a maximum flow of 400,000 gallons per day per photographic discharger.

Non-major industries which discharge silver above the detection limit for silver (.01 mg/l) may be subject to pretreatment permits.

B. SAMPLE DISPUTE RESOLUTION.

In accordance with Section 51.040 of the Fort Wayne Code of Ordinances, the following procedure will be used in the event of a dispute between the Superintendent and the user as to the concentration, toxic nature or compliance status of the sample taken and analyzed by the City Utilities.

All such disputes shall be resolved consistent with the most current approved U.S. EPA or IDEM guidance documents and methodologies through an appeal filed by the industrial user. All appeals shall be resolved in an impartial manner through uniform application of the appeals procedures and considerations. Specifics of this process are set out in each Industrial Wastewater Discharge Permit and the steps for resolution of an appeal are contained in the *Industrial Pretreatment Section Enforcement Response Guide.* These documents may be modified as more accurate procedures become available. The following documents are the recognized authority at the date of approval of these Rules and Regulations:

a) U.S. EPA memorandum, January 21, 1992 - Determining Industrial User Compliance Using Split Samples.

b) Resolving Compliance Disputes, June 24, 1994 - Memorandum from City of Fort Wayne Law Department to Greater Fort Wayne Water Quality Subcommittee, and flow chart of same date.

6.1 **<u>LIMITATION OF CONCENTRATION OF OIL AND GREASE AND ACCEPTABLE RANGE OF pH.</u>**

A. Oil and grease (O&G) may be discharged to the Water Pollution Control (Wastewater Treatment) Plant in a concentration of 200 mg/l total for industries and commercial establishments whose O&G wastewater discharge historically contained primarily animal/vegetable O&G in their process as determined by their Standard Industrial Classification (SIC) code listed in the SIC Manual, 1987.

Within the City of Fort Wayne service area, these industries are:

a) Restaurants - SIC code 5812.

b) Bakery Products - SIC code 2051, 2052.

c) Potato chips and other snack foods - SIC code 2096.

B. If it becomes necessary to restrict the 200 mg/l total O&G limit in the future in order to protect the integrity of the Water Pollution Control Utility (Wastewater Utility), no penalty shall attach for discharge between the new, lower level and the current 200 mg/l total O&G limit for a period of ninety (90) days following action of the Board of Public Works approving the reduced limit.

C. It is the finding of the Board of Public Works that the following industries have been shown to not cause interference when total O&G is discharged in excess of 200 mg/l:

a) Dairy Products (milk) SIC code - 2026.

b) Dairy Products (ice cream) SIC code - 2024, 5143.

For the above industries such discharge shall be allowed to the extent the total O&G in the wastewater discharge does not cause interference with the public sewer system. For the purpose of determining compliance with this standard, an appropriate total O&G numerical limit shall be incorporated into such user's Industrial Wastewater Discharge Permit. The Board of Public Works grants the Superintendent limited power to evaluate the total O&G discharge of such a user and to grant such user an individual numerical total O&G limit greater than 200 mg/l (total) but no greater than 3000 mg/l.

The Superintendent's evaluation of an appropriate total O&G numerical limit for an individual user shall consider the user's historical discharge concentrations of total O&G and the impact, if any, of such discharge on the public sewer system.

The Superintendent shall monitor the effect of the user's discharge on the City's sewer system. Should the Director find that discharge at the higher, permitted level causes interference with the public sewer system, the Director shall promptly notify the user, at which point the Director shall negotiate an appropriate modification to said user's permit.

D. The acceptable range for pH is 6-12. Analysis shall be conducted on grab samples taken at the user's sampling point, as determined by the Superintendent.

6.2 **ADMINISTRATIVE ENFORCEMENT OF A/V O&G AND pH.**

A. This section shall apply only to those users described in Section 6.1 above. All other users shall be subject to the enforcement provisions set out in the City's Enforcement Response Plan and Section 51.111 of the Fort Wayne Code of Ordinances.

B. Routine samplings shall be conducted at least annually for all restaurants discharging to high maintenance sewer lines as designated by the Superintendent of Water Pollution Control Maintenance (WPCM). Any user found to have exceeded the 200 mg/l A/V O&G discharge limit upon initial sampling shall receive a written Notice of Exceedance. This notice may require the user to provide City Utilities' with a written explanation of its current and proposed means of regulating its O&G discharge, which plan is subject to the approval of the Superintendent of the Water Pollution Control (Wastewater Treatment) Plant. Thereafter, a second compliance sample shall be collected and analyzed by City Utilities. Based on the results of this compliance check, the following escalating administrative fines shall be assessed.

For each exceedance of the 200 mg/l limit thereafter, this fine schedule shall apply per occurrence. Further, any user found to have exceeded the 200 mg/l limit shall be subject to resampling within thirty (30) days from the date the Notice of Exceedance is mailed.

Milligrams/Liter
201 - 300....................$
200

301 - 500....................$
400

501 -1000....................$
600

over
1000...................$1,000

Excepted from the above fine schedule are users governed by O&G limits set in accordance with aforementioned Section 6.1 (C) of these Rules and Regulations. (SIC codes 2024, 2026 and 5143).

C. The following administrative fines may be assessed, per occurrence, to pH test results showing the user's pH level to be outside the approved range of 6 - 12.

±0.5 units from the standard....$ 100.00

±1.0 units from the standard....$ 200.00

±1.5 units from the standard....$ 350.00

± 2.0 units from the standard...$ 400.00

Greater than ±2.0 units from the standard...............$ 500.00

D. The cost of gathering and analyzing a compliance sample following a finding of exceedance or non-compliance under 6.1 of these Rules and Regulations is built into the fine schedules set out in paragraphs B. and C. above.

7. **SEPTIC TANK CLEANINGS AND INDUSTRIAL WASTES ACCEPTED AT THE WATER POLLUTION CONTROL (WASTEWATER TREATMENT) PLANT**

A. Wastes that can be treated in digesters: Septic tank cleanings, milk whey and other wastes acceptable to the Superintendent for treatment in the plant digesters from waste hauler trucks will be handled by the Water Pollution Control (Wastewater Treatment) Plant for charges set out in Section 51.076 of the Fort Wayne Code of Ordinances.

B. Wastes that cannot be treated in digesters: Commercial or industrial wastes acceptable to the Superintendent, but which are not acceptable for treatment in the plant digesters (i.e., which must go to the Fort Wayne Biosolids Handling Facility or other disposal), and which are received from waste hauler tank trucks, will be handled by the Water Pollution Control (Wastewater Treatment) Plant on an individual contract basis as approved by the Director and the Board of Public Works, at a charge adequate to reimburse the City Utilities for materials, labor, and overhead costs estimated to dispose of such wastes.

8. **FLOW METERING EQUIPMENT**

A. When an industry has been determined by the Superintendent to be a "Significant Industrial User," the Superintendent shall notify such industry and may, at Superintendent's sole discretion, require the installation, within one hundred twenty (120) days, of flow metering equipment for the purpose of determining the sewage flow or flows to the public sewer.

B. The specifications for any flow metering device and plans for installation shall be submitted to and approved by the Superintendent prior to its installation.

C. The cost of, and responsibility for, installation and maintenance of such equipment shall be the sole responsibility of said user.

D. The Board of Public Works may, upon application and proof of economic hardship or other reason, extend the time within which such equipment must be installed.

9. **CONTROL MANHOLES**

A. Any person who discharges or may discharge industrial wastes into a public sewer via any means may be required by the Superintendent to construct and maintain, at his own expense, one or more control manholes, at a specified location or locations, to facilitate the observation, measurement, and sampling of owner's waste. Such manholes shall be constructed in accordance with the standards and specifications of the City Utilities Water Resources Department *Development Criteria/Standards Manual*. The Superintendent may also require the person to install and maintain in any such manhole, at said person's expense, an approved volume-measuring device. Plans and/or shop drawings for the installation of control manholes and related equipment shall be approved by the Superintendent before any construction is begun.

B. Any building sewer which will have or has the potential of discharging prohibited wastes and/or wastes in excess of normal domestic sewage shall have a control manhole installed in accordance with either the City Resources Water Resources Department *Development Criteria/Standards Manual* or an alternate mechanism for sampling approved by the Superintendent.

C. City Utilities has deemed it necessary to require the installation of a control manhole in all building sewer lines where the Superintendent has determined that any of the following conditions exist:

   a) Abnormal maintenance of the sewer has been required to prevent and/or correct the occurrence of blockages, back-ups, etc., which have resulted in property damage; and evidence indicates that the abnormal maintenance is the result of the discharge of wastes in excess of limitations set forth in the Fort Wayne Code of Ordinances.

   b) There exists a concentration of persons discharging wastes into a public sewer through a building sewer or sewers not having control manholes.

   c) The results of laboratory analysis have demonstrated that the strength of wastes being discharged into the public sewer are in excess of limitations set forth in the Fort Wayne Code of Ordinances.

D. The Superintendent shall notify, in writing, any person who has been identified to be in violation of any of the above-mentioned conditions and shall require such person or persons to install one or more control manholes.

E. Following notification, a control manhole shall be installed within one hundred twenty (120) days. Failure to install the control manhole within 120 days shall be considered a violation of these Rules and Regulations.

F. Control manholes shall be located upon private property, shall receive all wastes from the property and shall be readily accessible to representatives of the Water Pollution Control Utility (Wastewater Utility) in order to facilitate observation, measurement, and sampling of the waste being discharged.

G. The cost of and responsibility for installation and maintenance of control manholes and flow-metering equipment shall be the sole responsibility of the property owner or utility user.

H. The Board of Public Works may, upon application and proof of economic hardship or other reason, extend the time within which such equipment must be installed.

10. **GREASE AND SAND TRAPS**

A. Whenever the Superintendent determines that interceptors or traps are needed to protect the collection system or the Water Pollution Control (Wastewater Treatment) Plant from oil, grease, sand, or similar substances occurring in any person's sewage and so notifies the customer, then such traps shall be promptly installed by the customer at their expense and shall be so maintained by that person so that none of such substances can be discharged or carried over into the public sewers. All traps or interceptors shall meet the City Utilities Water Resources Department *Development Criteria/Standards Manual* standards as to construction, location, and installation.

B. Any non-residential building sewer which will have or has the potential of discharging waste containing oil, grease, sand or similar substances, shall have a grease and/or sand trap installed in a manner to provide, at all times, the effective removal of oil, grease, and/or similar substances before discharge to the public sewer.

C. The Water Pollution Control (Wastewater) Utility has deemed it necessary to require the installation of a grease and/or sand trap in either the building sewer or within the building's plumbing system in accordance with the minimum requirements of the *Uniform Plumbing Code, Latest Edition,* Chapter 7, where the Superintendent has determined that any one of the following conditions exist:

a) Excessive maintenance of the sewer has been required to prevent the occurrence of blockages, back-ups, etc., resulting in property damage; and evidence indicates that the cause of this excessive maintenance is the discharge of prohibited wastes and/or wastes in excess of limitations set out in the Fort Wayne Code of Ordinances.

b) There exists a concentration of persons discharging prohibited wastes into a public sewer without the benefit of any grease, and/or sand trap.

c) The results of laboratory analysis have demonstrated that the strength of wastes being discharged into the public sewer are in excess of the limitations set out in the Fort Wayne Code of Ordinances.

D. The Superintendent shall notify, in writing, any person who has been identified to be in violation of any of the above-mentioned conditions and shall require such person or persons to install and/or maintain an existing grease and/or sand trap.

E. Following notification, the grease and/or sand trap shall be installed within one hundred twenty (120) days. Failure to install the grease and/or sand trap within 120 days shall be considered a violation of these Rules and Regulations.

F. If notification is given that maintenance is required, said maintenance shall be carried out within thirty (30) days, after which time the user shall be considered to be in violation of these Rules and Regulations.

G. The cost of, and responsibility for installation and maintenance of grease and sand traps shall be the sole responsibility of the property owner or utility user.

H. The Board of Public Works may, upon application and proof of economic hardship or other reason, extend the time within which such equipment must be installed.

11. SUBMISSION OF DATA ON INDUSTRIAL WASTE

All industries subject to federal categorical standards shall file with the Industrial Pretreatment Section, a scan for Total Toxic Organics (TTOs) or a Toxic Organic Management Plan (TOMP) at least biannually or whenever a process change occurs, whichever occurs first.

All industrial users shall include certification statements with all self-monitoring reports as set out in 40 CFR 403.6(a)(2)(ii).

An industrial user shall notify the Industrial Pretreatment Section within twenty-four (24) hours of becoming aware of a violation of Chapter 51 of the Fort Wayne Code of Ordinances or of its wastewater discharge permit.

12. PUBLIC NOTIFICATION

In accordance with the provisions of 40 CFR 403.8(f)(2)(viii), the City shall annually publish in Allen County's largest daily newspaper, a list of all Significant Industrial Users which are in Significant Non-Compliance.

13. SPECIAL DISCHARGES

A. Any and all discharge of water from swimming pools shall be directed to a sanitary sewer. No discharge from swimming pools shall be allowed to flow, either directly or indirectly, on to the ground of the pool owner, on to the ground of other private property, or on to any public property or roadway.

B. Swimming pool discharges are allowed in the municipal separate storm sewer system under the following conditions:

  a) The chlorinated water must sit idle for seven (7) days following the most recent chlorination prior to discharge to a storm sewer; or

  b) The swimming pool water must be analyzed to show that the discharge does not contain detectable concentrations of chlorine residual (less than 0.05mg/l).

Approval for discharge of swimming pool water into the storm sewer system must be given by the Superintendent of Water Pollution Control Maintenance.

C. Under no circumstances shall anyone discharge any wastewater into any City owned or maintained inlet, catch basin or manhole without approval from the Superintendent of Water Pollution Control Maintenance.

14. **SERVICE CHARGES**

A. General

a) Charges for sewer service shall be computed and billed by City Utilities. Bills shall be rendered monthly, approximately every 30 days, unless additional billing is required to reflect customer changes, meter changes, service terminations, initial billings, or is otherwise required to adjust billing cycles.

b) Billings for sewer service shall be rendered with and shall be due and payable on the same due date as billings for water service to the same premises, if any. If none, then within such billing cycle as City Utilities may determine.

c) Bills shall be rendered monthly. If a bill is not paid on or before the due date indicated on the bill (approximately 15 days after the bill is mailed to the customer), the bill shall be considered delinquent. Should this remain delinquent for a period of 25 days, service may be terminated by City Utilities.

The rates, charges, penalties and surcharges set out herein and/or as fixed in Chapter 51 of the Fort Wayne Code of Ordinances, shall extend to and cover any additional premises hereafter served, without hearing or notice. If the first billing to a new user covers a period other than a full billing month, then the charges for sewer service for such billing shall be made in accordance with the Fort Wayne Water Utility Rules and Regulations.

d) Charges for sewer service shall be billed to the person being billed for water service, if any, unless, by contract with City Utilities, another person assumes responsibility for payment. In all other cases, sewer service shall remain the responsibility of the owner of the real estate, who shall hold the Utility harmless from any loss occasioned by the delinquency of the person billed, including all penalties, recording fees, attorney's fees, interest and court costs, if any.

e) The owner of the real estate shall, upon request to the City Utilities Customer Relations Department, have the right to examine the City Utilities' records of billing and collection to ascertain whether such charges have been paid, and the amount thereof.

f) Nothing herein contained shall permit the owner, or any person other than the person being billed, to inspect, examine or otherwise obtain confidential information including the income, employment, finances or social security number of the person being billed.

g) Charges for sewer service levied pursuant to Chapter 51 of the Fort Wayne Code of Ordinances, shall be due and payable on or before the due date stated on the bill. Further, a delinquent sewer bill may be collected with any applied penalty, recording fees, service charges, attorney's fees, interest and court costs, if any, in accordance with Chapter 51 of the Fort Wayne Code of Ordinances and with Indiana Code Sections 36-9-23-31 through 36-9-23-34.

h) Sewer billing shall commence with the billing for water service, the meter set date or date of occupancy whichever shall first occur.

i) In the event the sewer user is not a metered Fort Wayne City Utilities water customer, charges shall be imposed and charged as follows:

1) <u>Residential</u> - In the event the sewer customer is served by a well or otherwise does not receive water through metered service, that user shall be billed flat charges as established for in-city or out-of-city service in Chapter 51 of the Fort Wayne Code of Ordinances; multi-family dwellings shall be billed at the appropriate flat rate multiplied by the number of units accommodated.

However, if the sewer user is a metered customer of another utility, City Utilities shall bill that user according to its metered water consumption. Readings obtained by City Utilities for such purpose shall be presumed to be correct so long as readings from said meter are accepted as accurate for water billing purposed by the utility supplying the water and the customer.

2) <u>Metered Water (Commercial, Industrial, Institutional and Governmental)</u> - If the sewer user is a metered customer of another utility, City Utilities shall bill that user according to its metered water consumption. Readings obtained by City Utilities for such purpose shall be presumed to be correct so long as readings from said meter are accepted as accurate for water billing purposes by the utility supplying the water and the customer.

3) <u>Unmetered Water (Commercial, Industrial, Institutional and Governmental)</u> - Customers with an unmetered water source shall be required to install a water or sewage meter as determined by the Director. All required meters shall be installed according to City Utilities' specifications, and the cost of installation, calibration and maintenance shall be the sole responsibility of the owner. The meter shall be used for billing purposes after it has been calibrated and accepted by City Utilities. The customer shall provide access to said water or sewage meter for the purpose of billing for sewer service.

4) City Utilities shall retain documentation supporting its estimates and the billings based thereon. Such determination of billings may be reviewed and adjusted by City Utilities at any time. However, no adjustments, additional charge or refund may be made more than six (6) years after the due date of the billing sought to be adjusted.

j) Any property found to be connected to a public sewer for the discharge of sewage without payment shall be placed on monthly billings immediately, and the user of the service shall be back-billed for the period of use either at the metered use charge or the monthly flat charge set out in Chapter 51 of the Fort Wayne Code of Ordinances.

B. Delinquencies

a) A penalty of ten (10%) percent of the amount of the charges for sewer service shall be attached to the current delinquent charges.

b) Where the property having a delinquent account for charges for sewer service is served by the City's Water Utility, City Utilities may, after reasonable notice to the person being billed, shut off water service to the property. Water service shall not be restored until the delinquent account, together with the costs of turning off and turning on the water, shall have been paid.

c) Delinquent charges for sewer services and applied penalties, recording fees, and service charges may be made a lien upon the property and may be collected in accordance with the provisions of Indiana Code 36-9-23-32 and 36-9-23-33.

d) In addition to all other remedies provided, the City Utilities may disconnect sewer service to the property. Sewer service shall not be restored until the delinquent account, together with the costs of terminating and reconnecting the sewer service, shall have been paid.

e) In addition to the foregoing remedies, City Utilities may file a civil action to recover the amount of the charges for sewer services penalties, and a reasonable attorney's fee, and may foreclose liens established by Chapter 51 of the Fort Wayne Code of Ordinances and in accordance with Indiana Code 36-9-23-34 when the delinquent party is the property owner.

15. **ENFORCEMENT**

A. In accordance with Chapter 51, Section 51.111 of the Fort Wayne Code of Ordinances, the power to enforce the provisions of Chapter 51 not specifically dealt with elsewhere shall be vested in the Director, and such deputies, with the approval of the Board of Public Works, as may be appointed for such purposes.

B. Whenever said Director or any such deputy shall deem it appropriate to charge any person with a violation(s) of Chapter 51, a Notice of Violation and/or Summons may be issued to such person which shall be processed according to the provisions of Indiana Code (34-28-5-1). As an alternative, the Director may employ administrative remedies in accordance with Indiana Code 36-1-6-9 and the Fort Wayne Code or Ordinances.

16. **ENFORCEMENT PROCEDURE**

A. It shall be the policy of City Utilities to enforce the provisions of Chapter 51 in accordance with Section 51.111 of the Fort Wayne Code of Ordinances. However, contractually specified enforcement procedures where City Utilities is a party to the contract and which conflict with any portion of Section 51.111, shall take precedence over the conflicting portion of said Section.

B. Specific enforcement responses by the City are more fully set out in the City's Enforcement Response Plan, which is specifically incorporated into each Industrial Waste Discharge Permit and into these Rules and Regulations by reference.

C. All actions taken by City Utilities requiring a response by the user shall be made in writing and sent by certified mail to ensure receipt by the user.

17. **RIGHT OF APPEAL**

A. Any party aggrieved by an order or determination of the Water Pollution Control (Wastewater) Utility other than a billing and payment issue may, within fifteen (15) days after receipt of a Notice informing such party of the decision or order, appeal such decision or order to the Board of Public Works or its designated hearing officer by filing a petition seeking such appeal with the Clerk of the Board of Public Works stating the basis of such appeal, including the alleged error in the decision or order. After receipt of such petition, the Board of Pubic Works or its designated hearing officer, after due and proper notice to all parties, shall hold a hearing on said petition and at the conclusion thereof or within thirty (30) days thereafter, enter a decision either affirming, denying, revising, amending, altering, or modifying such decision or order as the Board of Public Works, by majority vote, shall so rule. A party or person aggrieved by the Board of Public Works shall have the right to judicial review of such determination in accord with and pursuant to the same provision of the Indiana Administrative Adjudication Act (4-21.5-1-1 et seq.) as are applicable to appeals and review of decisions of agencies of the State of Indiana.

B. Any person aggrieved by any charge or billing determination by City Utilities may request and shall be granted an Administrative Appeal. Disputing the accuracy of a bill shall not be a valid reason for non-payment or partial payment of a bill by the customers, and shall not stay the accrual of finance charges on the delinquency. The customer may pay a bill under protest, giving written notice that an appeal is being sought. Such written notices must be filed with the Manager of the City Utilities Customer Relations Department prior to the due date of the bill.

The customer shall first discuss the determination with a Supervisor. If the dispute is not resolved to the customer's satisfaction, the facts concerning the dispute shall be reduced to writing by the customer. The customer and City Utilities may submit, in writing, any information they deem appropriate, to the Director, or a designated hearing officer who shall conduct, as soon as practicable, an informal hearing to determine and resolve the dispute. The Determination by such hearing officer shall be final and shall constitute the final administrative determination pursuant to IC 4-21.5-1-1 et seq.

18. **PRESENT RULES SUPERSEDE PRIOR RULES**

All rules and regulations heretofore promulgated by the Water Pollution Control (Wastewater) Utility governing the service supplied by the Utility are superseded and replaced by the foregoing Rules and Regulations of the Water Pollution Control (Wastewater) Utility and/or other specifications, rules and regulations referred to herein and made a part hereof.

19. **REMEDIES NOT EXCLUSIVE**

The remedies provided to the Water Pollution Control (Wastewater) Utility by these Rules and Regulations shall not be exclusive and shall be in addition to all other remedies which the Water Pollution Control (Wastewater) Utility has in law or equity.

20. **AMENDMENTS AND REVISIONS**

The Board of Public Works of the City of Fort Wayne, Indiana, reserves the right, by appropriate action, to amend, modify, delete, change or otherwise revise these Rules and Regulations as it may deem, from time to time, to be desirable and/or necessary.

APPROVED by the Board of Public Works in its regular meeting, May 15,2002.

CITY OF FORT WAYNE
BOARD OF PUBLIC WORKS

____
Ted Rhinehart, Chairman

____
John Suarez, Member

____
Denise Porter-Ross, Member

ATTEST:

____
Carolyn S. Newport, Clerk

RESOLUTION NO. 89-103-27
POLICY CONCERNING COST OF BUILDING SEWER OR TAP REPAIR

WHEREAS, private building sewers, including the tap to the public sewer main, are the responsibility of the owner of the property served to maintain and repair; and

WHEREAS, a broken building sewer or tap may cause damage to the public sewer system or to a street, alley or other surface improvement in the public right of way and become a general detriment to the public; and

WHEREAS, the depth, location and size of the public sewer may have a significant impact on the cost of repairing a building sewer and/or tap; and

WHEREAS, the portion of the building sewer or tap that is most costly to repair is typically the portion within 20 feet of the public sewer main or the portion within the public right of way; and

WHEREAS, the cost of repairing this portion of the building sewer or tap typically exceeds $3,700.00; and

WHEREAS, The Board of Public Works has previously passed a Resolution No. 80-165-5, which initially addressed the subject of this Resolution; and

WHEREAS, The Board of Public Works desires to revise said Resolution No. 80-165-5 and to establish this policy under which the City and the property owner may share in the cost for repairing that portion of the building sewer most affected by main depth, location and size in those circumstances where the cost exceeds the typical price. Further, the Board of Public Works wishes to provide the property owner with a financing mechanism for its share of the cost when the owner meets the guidelines contained in this policy.

NOW THEREFORE, be it resolved by the Board of Public Works of the City of Fort Wayne, Indiana that:

1. This policy shall only apply to building sewers and taps serving residential properties. A residential property is defined in the *City of Fort Wayne, Indiana Code of Ordinances* 51.050 (A) (12) as "a building used as a one or two-family dwelling."

2. If the repair is located within 20 feet of the public sewer main or within the public right of way,

and the cost of the repair exceeds $3,700.00, the property owner's share of the cost may be capped at $3,700.00 and Fort Wayne City Utilities shall pay the balance of the cost if all other requirements of this policy are met.

3. The cost of the repair undertaken by the property owner shall be documented by a submittal of three written quotes from licensed sewer tap contractors. The Water Pollution Control Maintenance Department (WPCM) shall review quotes. If the WPCM staff determines all quotes are unreasonably high, City Utilities may request quotes from three additional firms. If the WPCM staff finds that the quotes do not represent a fair price for the work, an outside engineering firm may be retained by City Utilities to review the quotes and/or prepare an estimate of the cost of the repair work.

   City Utilities shall pay only the documented amount that is in excess of the $3,700 cap but shall not pay more than the difference between $3,700 and the total cost shown in the lowest quote. If the estimate by an outside engineering firm retained by City Utilities is determined to be the fair price for the work, City Utilities shall pay only the difference between the $3,700 cap and the total amount for the work determined by the outside engineering firm to be reasonable.

4. In order to be considered for the cost share program, the property owner or contractor must notify the Water Pollution Control Maintenance Department of a tap problem before any excavation or repair work is undertaken.

5. WPCM shall determine if the disrepair is causing damage to the public sewer system or to a surface improvement. If no damage is resulting to the public sewer system or to a public surface improvement, and if the disrepair is located more than 20 feet from the public sewer main or is outside the public right of way, Fort Wayne City Utilities is under no obligation to participate in a repair and the property owner is not eligible for a cost share under this policy.

6. The WPCM Department shall have the authority to order property owners to make repairs to a building sewer or tap when it has been determined by WPCM that the disrepair has a detrimental effect on the

public sewer system or is causing damage to street, alley or other surface improvement. Such order shall be sent to the property owner by certified-mail, return receipt requested.

7. If the property owner fails to make the necessary repair within ten (10) days of an order to do so, or if WPCM determines that an emergency exists because of damage to the public sewer system or damage to street, alley or other surface improvement, WPCM shall make the repair or have the repair made after notifying the property owner in writing of the decision to do so. Such notification will be sent to the property owner by certified-mail, return receipt requested.

8. If WPCM makes the repair or has the repair made, City Utilities shall have the authority to charge the property owner for the first $3,700.00 toward the total cost of the repair. The property owner shall pay to City Utilities its share of the cost of the building sewer or tap repairs within 30-days.

9. The property owner may apply to have its share financed over a period of time if the following guidelines are met:

   A. The property owner's income can be documented to be at or below 100% of median household income as established by the U.S. Department of Housing and Urban Development;
   B. The property owner has not had service by City Utilities discontinued for non-payment at the repair address or any other address in past two (2) years;
   C. Housing and Neighborhood Development Services (HANDS) has approved and works with the property owner on a suggested repayment schedule. In no case shall repayment be extended over a period of longer than 36 months.

10. The financing program shall be administered by HANDS based on application of the guidelines in Section 9 of this policy. HANDS will review each application and make a recommendation to Fort Wayne City Utilities on eligibility, creditworthiness, and suggested repayment schedule. Appeal of the recommendation from HANDS shall be made to the

Associate Director of Finance - Fort Wayne City Utilities.

This Resolution represents a revision of Resolution 80-165-5, and shall supersede and replace the previous Resolution on the effective date of this document.

Adopted this _3rd_ day of _April_, 2002 and effective on June 1, 2002.

BOARD OF PUBLIC WORKS

By: ____________________
Ted Rhinehart, Chair

By: ____________________
John Suarez, Member

By: ____________________
Lin Wilson, Member

ATTEST ____________________
Carolyn S. Newport, Clerk

A RESOLUTION AMENDING THE GENERAL RULES AND REGULATIONS OF THE FORT WAYNE WATER POLLUTION CONTROL UTILITY BY THE BOARD OF PUBLIC WORKS CITY OF FORT WAYNE, INDIANA

WHEREAS, recently a meeting was held with members of the general public concerning the accuracy and meaning of the wording in the Regulations of the Fort Wayne Water Pollution Control Utility ("regulations"); and

WHEREAS, after said meeting the staff conducted a review of said regulations and have determined that clarification was needed with regard to the necessity of recordation to validate a "contract purchaser;" and

WHEREAS, staff recommend that the definition of "Owner" on page 7 of said regulations be amended as follows:

""**OWNER**" - Designates the person holding the deed or record title to a premesis. For the purposes of these Rules and Regulations, a contract purchaser is ~~not~~ considered an owner **of an equitable interest in the subject real estate** ~~unless the contract has been duly recorded in the Allen County Recorder's Office~~. **Recordation of said contract is not necessary to validate said interest.**"

NOW, THEREFORE, THE BOARD OF PUBLIC WORKS HEREBY AMENDS THE GENERAL RULES AND REGULATIONS OF THE FORT WAYNE WATER POLLUTION CONTROL UTILITY AS FOLLOWS:

(Pg. 7)

""**OWNER**" - Designates the person holding the deed or record title to a premesis. For the purposes of these Rules and Regulations, a contract purchaser is considered an owner of an equitable interest in the subject real estate. Recordation of said contract is not necessary to validate said interest."

SECTION 2. This amendment to the General Rules and Regulations shall be effective as of the 4th day of December, 2002.

Signed the ___4th___ day of __December__, 2002.

CITY OF FORT WAYNE
BOARD OF PUBLIC WORKS

BY: ______________________________
Ted Rhinehart, Director

____
John Suarez, Member

____
Denise Porter-Ross, Member

ATTEST: ______________________________
Carolyn S. Newport, Clerk

A RESOLUTION AMENDING THE
GENERAL RULES AND REGULATIONS
OF THE FORT WAYNE WATER POLLUTION CONTROL UTILITY
BY THE BOARD OF PUBLIC WORKS
CITY OF FORT WAYNE, INDIANA

Whereas, from time to time it is determined by the Board of Public Works that changes to the General Rules and Regulations governing the operation of Fort Wayne's Water Pollution Control Utility are necessary and desirable for the protection of the Utility's customers and the Utility; and

Whereas, in 2003 Utility staff have investigated approximately 11,000 sewer only accounts held in the names of tenants that were experiencing high past-due bills or had repeatedly had their accounts closed for non-payment; and

Whereas, it is desirable to protect tenants in these circumstances from continuing to accumulate accounts with past due bills; and

Whereas, it is desirable to outline circumstances in which past due, sewer only accounts held in tenants' names would be administratively returned to the name of the owner of the property for future bill payment.

Now Therefore, be it resolved by the Board of Public Works, that Item 14-A-d in the Water Pollution Control Utility Rules and Regulations adopted by the Board of Public Works and effective on May 15, 2002 is hereby stricken and replaced with the following:

14. A (Pg.30)
"d – i. Charges for sewer service shall be billed to the person being billed for water service if the real estate has water service provided by Fort Wayne City Utilities. If a person other than the person being billed for water service wishes to assume responsibility for payment of the charges for sewer service, that person must sign a contract with City Utilities.

d – ii. In cases where there is no water service provided by Fort Wayne City Utilities, and/or where no valid contract for sewer service exists, payment for sewer service shall remain the responsibility of the property owner.

d – iii. For sewer service accounts where Fort Wayne water is not available or where water is provided by a private source such as a well, if the Utility shall determine that the sewer service address has experienced customers with excessive uncollected billings during the most recent 12 months and such billings total in excess of $200.00 (two hundred dollars and zero cents), Fort Wayne City Utilities shall have the right to return the account to the name of the owner of record of the real estate. Before such a change is made, the owner of record must be provided with notice in writing, sent by certified mail 14 (fourteen) working days before said change is to take effect, that such a change is to be made to the account.

In cases where the sewer account is placed in the owner's name by administrative action, responsibility for payment of future charges for sewer service shall remain with the owner of record of the real estate until such time as the property is vacated or until a new customer executes a contract for service at the given address in his/her/their name(s)."

Be it further resolved by the Board of Public Works that because it is desirable to give the Water Pollution Control Utility staff a greater ability to control abuses of sewer tap contractor's licenses, Item 4 is amended by the addition of the following:

(Pg. 18)
"J. Mishandling of a sewer tap license/registration issued by Fort Wayne City Utilities may result in the suspension of the license with reinstatement to be at the discretion of City Utilities, and said reinstatement shall be based upon the severity of the infraction. If a contractor has his/her license suspended two (2) times for mishandling and said license has been reinstated two (2) times, a third offense shall result in a permanent suspension of the license/registration."

These amendments to the General Rules and Regulations shall be effective as of the ________ day of ________________, 2004.

Signed the __________ day of ____________________, 2004.

CITY OF FORT WAYNE
BOARD OF PUBLIC WORKS

By:

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Robert P. Kennedy, Chair

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Denise Porter-Ross, Member

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John Suarez, Member

ATTEST: ________________________
Justin Brugger, Clerk

APPENDIX D

Criteria and Values for Selected Substances Calculated Using the Great Lakes Basin Methodologies

CRITERIA AND VALUES FOR SELECTED SUBSTANCES CALCULATED USING THE GREAT LAKES BASIN METHODOLOGIES

CAS Number	Substance	Acute Aquatic Life (µg/L)	Date	Chronic Aquatic Life (µg/L)	Date	Human Health Cancer (µg/L)	Date	Human Health Noncancer (µg/L)	Date	Wildlife (µg/L)	Date
83329	Acenaphthene	140^{T2}	8/17/00	27^{T2}	8/17/00			$1{,}200\ (D)^{T2}$ 4,200 (ND)	3/20/00		
208968	Acenaphthylene	ID	8/8/01	ID	8/8/01			ID	3/20/00		
75070	Acetaldehyde[C]	1200^{T2}	8/17/00	130^{T2}	8/17/00	ID	3/20/00	ID	3/20/00		
34256821	Acetochlor	ID	3/30/01	ID	3/30/01			$450\ (D)^{T1}$ 2,300 (ND)	3/30/01		
67641	Acetone	$15{,}000^{T1}$	8/17/00	$1{,}700^{T2}$	8/17/00			$2{,}800\ (D)^{T1}$ 220,000 (ND)	3/20/00		
107028	Acrolein	0.85^{T2}	8/18/00	0.19^{T2}	8/18/00			ID	3/21/00		
107131	Acrylonitrile[C]	570^{T2}	8/18/00	63^{T2}	8/18/00	$0.53\ (D)^{T1}$ 3.0 (ND)	3/21/00	ID	3/21/00		
15972608	Alachlor	190^{T2}	8/21/00	21^{T2}	8/21/00			$210\ (D)^{T1}$ 820 (ND)	3/21/00		
309002	Aldrin[C,BCC]	0.15^{T2}	8/21/00	0.035^{T2}	8/21/00	$2.4 \times 10^{-6}\ (D)^{T2}$ 2.4×10^{-6} (ND)	3/23/00	$8.2 \times 10^{-5}\ (D)^{T2}$ 8.2×10^{-5} (ND)	4/4/00		
7429905	Aluminum	UR	9/25/01	UR	9/25/01			$970\ (D)^{T2}$ 4,500 (ND)	3/23/00		
120127	Anthracene	6.1^{T2}	8/22/00	0.68^{T2}	8/22/00			$590\ (D)^{T2}$ 630 (ND)	3/24/00		
7440360	Antimony	720^{T2}	8/22/00	80^{T2}	8/22/00			$10\ (D)^{T1}$ 2,000 (ND)	3/24/00		
7440382	Arsenic[C]	339.8^{R}	8/26/98	147.9^{R}	8/26/98	UR	5/16/01	$10\ (D)^{T1}$ 230 (ND)	3/24/00		
1912249	Atrazine	330^{T1}	10/13/99	12^{T1}	10/13/99			$920\ (D)^{T2}$ 15,000 (ND)	3/24/00		

7440393	Barium	[illegible]	12/4/02	[illegible]	12/4/02						
71432	Benzene[C]	880^{T2}	8/22/00	98^{T2}	8/22/00	12 $(D)^{R}$ 310 (ND)	8/26/98	19 $(D)^{R}$ 510 (ND)	8/26/98		
92875	Benzidine[C]	14^{T2}	8/22/00	1.5^{T2}	8/22/00	1.5×10^{-3} $(D)^{T1}$ 7.5×10^{-2} (ND)	3/24/00	74 $(D)^{T1}$ 3,700 (ND)	4/4/00		
56553	Benzo(*a*)anthracene[C]	0.23^{T2}	8/23/00	0.025^{T2}	8/23/00	ID	3/28/00	ID	3/28/00		
205992	Benzo(*b*)fluoranthene[C]	ID	4/1/97	ID	4/1/97	ID	3/28/00	ID	3/28/00		
207089	Benzo(*k*)fluoranthene[C]	ID	8/11/99	ID	8/11/99	ID	3/28/00	ID	3/28/00		
191242	Benzo[g,h,i]perylene[C]	ID	7/29/99	ID	7/29/99	ID	3/28/00	ID	3/28/00		
65850	Benzoic Acid	ID	4/15/98	ID	4/15/98			110,000 $(D)^{T1}$ 3,900,000 (ND)	3/28/00		
50328	Benzo(*a*)pyrene[C]	UR	5/31/02	UR	5/31/02	0.032 $(D)^{T1}$ 0.096 (ND)	12/4/02	ID	4/4/00		
7440417	Beryllium[C]	$e^{2.528(\ln(hardness))-8.572\ T2}$	4/6/99	$e^{2.528(\ln(hardness))-10.77\ T2}$	4/6/99	ID	3/28/00	40 $(D)^{T1}$ 300 (ND)	3/28/00		
108601	bis(2-chloroisopropyl) ether	ID	9/18/97	ID	9/18/97			990 $(D)^{T1}$ 48,000 (ND)	3/31/00		
542881	bis(chloromethyl)ether[C]	ID	6/18/99	ID	6/18/99	0.0016 $(D)^{T1}$ 0.11 (ND)	3/31/00	ID	3/31/00		
117817	Bis(2-ethylhexyl) phthalate (DEHP)[C]	N/A	12/17/98	N/A	12/17/98	2.5 $(D)^{T2}$ 2.8 (ND)	4/3/00	54 $(D)^{T2}$ 60 (ND)	4/3/00		
7440428	Boron	$3,200^{T2}$	8/23/00	360^{T2}	8/23/00			ID	4/3/00		
75252	Bromoform[C]	$1,100^{T2}$	8/23/00	61^{T2}	8/23/00	42 $(D)^{T1}$ 710 (ND)	4/7/00	470 $(D)^{T1}$ 8,100 (ND)	4/7/00		
78933	2-Butanone	$120,000^{T2}$	8/23/00	$14,000^{T2}$	8/23/00			16 $(D)^{T1}$ 1300 (ND)	4/7/00		
7440439	Cadmium[C]	$e^{1.128(\ln(hardness))-3.6867\ R}$	8/26/98	$e^{0.7852(\ln(hardness))-2.715\ R}$	8/26/98	ID	4/7/00	14 $(D)^{T1}$ 1400 (ND)	4/7/00		
75150	Carbon Disulfide							3,000 $(D)^{T1}$ 100,000 (ND)	4/7/00		

56235	Carbon Tetrachloride^{C}	360^{T2}	10/04/00	40^{T2}	10/04/00	2.4 $(D)^{T1}$ 19 (ND)	4/11/00	17 $(D)^{T1}$ 120 (ND)	4/11/00		
10599903	Chloramine	ID	6/06/02	ID	6/06/02						
57749	Chlordane^{C,BCC}					0.00025 $(D)^{R}$ 0.00025 (ND)	8/26/98	0.0014 $(D)^{R}$ 0.0014 (ND)	8/26/98		
	Chlorides	$860{,}000^{R}$	8/26/98	$230{,}000^{R}$	8/26/98						
7782505	Chlorine (total residual)	19^{R}	8/26/98	11^{R}	8/26/98						
7782505	Chlorine (intermittent)	200^{R}	8/26/98								
108907	Chlorobenzene							470 $(D)^{R}$ 3,200 (ND)	8/26/98		
124481	Chlorodibromomethane^{C}	ID	10/2798	ID	10/27/98	4 $(D)^{T1}$ 86 (ND)	4/11/00	570 $(D)^{T1}$ 12,000 (ND)	4/11/00		
75003	Chloroethane	ID	10/2798	ID	10/2798			ID	4/11/00		
110758	2-Chloroethyl vinyl ether	ID	10/2898	ID	10/2898			ID	4/11/00		
67663	Chloroform^{C}	1300^{T2}	10/05/00	170^{T2}	10/05/00	56 $(D)^{T1}$ 1,700 (ND)	4/11/00	350 $(D)^{T1}$ 11,000 (ND)	4/11/00		
74873	Chloromethane (methyl chloride)	ID	10/2898	ID	10/2898						
16065831	Chromium III	$e^{0.819(\ln(\text{hardness}))+3.7256}$ R	8/26/98	$e^{0.819(\ln(\text{hardness}))+0.6848}$ R	8/26/98			410,000 $(D)^{T1}$ 43,000,000 (ND)	4/11/00		
18540299	Chromium VI	16.02^{R}	8/26/98	10.98^{R}	8/26/98			230 $(D)^{T1}$ 25,000 (ND)	4/11/00		
218019	Chrysene^{C}	ID	9/3/96	ID	9/3/96	ID	4/11/00	ID	4/11/00		
7440484	Cobalt	120^{T2}	1/12/01	19^{T2}	1/12/01			ID	4/11/00		
7440508	Copper	$e^{0.9422(\ln(\text{hardness}))-1.700}$ R	8/26/98	$e^{0.8545(\ln(\text{hardness}))-1.702}$ R	8/26/98			280 $(D)^{T1}$ 56,000 (ND)	4/12/00		
21725462	Cyanazine	$2{,}500^{2}$	3/29/01	270^{T2}	3/29/01			ID	4/12/00		
57125	Cyanide	22^{R}	8/26/98	5.2^{R}	8/26/98			600 $(D)^{R}$ 48,000 (ND)	8/26/98		

94757	2,4-D	$2,500^{T2}$	2/8/01	240^{T2}	2/8/01			$250 (D)^{T1}$ 2,000 (ND)	4/12/00		
50293	DDT[C,BCC]	0.45^{T}[illegible]	2/26/97	0.032^{T2}	2/26/97	$0.00015 (D)^{R}$ 0.00015 (ND)	8/26/98	$0.002 (D)^{R}$ 0.002 (ND)	8/26/98	$1.1x10^{-5 R}$	10/1/98
333415	Diazinon	0.09^{T1}	9/29/99								
53703	Dibenz[a,h]anthracene[C]	ID	8/11/99	ID	8/11/99	ID	4/12/00	ID	4/12/00		
132649	Dibenzofuran	65^{T2}	1/3/97	7.3^{T2}	1/3/97			ID	4/12/00		
111922	Dibutylamine	ID	6/23/98	ID	6/23/98			ID	4/12/00		
84742	Dibutyl phthalate[BCC]	34^{T2}	3/30/01	19^{T2}	3/30/01			$31 (D)^{T2}$ 31 (ND)	4/13/00		
95501	1,2-Dichlorobenzene	130^{T2}	9/24/97	14^{T2}	9/24/97			$1700 (D)^{T1}$ 6000 (ND)	4/13/00		
541731	1,3-Dichlorobenzene	310^{T2}	9/25/97	52^{T2}	9/25/97			ID	4/13/00		
106467	1,4-Dichlorobenzene	80^{T2}	6/21/99	16^{T2}	6/21/99			ID	4/13/00		
91941	3,3'-Dichlorobenzidine[C]	ID	6/21/99	ID	6/21/99	$0.43 (D)^{T1}$ 0.95 (ND)	4/13/00	ID	4/13/00		
75274	Dichlorobromomethane[C]	ID	10/19/98	ID	10/19/98	$5.5 (D)^{T1}$ 150 (ND)	4/17/00	$480 (D)^{T1}$ 13,000 (ND)	4/17/00		
75343	1,1-Dichloroethane	$6,600^{T2}$	6/26/01	740^{T2}	6/26/01			$1,100 (D)^{T2}$ 27,000 (ND)	4/17/00		
107062	1,2-Dichloroethane[C]	$7,300^{T2}$	11/24/98	980^{T2}	11/15/02	$3.8 (D)^{T1}$ 210 (ND)	4/17/00	ID	4/17/00		
75354	1,1-Dichloroethylene	$1,900^{T2}$	6/22/99	210^{T2}	6/22/99	N/A	11/25/02	$240 (D)^{T1}$ 4,100 (ND)	4/17/00		
156592	1,2-*cis*-Dichloroethylene	$5,500^{T2}$	6/26/01	620^{T2}	6/26/01			ID	4/17/00		
156605	1,2-*trans*-Dichloroethylene	$5,000^{T2}$	9/19/01	560^{T2}	9/19/01			$470 (D)^{T1}$ 25,000 (ND)	4/17/00		
120832	2,4-Dichlorophenol	120^{T2}	4/06/01	17^{T2}	4/06/01			$71 (D)^{T1}$ 450 (ND)	9/9/99		
542756	1,3-Dichloropropene[C]	17^{T2}	12/1/98	1.9^{T2}	12/1/98	$3.4 (D)^{T1}$ 170 (ND)	9/12/00	$940 (D)^{T1}$ 46,000 (ND)	9/12/00		

60571	Dieldrin[C,BCC]	0.24^{R}	8/26/98	0.056^{R}	8/26/98	$6.5x10^{-6}$ (D)[R] $6.5x10^{-6}$ (ND)	8/26/98	0.00041 (D)[R] 0.00041 (ND)	8/26/98	$7.0x10^{-5}$ [T1]	10/5/98
84662	Diethyl Phthalate							21,000 (D)[T1] 1,200,000 (ND)	3/7/00		
105679	2,4-Dimethylphenol	140[T2]	4/06/01	21[T2]	4/06/01			450 (D)[R] 8,700 (ND)	8/26/98		
131113	Dimethyl phthalate	2,800[T2]	4/3/01	1,000[T2]	4/3/01			ID	4/18/00		
80466	Dimethylpropyl phenol	ID	4/06/01	ID	4/06/01			ID	4/18/00		
51285	2,4-Dinitrophenol							55 (D)[R] 2,800 (ND)	8/26/98		
122667	1,2-Diphenylhydrazine[C]	9.6[T2]	6/22/99	1.1[T2]	6/22/99	0.36 (D)[T1] 2.1 (ND)	4/18/00	ID	4/18/00		
115297	Endosulfan	0.10[T1]	5/16/01	0.05[T1]	5/16/01			85 (D)[T2] 170 (ND)	9/15/99		
72208	Endrin[BCC]	0.086^{R}	8/26/98	0.036^{R}	8/26/98			0.187 (D)[T2] 0.193 (ND)	4/18/00		
100414	Ethylbenzene	1,000[T2]	5/16/01	110[T2]	5/16/01			2,100 (D)[T1] 9,100 (ND)	4/19/00		
106934	Ethylene Dibromide[C]	ID	7/27/99	ID	7/27/99	0.004 (D)[T1] 0.17 (ND)	4/19/00	ID	4/19/00		
107211	Ethylene Glycol	2,200,000[T2]	5/16/01	240,000[T2]	5/16/01			56,000 (D)[T1] 4,500,000 (ND)	4/19/00	73,000[T2]	3/15/99
206440	Fluoranthene	17[T2]	4/11/01	3.6[T2]	4/11/01			9.4 (D)[T2] 9.5 (ND)	4/19/00		
86737	Fluorene	22[T2]	5/16/01	2.4[T2]	5/16/01			250 (D)[T2] 320 (ND)	4/19/00		
16984488	Fluoride	12,000[T2]	5/18/00	3,400[T2]	5/18/00						
50000	Formaldehyde[C]	660[T2]	5/16/01	74[T2]	5/16/01	ID	4/20/00	3,200 (D)[T1] 320,000 (ND)	4/20/00		
1071836	Glyphosate	ID	2/19/99	ID	2/19/99						
76448	Heptachlor[C,BCC]					0.0016 (D)[T2] 0.0016 (ND)	3/7/00	0.29 (D)[T2] 0.29 (ND)	9/18/00		

118741	Hexachlorobenzene^{C,BCC}					0.00045 (D)^{R} 0.00045 (ND)	8/26/98	0.046 (D)^{R} 0.046 (ND)	8/26/98		
87683	Hexachlorobutadiene^{C,BCC}	ID	12/8/99	ID	12/8/99	0.22 (D)^{T2} 0.24 (ND)	12/8/99	ID	12/8/99		
319-84-6	Alpha-Hexachloro-cyclohexane^{C,BCC}					0.027 (D)^{T2} 0.051 (ND)	3/8/00	ID	3/8/00		
319-85-7	beta-Hexachloro cyclohexane^{C,BCC}	ID	2/10/00	ID	2/10/00	0.093 (D)^{T2} 0.18 (ND)	3/9/00	ID	2/10/00		
608-73-1	Hexachloro-cyclohexane^{C,BCC}					0.093 (D)^{T2} 0.18 (ND)	3/9/00	ID	2/10/00		
77-47-4	Hexachlorocyclopentadiene							170 (D)^{T1} 1,500 (ND)	3/15/00		
67721	Hexachloroethane^{C}					5.3 (D)^{R} 6.7 (ND)	8/26/98	6 (D)^{R} 7.6 (ND)	8/26/98		
193395	Indeno[1,2,3-cd]pyrene^{C}	ID	8/11/99	ID	8/11/99	ID	4/20/00	ID	4/20/00		
12040572	Iron(III)	ID	3/15/98	ID	3/15/98						
78591	Isophorone	7,500^{T2}	5/17/01	830^{T2}	5/17/01			4,100 (D)^{T1} 110,000 (ND)	4/20/00		
7439921	Lead^{T1,C}	$e^{1.273(\ln(hardness))-1.055}$	11/13/96	$e^{1.273(\ln(hardness))-4.003}$	11/13/96	ID	4/20/00	ID	4/20/00		
58899	Lindane^{BCC}	0.95^{T1}	8/24/99	0.11^{T2}	8/24/99			0.47 (D)^{R} 0.5 (ND)	8/26/98		
7439965	Manganese	$e^{0.8784(\ln(hardness))+2.992\ T2}$	4/06/01	$e^{0.8784(\ln(hardness))+2.226\ T2}$	4/06/01			ID	4/20/00		
7439976	Mercury^{BCC}	1.694^{R}	8/26/98	0.9081^{R}	8/26/98			0.0018 (D)^{R} 0.0018 (ND)	8/26/98	0.0013 ^{R}	10/1/98
67561	Methanol	3,000^{T2}	7/17/01	330^{T2}	7/17/01			14,000 (D)^{T1} 1,100,000 (ND)	4/27/00		
72435	Methoxychlor							6.3 (D)^{T2} 6.6 (ND)	4/28/00		
74895	Methylamine	7,700^{T2}	4/12/99	860^{T2}	4/12/99			ID	4/28/00		
75092	Methylene chloride^{C}	14,000^{T2}	7/17/01	1,500^{T2}	7/17/01	47 (D)^{R} 2,600 (ND)	8/26/98	1,600 (D)^{R} 90,000 (ND)	8/26/98		

91576	2-Methylnaphthalene	ID	2/3/97	ID	2/3/97			ID	4/28/00		
95487	2-Methylphenol	600^{T2}	5/15/01	67^{T2}	5/15/01			1,400 (D)^{T1} 44,000 (ND)	4/28/00		
106445	4-Methylphenol	480^{T2}	5/15/01	53^{T2}	5/15/01			ID	4/28/00		
108101	Methyl isobutyl ketone	ID	8/30/99	ID	8/30/99			ID	4/28/00		
1634044	Methyl *tert*-butyl ether	6500^{T2}	9/18/01	730^{T2}	9/18/01			ID	4/28/00		
51218452	Metolachlor	ID	2/15/99	ID	2/15/99			3,000 (D)^{T1} 11,000 (ND)	7/26/00		
2385855	Mirex^{BCC}							7.3×10^{-4} (D)^{T1} 7.3×10^{-4} (ND)	7/26/00		
7439987	Molybdenum	1200^{T2}	9/18/01	800^{T2}	9/18/01						
91203	Naphthalene	200^{T2}	9/18/01	26^{T2}	9/18/01			490 (D)^{T1} 1,900 (ND)	7/26/00		
1338245	Naphthenic Acid	ID	7/20/99	ID	7/20/99			ID	7/26/00		
7440020	Nickel	$e^{(0.846(\ln(hardness))+2.255)}$ R	8/26/98	$e^{(0.846(\ln(hardness))+0.0584)}$ R	8/26/98			460 (D)^{T1} 42,000 (ND)	7/26/00		
98953	Nitrobenzene	$1,000^{T2}$	9/18/01	220^{T2}	9/18/01			13 (D)^{T1} 28,000 (ND)	7/26/00		
88755	2-Nitrophenol	650^{T2}	5/15/01	73^{T2}	5/15/01			ID	7/26/00		
100027	4-Nitrophenol	530^{T2}	4/14/99	58^{T2}	4/14/99			ID	7/26/00		
55185	*N*-Nitrosodiethylamine^{C}	ID	7/15/99	ID	7/15/99	0.0023 (D)^{T1} 0.18 (ND)	8/23/00	ID	8/23/00		
62759	*N*-Nitrosodimethylamine^{C}	ID	7/20/99	ID	7/20/99	0.0068 (D)^{T1} 0.55 (ND)	7/20/99	ID	7/20/99		
924163	*N*-Nitrosodi-n-butylamine^{C}	ID	7/21/99	ID	7/21/99	0.06 (D)^{T1} 0.73 (ND)	8/24/00	ID	8/24/00		
621647	*N*-Nitrosodipropylamine^{C}	ID	2/15/00	ID	2/15/00	0.049 (D)^{T1} 2.9 (ND)	3/9/00	ID	8/24/00		
86306	*N*-Nitrosodiphenylamine^{C}	220^{T2}	9/19/01	25^{T2}	9/19/01	36 (D)^{T1} 74 (ND)	8/24/00	ID	8/24/00		

993552	*N*-Nitrosopyrrolidine[C]	ID	7/22/99	ID	7/22/99	0.16 (D)[T1] 13 (ND)	9/15/00	ID	8/24/00		
25154523	Nonylphenol	25[T1]	9/29/99	6.6[T1]	9/29/99						
29082-74-4	Octachlorostyrene[BCC]	ID	2/9/00	ID	2/9/00			ID	2/9/00		
56382	Parathion	0.065[R]	8/26/98	0.013[R]	8/26/98			ID	9/14/00		
608935	Pentachlorobenzene[BCC]	16[T2]	12/7/99	3.1[T2]	12/7/99			0.18 (D)[T1] 0.18 (ND)	12/8/99		
87865	Pentachlorophenol[C]	$e^{1.005(pH)-4.869}$ [R]	8/26/98	$e^{1.005(pH)-5.134}$ [R]	8/26/98	2.8 (D)[T1] 84 (ND)	9/14/00	820 (D)[T1] 24,000 (ND)	9/14/00		
85018	Phenanthrene	8.4[T2]	9/19/01	0.93[T2]	9/19/01			ID	9/14/00		
108952	Phenol	1,300[T1]	5/22/02	180[T1]	5/22/02			2,000 (D)[T2] 2,300 (ND)	9/14/00		
57556	Propylene glycol	700,000[T2]	9/19/01	78,000[T2]	9/19/01			700,000 (D)[T1] 56,000,000 (ND)	9/15/00	900,000[T2]	3/15/99
1336363	PCBs[C,BCC]					$6.8x10^{-6}$ (D)[R] $6.8x10^{-6}$ (ND)	8/26/98			$1.2x10^{-4}$ [R]	10/1/98
129000	Pyrene	ID	4/1/99	ID	4/1/99			15 (D)[T2] 15 (ND)	9/15/00		
7782492	Selenium	ID[***]		5[R]	8/26/98			140 (D)[T1] 3,400 (ND)	9/15/00		
7440224	Silver	UR	8/24/98	UR	8/24/98			130 (D)[T1] 26,000 (ND)	9/18/00		
122349	Simazine	80[T2]	9/19/01	9[T2]	9/19/01			140 (D)[T1] 3,800 (ND)	9/18/00		
7440246	Strontium	7,700[T2]	9/19/01	860[T2]	9/19/01			ID	7/21/99		
100425	Styrene							5,000 (D)[T1] 32,000 (ND)	9/18/00		
1746016	2,3,7,8-TCDD[C,BCC]					$8.6x10^{-9}$ (D)[R] $8.6x10^{-9}$ (ND)	8/26/98	$6.7x10^{-8}$ (D)[R] $6.7x10^{-8}$ (ND)	8/26/98	$3.1x10^{-9}$ [R]	10/1/98
95943	1,2,4,5-Tetrachlorobenzene[BCC]	75[T2]	12/16/99	8.3[T2]	12/16/99			0.35 (D)[T1] 0.36 (ND)	2/24/00		

127184	Tetrachloroethylene[C]	480[T2]	9/19/01	60[T2]	9/19/01	11 (D)[T1] 60 (ND)	9/20/00	320 (D)[T1] 1,700 (ND)	9/20/00		
7440280	Thallium	54[T2]	9/20/01	6[T2]	9/20/01			2 (D)[T1] 5 (ND)	9/20/00		
7440315	Tin	ID	3/23/99	ID	3/23/99			ID	9/20/00		
7440326	Titanium	ID	3/31/99	ID	3/31/99			ID	9/20/00		
108883	Toluene	840[T2]	9/20/01	94[T2]	9/20/01			5,600 (D)[R] 51,000 (ND)	8/26/98		
8001352	Toxaphene[C,BCC]					6.8×10^{-5} (D)[R] 6.8×10^{-5} (ND)	8/26/98	ID	9/18/00	1.7×10^{-4} [T1]	10/5/98
56359	Tributyltin oxide	0.46[T1]	9/14/98	0.063[T1]	9/14/98			3.3 (D)[T2] 5.4 (ND)	9/27/00		
71556	1,1,1-Trichloroethane	3,700[T2]	1/17/97	410[T2]	1/17/97			ID	9/18/00		
79005	1,1,2-Trichloroethane	490[T2]	7/17/01	87[T2]	7/17/01			110 (D)[T1] 3,000 (ND)	9/27/00		
79345	1,1,2,2-Tetrachloroethane[C]	900[T2]	10/27/98	100[T2]	10/27/98	1.6 (D)[T2] 17 (ND)	9/29/00	ID	9/29/00		
79016	Trichloroethylene[C]	2,300[T2]	9/21/01	260[T2]	9/21/01	29 (D)[R] 370 (ND)	8/26/98	ID	9/18/00		
95954	2,4,5-trichlorophenol	17[T2]	9/25/01	1.9[T2]	9/25/01			1,300 (D)[T2] 2,500 (ND)	2/25/00		
95954	2,4,6-trichlorophenol[C]	12[T2]	9/25/01	1.4[T2]	9/25/01	27 (D)[T1] 200 (ND)	2/24/00	ID	2/24/00		
108678	1,3,5-Trimethylbenzene	ID	1/31/97	ID	1/31/97			ID	9/27/00		
95636	1,2,4-Trimethylbenzene	ID	1/31/97	ID	1/31/97			ID	9/27/00		
7440622	Vanadium	110[T2]	9/21/01	12[T2]	9/21/01			230 (D)[T1] 2,300 (ND)	9/28/00		
75014	Vinyl Chloride[C]	8,400[T2]	6/26/01	930[T2]	6/26/01	0.25 (D)[T1] 14 (ND)	9/28/00	83 (D)[T1] 4,900 (ND)	9/28/00		
1330207	Xylene	310[T2]	9/21/01	35[T2]	9/21/01			38,000 (D)[T1] 150,000 (ND)	9/29/00		

7440666	Zinc	$e^{0.8473(\ln(hardness))+0.884}$ R	8/26/98	$e^{0.8473(\ln(hardness))+0.884}$ R	8/26/98			9,000 (D)^{T1} 250,000 (ND)	9/29/00		

Where:
ID = insufficient data for Tier I criteria or Tier II value calculation.
UR = currently under review
(D) = for drinking water sources
(ND) = for nondrinking water sources
T1 = criterion was calculated using Tier I methodology
T2 = value calculated using Tier II methodology
R = adopted into the rules during the Great Lakes Initiative rulemaking. (Note that metals criteria adopted into the rules have conversion factors not printed here.)
C = substance is considered to be carcinogenic
BCC = Bioaccumulative Chemical of Concern (listed in 327 IAC 2-1.5-6(b))

***EPA is currently conducting toxicity tests in order to calculate criteria for selenium. When EPA releases the results of their tests, we will calculate selenium criteria for the state.

Tier I criteria that have not been adopted into the rules and all Tier II values are subject to change as more data become available.

Metals criteria are for total metals. Conversion factors are in the rules to convert the total to dissolved form. Metals without conversion factors are assumed to have a conversion factor of 1.0.

Last modified:
December 12, 2002

APPENDIX E

Fort Wayne Rivers

Sampling Data Reports

IDEM Fort Wayne Rivers - Field Data - Years 2002 and 2003

Station	Sample Date	Sample Time	Dissolved Oxygen (mg/L)	Water Temperature (C)	Saturation PerCent (%)	pH (SU)	Specific Conductance (uS/cm)	Turbidity (NTU)	COMMENTS
1	01/14/02	10:30						5.9	
1	02/18/02	11:21	12.18	2.7		8.25	679	6.11	
1	03/18/02	10:53	11.39	638		8	636	12.39	
1	04/15/02	10:31	9.5	13.8		7.8	509	85.19	
1	05/20/02	11:30	10.02	11.5		7.9		20.79	
1	06/17/02	11:30	11.32	17.7		8.14	776	7.96	
1	07/15/02	11:00	8.6	21.7		8.19	800	12.3	
1	08/19/02	12:00	7.6	21.2		7.86	809	18.2	
1	09/16/02	10:01	8.2	18.5		8	891	10.89	
1	10/21/02	11:10	10.77	7.76		7.65	715	6.82	
1	11/18/02	10:42	11.67	3.65		7.82	878	4.63	
1	12/16/02	10:44	12.85	1.6		7.73	940	4.55	
1	01/21/03	10:20							
1	02/18/03	10:01							
1	03/18/03	11:58	9.41	6.94		7.32	672	19.4	
1	04/21/03	12:00	11.7	14.6		7.9		66.7	Time of collection, Specific Conductivity not written down. Weather code incomplete.
1	05/19/03	10:06	8.53	15.3		7.27	651	28.7	
1	06/16/03	10:45	4.26	19.77		7.57	773	15.6	
1	07/21/03	10:09	8.03	20.1		7.52	541	208	
1	08/18/03	11:00	8.99	21.12		7.97	821	11	
1	09/22/03	10:25	6.85	15.53		7.9	794	13.8	
1	10/20/03	9:50	10.02	10.82		7.38	768	5.11	
1	11/17/03	9:40	10.87	7.83		7.86	806	1.6	
1	12/15/03	11:05	12.94	259		7.41	747	9.64	
2	01/14/02	8:45						5.3	
2	02/18/02	10:56	11.8	2.4		8.22	651	13.69	
2	03/18/02	10:33	4.53	6.5		7.96	217	61.7	
2	04/15/02	10:05	9.5	13.69		7.69	395	166	
2	05/20/02	11:27	10.21	11		7.88	369	49.9	
2	06/17/02	11:00	9.13	20.29		8.27	661	38.4	
2	07/15/02	10:30	6.7	23.7		8.1	697	41.2	
2	08/19/02	11:32	6.47	23.13		7.86	674	29.6	
2	09/16/02	9:41	6.8	20.79		7.9	772	32.29	
2	10/21/02	10:42	10.46	8.39		7.88	806	13.8	
2	11/18/02	10:21	11.24	3.8		7.78	790	14.3	
2	12/16/02	10:23	12.98	1.7		7.59	847	5.5	
2	01/21/03	10:00							
2	02/18/03	9:50							
2	03/18/03	11:01	9.85	3.56		7.21	491	42.9	
2	04/21/03	11:35	9.9	14.6		8		34.7	Time of collection, specific conductivity not written down.
2	05/19/03	9:46	9.1	15.2		7.18	577	46.5	
2	06/16/03	10:15	4.07	20.88		7.39	649	43.6	
2	07/21/03	9:46	7	21.4		7.45	419	114	
2	08/18/03	10:25	8.49	24.11		8.15	631	24.7	
2	09/22/03	10:00	6.55	17.71		7.85	697	22.7	
2	10/20/03	9:35	10.4	10.6		7.12	579	30.2	
2	11/17/03	9:20	11.4	6.78		7.89	707	3.9	
2	12/15/03	10:30	13.8	1.43		7.35	607	39.8	
3	01/14/02	9:45						5.09	
3	02/18/02	10:15	12.64	2.59		8.23	577	14.1	

IDEM Fort Wayne Rivers - Field Data - Years 2002 and 2003

Station	Sample Date	Sample Time	Dissolved Oxygen (mg/L)	Water Temperature (C)	Saturation PerCent (%)	pH (SU)	Specific Conductance (uS/cm)	Turbidity (NTU)	COMMENTS
3	03/18/02	9:50	11.79	6.86		7.98	505	6.71	
3	04/15/02	8:45	9.9	13.5		7.69	397	161	
3	05/20/02	9:40	11.21	11.1		7.9	368	68.9	
3	06/17/02	10:32	9.66	21		8.31	660	21.39	
3	07/15/02	10:00	9.2	25.29		8.19	696	24.6	
3	07/17/02	10:50	15.3	27.39		8.5	591	28	
3	08/19/02	10:47	6.72	23.7		7.76	554	24.79	
3	09/16/02	9:15	5.6	22.79		7.59	866	11	
3	10/21/02	9:59	10.12	10.56		7.92	788	11.19	
3	11/18/02	9:53	9.81	5.86		7.61	774	8.43	
3	12/16/02	9:48	13.83	0.95		7.67	851	5.84	
3	01/21/03	9:20							
3	02/18/03	9:40							
3	03/18/03	10:12	12.86	3.13		7.26	481	54.9	
3	04/21/03	9:35	10.7	15		8		26.9	Time of collection, Specific conductivity not written down. Weather code incomplete.
3	05/19/03	9:02	9.29	15.4		7.27	578	44.8	
3	06/16/03	9:40	4.22	20.52		7.48	679	20.9	
3	07/21/03	9:15	9.11	22.5		7.71	431	144	
3	08/18/03	10:01	9.72	25.16		8.19	598	21.4	
3	09/22/03	9:30	7.33	19.02		7.98	677	21.3	
3	10/20/03	9:15	10.11	11.18		7.04	557	31.9	
3	11/17/03	8:50	11.47	6.52		7.87	703	6.97	
3	12/15/03	10:00	13.98	1.64		7.32	608	45	
4	01/14/02	12:30						3.79	
4	02/18/02	13:25	11.26	2.7		8.17	819	10.8	
4	03/18/02	12:28	10.99	6.42		7.9	760	38.7	
4	04/15/02	11:15	8.6	15		7.69	519	304	
4	05/20/02	13:15	10.21	11.3		7.78		71.5	
4	06/17/02	13:50	10.79	20.29		8.32	923	79	
4	07/15/02	13:20	15.3	25.7		8.69	1174	70	
4	08/19/02	13:45	7.21	23.55		7.8	1080	50.2	
4	09/16/02	11:39	9.4	20.89		8.19	136	45.2	
4	10/21/02	12:56	15.73	9.06		8.51	1551	16.79	
4	11/18/02	12:16	9.74	4.13		7.55	1047	16.1	
4	12/16/02	12:39	15.75	0.28		7.65	1345	2.74	
4	01/21/03	12:05							
4	02/18/03	11:50							
4	03/18/03	13:27	7.9	6.12		7.15	375	136	
4	04/21/03	13:30	16.5	15		8.4		22.5	Time of collection, specific conductivity not written down. Weather code incomplete.
4	05/19/03	12:47	7.9	16.3		7.7	509	137	
4	06/16/03	12:40	3.11	20.31		6.97	381	304	
4	07/21/03	11:59	6.03	21.3		7.13	398	231	
4	08/18/03	12:20	9.76	23.51		8.03	772	35.3	
4	09/22/03	12:00	7.71	17.37		8.18	1042	34.6	
4	10/20/03	12:00	7.99	11.3		7.06	582	36.6	
4	11/17/03	11:34	9.9	7.52		7.67	728	2.2	
4	12/15/03	12:50	12.63	1.37		7.34	598	76.6	
5	01/14/02	9:15						4.19	
5	02/18/02	9:53	12.18	2.9		8.11	779	17.29	
5	03/18/02	9:36	10.85	685		7.92	750	2.96	

IDEM Fort Wayne Rivers - Field Data - Years 2002 and 2003

Station	Sample Date	Sample Time	Dissolved Oxygen (mg/L)	Water Temperature (C)	Saturation PerCent (%)	pH (SU)	Specific Conductance (uS/cm)	Turbidity (NTU)	COMMENTS
5	04/15/02	9:25	8.6	14.19		7.69	542	169	
5	05/20/02	9:32	9.45	11.39		7.8	486	91.4	
5	06/17/02	10:22	8.49	20.79		7.9	771	45.79	
5	07/15/02	9:45	10.3	26.1		8	930	19.2	
5	07/17/02	10:40	5.5	26.89		7.8	1030	22	
5	08/19/02	10:23	4.04	22.97		7.13	802	32.79	
5	09/16/02	9:02	7.8	21.89		7.75	108	20	
5	10/21/02	9:36	10.69	10.82		7.92	1002	20.6	
5	11/18/02	9:30	7.47	5.42		7.25	911	26.89	
5	12/16/02	9:25							
5	01/21/03	9:17							
5	02/18/03	9:35							
5	03/18/03	9:47	9.55	5.5		7.12	382	147	
5	04/21/03	9:20	10.5	15.3		7.8		26.6	Time of collection, Specific Conductivity not written down. Weather code incomplete
5	05/19/03	8:40	7.14	15.4		7.12	539	129	
5	06/16/03	9:20	3.14	19.78		7.03	410	286	
5	07/21/03	8:59	7.69	20.9		7.13	195	254	
5	08/18/03	9:45	11.54	24.66		8.04	755	30.2	
5	09/22/03	9:15	10.28	18.77		8.08	749	30.7	
5	10/20/03	9:00	7.5	11.21		6.84	570	34.8	
5	11/17/03	8:30	10.02	6.65		7.7	761	15.5	
5	12/15/03	9:40	12.85	1.26		7.21	587	79.6	
6	01/14/02	10:30						5.3	
6	02/18/02	9:04	13.26	2.7		8.11	627	15.5	
6	03/18/02	10:53	11.73	6.9		7.96	581	559	
6	04/15/02	9:09	9.8	13.8		7.69	433	173	
6	05/20/02	8:50	11.03	11.3		7.82	393	65.4	
6	06/17/02	9:56	8.97	21		8.1	685	53	
6	07/15/02	9:30	8.2	25.29		7.8	756	29.89	
6	08/19/02	9:59	5.36	24.64		7.17	946	31.6	
6	09/16/02	8:39	6.2	22.89		7.4	896	12.3	
6	10/21/02	9:01	10.18	11.46		7.8	796	16.39	
6	11/18/02	9:07	10.24	5.88		7.4	788	21	
6	12/16/02	9:05	13.3	1.39		7.28	1038	4.3	
6	01/21/03	8:57	13.36	0.16		7.04	1027	6.68	
6	02/18/03	9:12	9.91	0.21		6.5	969	9.71	
6	03/18/03	9:25	10.59	4.52		7.08	411	127	
6	04/21/03	8:45	10.5	15.3		7.8		303	
6	05/19/03	8:07	9.03	15.4		7.07	558	84.2	
6	06/16/03	8:55	5.96	19.95		6.87	460	238	
6	07/21/03	8:33	7.28	21.6		6.93	342	230	
6	08/18/03	9:15	9.13	25.37		7.76	645	30	
6	09/22/03	8:55	9.11	19.42		7.73	736	20.8	
6	10/20/03	8:45	10.78	11.13		6.59	558	35.1	
6	11/17/03	8:10	11.31	6.89		7.83	725	162.2	
6	12/15/03	9:15	14.5	1.52		7.14	600	63.8	
7	01/14/02	12:00						7.3	
7	02/18/02	12:48	11.45	3.29		8.15	649	15.1	
7	03/18/02	12:02	11.4	7.01		7.92	594	58.79	
7	04/15/02	11:40	9.6	14.19		7.69	441	257	

IDEM Fort Wayne Rivers - Field Data - Years 2002 and 2003

Station	Sample Date	Sample Time	Dissolved Oxygen (mg/L)	Water Temperature (C)	Saturation PerCent (%)	pH (SU)	Specific Conductance (uS/cm)	Turbidity (NTU)	COMMENTS
7	05/20/02	12:35	11.48	11.6		7.86	524	77.59	
7	06/17/02	12:40	9.5	21.2		8.07	721	55.5	
7	07/15/02	13:00	6.9	25.39		7.8	873	27.1	
7	08/19/02	13:17	6.75	24.21		7.48	1025	29.5	
7	09/16/02	11:12	4.2	22.39		7.5	989	17.39	
7	10/21/02	12:22	9.76	11.43		7.67	904	9.77	
7	11/18/02	11:47	9.62	6.3		7.57	824	18.29	
7	12/16/02	11:55	12.28	3.09		7.59	1083	4.09	
7	01/21/03	11:23	13.74	0.11		7.1	1086	6.47	
7	02/18/03	11:11	8.88	0.37		7.1	10.39	9.2	
7	03/18/03	13:01	9.4	4.78		7.21	244	133	
7	04/21/03	13:00	12.2	15.3		8.1		28.6	Time of collection, specific conductivity not written down. Weather code incomplete
7	05/19/03	12:17	8.7	16.5		7.7	548	86.5	
7	06/16/03	11:55	3.64	20.13		7.13	460	239	
7	07/21/03	13:16	7.92	21.9		7.32	351	184	
7	08/18/03	13:00	10.4	25.1		8.13	699	30.4	
7	09/22/03	11:25	6.78	19.02		7.98	869	34.8	
7	10/20/03	10:55	10.05	11.53		7.23	579	35.2	
7	11/17/03	11:00	10.98	7.34		7.82	752	8.4	
7	12/15/03	12:15	13.86	1.74		7.37	614	57.5	
8	01/14/02	11:30						5.69	
8	02/18/02	12:13	11.76	2.9		8.22	640	13.8	
8	03/18/02	11:38	11.1	7.17		7.94	576	63	
8	04/15/02	11:14	9.2	14.3		7.69	427	211	
8	05/20/02	12:10	9.8	11.39		7.8	405	86.59	
8	06/17/02	12:15	11.27	22.29		8.27	718	46.59	
8	07/15/02	11:30	17	26.6		8.69	786	34.79	
8	08/19/02	12:45	6.97	24.86		7.73	772	22.5	
8	09/16/02	10:44	14	22.1		8.5	910	13.3	
8	10/21/02	11:49	11.63	10		7.94	880	9.85	
8	11/18/02	11:18	10.13	5.32		7.65	849	19.2	
8	12/16/02	11:22	15.16	1.39		7.76	1074	3.31	
8	01/21/03	10:54	14.01	0		7.08	1053	6.28	
8	02/18/03	10:39	9.76	0		7	1014	9.08	
8	03/18/03	12:34	10.3	4.66		7.22	425	124	
8	04/21/03	12:35	14.4	15		8.2		23.1	Time of collection, specific conductivity not written down. Weather code incomplete.
8	05/19/03	11:50	8.5	16		7.7	551	45.4	
8	06/16/03	11:20	3.56	20.05		7.17	416	326	
8	07/21/03	12:49	7.14	21.6		7.15	353	247	
8	08/18/03	11:30	11.7	24.86		8.34	682	26.5	
8	09/22/03	11:00	8.09	19		8.34	757	21.6	
8	10/20/03	10:30	9.59	11.5		7.21	579	32.6	
8	11/17/03	10:35	11.25	7.22		7.85	767	5	
8	12/15/03	11:45	13.62	1.78		7.38	602	62.4	

IDEM Fort Wayne Rivers - Metals - Years 2002 and 2003

Station	Sample Date	Arsenic (Total) (ug/L)	Cadmium (Total) (ug/L)	Chromium (Total) (ug/L)	Copper (Dissolved) (ug/L)	Copper (Total) (ug/L)	Iron (Dissolved) (ug/L)	Iron (Total) (ug/L)	Lead (Dissolved) (ug/L)	Lead (Total) (ug/L)	Manganese (Dissolved) (ug/L)	Manganese (Total) (ug/L)	Mercury (Total) (ug/L)	Nickel (Total) (ug/L)	Zinc (Dissolved) (ug/L)	Zinc (Total) (ug/L)	Hardness (as CaCO3) (mg/L)
1	01/14/02 10:30	1.5	< 1	< 1.2		1.87		407.4056		< 1			< 0.2	2.84		< 6	373
1	02/18/02 11:21	1.7	< 1	< 1.2				414.4965		< 1			< 0.2	2.85		< 6	328
1	03/18/02 10:53	1.35	< 1	< 1.2		2.36		592.1672		< 1			< 0.2	3.11		6.7564 (UJ)	306
1	04/15/02 10:31	2.01	< 1	3.25		4.94		2435.6394		1.84			< 0.2	5.08		13.8803	242
1	05/20/02 11:30	1.93	< 1	1.7		2.94		1230		< 1			< 0.2	3.99		6.41 (UJ)	282
1	06/17/02 11:30	1.84	< 1	< 1.2		1.71		352		< 1			< 0.2	2.74		< 6	369
1	07/15/02 11:00	2.19	< 1	1.61		2.59		577		< 1			< 0.2	3.79		< 6	353
1	08/19/02 12:00	2.88	< 1	1.82		2.77		1300		1.22			< 0.2	3.8		10.1 (UJ)	329
1	09/16/02 10:01	1.9	< 1	1.62		1.66		475		< 1			< 0.2	2.45		< 6	355
1	10/21/02 11:10	1.65	< 1	< 1.2		2.04		381		< 1			< 0.2	2		< 6	300
1	11/18/02 10:42	1.55	< 1	< 1.2		1.53		438		< 1			< 0.2	2.03		< 6	346
1	12/16/02 10:44	1.33	< 1	< 1.2		1.43		489		< 1			< 0.2	3.36		< 6	368
1	03/18/03 11:58	1.46	< 1	1.79				1350		1.48			< 0.2	4.25			294
1	04/21/03 12:00	1.63	< 1	< 1.2		2.33		419		< 1			< 0.2	3.91		< 6	367
1	05/19/03 10:06	2.63	< 1	2.27		4.19		1650		1.54			< 0.2			7.2	316
1	06/16/03 10:45	3.06	< 1	2.14		3.09		794		< 1			< 0.2	5.11		7.42	372
1	07/21/03 10:09	4.79	< 1	8.73		10		9180		6.55			< 0.2	11.8		42.2	240
1	08/18/03 11:00	2.11	< 1	< 1.2		2.67		376		< 1			< 0.2	2.56		7.68	374
2	01/14/02 10:00	1.37	< 1	< 1.2		1.38		334.0284		< 1			< 0.2	2.25		< 6	335
2	02/18/02 10:56	1.6	< 1	< 1.2				679.6733		< 1			< 0.2	2.47		< 6	276
2	03/18/02 10:33	1.96	< 1	3.12		3.97		2520.7947		1.47			< 0.2	4.49		11.3995 (UJ)	242
2	04/15/02 10:05	2.82	< 1	7.48		8.03		6109.0117		3.95			< 0.2	8.51		24.6042	190
2	05/20/02 11:27	2.15	< 1	3.95		4.21		2590		1.94			< 0.2	11.1		12.2	191
2	06/17/02 11:00	2.43	< 1	2.42		3.25		1740		1.23			< 0.2	4.17		11 (UJ)	317
2	07/15/02 10:30	3.02	< 1	2.89		3.04		1490		1.17			< 0.2	4.38		16.6	309
2	08/19/02 11:32	3.35	< 1	2.31		3.12		1840		1.34			< 0.2	4.01		10.8 (UJ)	280
2	09/16/02 9:41	3.28	< 1	1.88		2.34		1230		1.12			< 0.2	3.38		7.39 (UJ)	321
2	10/21/02 10:42	2.05	< 1	< 1.2		1.89		525		< 1			< 0.2	2.84		< 6	357
2	11/18/02 10:21	1.68	< 1	< 1.2		1.82		617		< 1			< 0.2	2.52		< 6	324
2	12/16/02 10:23	1.57	< 1	< 1.2		1.49		342		< 1			< 0.2	2.99		< 6	348
2	03/18/03 11:01	1.62	< 1	2.9				2200		1.9			< 0.2	4.63			208
2	04/21/03 11:35	2.05	< 1	2.12		3.31		1250		1.46			< 0.2	5.03		8.45	336
2	05/19/03 9:46	2.58	< 1	3.02		4.04		2350		1.78			< 0.2			9.5	289
2	06/16/03 10:15	3.47	< 1	3.04		3.93		1980		1.51			< 0.2	5.72		11.5	307
2	07/21/03 9:46	4.83	< 1	9.24		12.7		9910		6.3			< 0.2	12.6		41.2	228
2	08/18/03 10:25	2.93	< 1	1.85		3.75		1570		1.39			< 0.2	4.04		9.14	306
3	01/14/02 9:45	1.32	< 1	< 1.2	1.29	1.68	17.7714	344.7804	< 1	< 1	45.68	48.07	< 0.2	2.35		< 6	343
3	02/18/02 10:15	1.6	< 1	< 1.2			34.6602	682.1683	< 1	< 1	24.21	37.69	< 0.2	2.53		6.6753 (UJ)	270
3	03/18/02 9:50	1.82	< 1	3.03	1.8	4.58	33.5314	2451.8926	< 1	1.52	23.74	64.17	< 0.2	4.46	< 3	11.4023 (UJ)	244
3	04/15/02 8:45	3.1	< 1	7.38	2.58	8.31	71.2608	6110.4522	< 1	4.17	13.55	109.3	< 0.2	8.68	8.22	24.734	184
3	05/20/02 9:40	2.53	< 1	4.03	2.16	5.16	62.1	3150	< 1	4.3	6.64	74.8	< 0.2	5.43	6.22	12.9	185
3	06/17/02 10:32	2.18	< 1	1.58	1.84	2.51	< 8	809	< 1	< 1	1.3	91.4	< 0.2	3.23	4.73	7.3 (UJ)	321
3	07/15/02 10:00	3.46	< 1	1.89	1.87	2.94	< 8	716	< 1	1.04	4.08	103	< 0.2	4.21	3.82	8.64 (UJ)	296
3	08/19/02 10:47	2.74	< 1	2.48	1.75	3.41	9.18	1350	< 1	2.04	9.55	111	< 0.2	3.58	10.6	12.6	225
3	09/16/02 9:15	3.29	< 1	< 1.2	1.2	1.44	< 8	262	< 1	< 1	6.72	133	< 0.2	2.93	< 3	< 6	315
3	10/21/02 9:59	2.31	< 1	< 1.2	1.03	1.65	< 8	417	< 1	< 1	5.7	95	< 0.2	2.54	7.83	< 6	353
3	11/18/02 9:53	1.51	< 1	< 1.2	1.5	1.93	55.4	452	< 1	< 1	41.4	79.1	< 0.2	2.34		< 6	318
3	12/16/02 9:48	1.39	< 1	< 1.2	1.36	1.57	26.6	357	< 1	< 1	19.3	46.7	< 0.2	2.66	10.1 (UJ)	< 6	356
3	03/18/03 10:12	1.95	< 1	2.77			135	2420	< 1	2.03	44.7	94.2	< 0.2	4.78			191
3	04/21/03 9:35	2.36	< 1	2.01	1.6	3.24	19.9	1220	< 1	1.22	3.11	104	< 0.2	4.89	< 3	9.5	328
3	05/19/03 9:02	2.52	< 1	2.63	2.3	4.52	102	2080	< 1	1.76	17.8	81.7	< 0.2		9.85	9.34	279
3	06/16/03 9:40	4.2	< 1	2.23	1.86	3.08	25.8	820	< 1	< 1	2.95	78.3	< 0.2	4.87	8.71	6.7	323

IDEM Fort Wayne Rivers - Metals - Years 2002 and 2003

Station	Sample Date	Arsenic (Total) (ug/L)	Cadmium (Total) (ug/L)	Chromium (Total) (ug/L)	Copper (Dissolved) (ug/L)	Copper (Total) (ug/L)	Iron (Dissolved) (ug/L)	Iron (Total) (ug/L)	Lead (Dissolved) (ug/L)	Lead (Total) (ug/L)	Manganese (Dissolved) (ug/L)	Manganese (Total) (ug/L)	Mercury (Total) (ug/L)	Nickel (Total) (ug/L)	Zinc (Dissolved) (ug/L)	Zinc (Total) (ug/L)	Hardness (as CaCO3) (mg/L)
3	07/21/03 9:15	4.05	< 1	7.09	2.79	10.9	36.6	6930	< 1	6.68	2.36	176	< 0.2	9.9	13.2	41.3	219
3	08/18/03 10:01	2.2	< 1	1.53	2.22	4.64	18.6	840	< 1	1.16	2.58	98.7	< 0.2	3.53	10.6	9.64	287
4	01/14/02 12:30	1.49	< 1	< 1.2		1.85		170.378		< 1			< 0.2	2.99		< 6	412
4	02/18/02 13:25	1.83	< 1	< 1.2				426.7022		< 1			< 0.2	2.82		< 6	362
4	03/18/02 12:28	1.7	< 1	2.05		3.49		1496.7236		< 1			< 0.2	4.01		9.0433 (UJ)	324
4	04/15/02 11:15	3.23	< 1	7.71		9.21		6995.438		4.42			< 0.2	9.16		27.3183	236
4	05/20/02 13:15	2.57	< 1	4.87		6.85		4050		2.6			< 0.2	6.97		18.2	246
4	07/15/02 13:20	3.87	< 1	3.14		4.27		1750		1.78			< 0.2	6.79		10.3 (UJ)	363
4	08/19/02 13:45	4.03	< 1	2.97		4.02		2120		2.17			< 0.2	5.99		13	323
4	09/16/02 11:39	3.98	< 1	1.93		3.07		1550		1.74			< 0.2	6.07		9.5 (UJ)	398
4	10/21/02 12:56	3.2	< 1	1.23		2.42		515		< 1			< 0.2	5.58		< 6	460
4	11/18/02 12:16	2.31	< 1	< 1.2		2.94		480		< 1			< 0.2	3.98		< 6	334
4	12/16/02 12:39	1.96	< 1	< 1.2		2.37		148		< 1			< 0.2	4.72		< 6	418
4	03/18/03 13:27	2.87	< 1	5.7				6000		4.06			< 0.2	7.74			176
4	04/21/03 13:30	1.77	< 1	1.53		2.85		683		< 1			< 0.2	4.41		11.2	363
4	05/19/03 12:47	3.35	< 1	6.32		7.88		5770		3.99			< 0.2	8.9 (JB)		24	253
4	06/16/03 12:40	5.42	< 1	9.72		11.4		11100		6.58			< 0.2	12.4		47.2	183
4	07/21/03 11:59	5.33	< 1	10.8		13.2		11400		7.82			< 0.2	14.5		44.2	201
4	08/18/03 12:20	3.31	< 1	1.77		4.45		1540		1.36			< 0.2	5.92		8.53	332
5	01/14/02 9:15	1.49	< 1	< 1.2	1.56	2.14	10.7493	251.9506	< 1	< 1	36.88	40.2	< 0.2	3.31		< 6	428
5	02/18/02 9:53	2.01	< 1	1.4			18.7022	720.5372	< 1	< 1	19	29.38	< 0.2	3.42		10.7384 (UJ)	346
5	03/18/02 9:36	1.65	< 1	1.76	1.99	3.53	21.5142	1296.6771	< 1	< 1	16.41	34.57	< 0.2	3.72	4.6497	8.1896 (UJ)	336
5	04/15/02 9:25	3.2	< 1	7.38	2.8	9.31	32.9641	7018.4336	< 1	4.6	12.36	92.62	< 0.2	8.96	3.7158	30.5354	244
5	05/20/02 9:32	2.89	< 1	4.62	3.16	6.9	60.1	4170	< 1	2.81	8.01	57.7	< 0.2	6.8	7.4	17.8	223
5	06/17/02 10:22	2.42	< 1	2.7	2.16	3.93	9.8	2220	< 1	1.56	21.9	78.4	< 0.2	4.65	4.29	11.9	329
5	07/15/02 9:45	3.45	< 1	1.56	1.66	2.31	12.2	506	< 1	< 1	27	104	< 0.2	4.42	5.3	7.58 (UJ)	317
5	08/19/02 10:23	3.79	< 1	2.96	1.48	6.56	46.5	1970	< 1	6.28	123	172	< 0.2	5.7	11.7	26.6	274
5	09/16/02 9:02	3.43	< 1	< 1.2	1.12	3	< 8	604	< 1	1.66	1.17	106	< 0.2	4.36	3.1	7.21 (UJ)	298
5	10/21/02 9:36	2.57	< 1	< 1.2	< 1	2.2	18.4	537	< 1	1.39	8.83	71.4	< 0.2	4.44	< 3	6.46 (UJ)	373
5	11/18/02 9:30	2.19	< 1	1.2	2.59	3.46	115	882	< 1	< 1	48.5	64.6	< 0.2	4.07		7.5 (UJ)	320
5	03/18/03 9:47	2.98	< 1	6.73		9.27 (JB)	87.1	6980	< 1	5.1	13.6	81.3	< 0.2	8.77			157
5	04/21/03 9:20	1.89	< 1	1.79	1.62	2.91	19.4	1080	< 1	1.11	3.17	92.8	< 0.2	4.19	13.3	7.99	330
5	05/19/03 8:40	3.19	< 1	6.21	2.53	7.64	49.3	5740	< 1	4.79	11.8	94.5	< 0.2	8.51 (JB)	12.6	23.8	232
5	06/16/03 9:20	4.52	< 1	9.83	3.23	11.6	59.3	10500	< 1	6.85	3.36	114	< 0.2	12	14.8	44.3	206
5	07/21/03 8:59	5.66	< 1	12.8	2.17	18.7	41.3	11700	< 1	17.5	18.2	199	< 0.2	15.7	17.3	74.4	159
5	08/18/03 9:45	2.93	< 1	< 1.2	2.9	3.94	48.6	827	< 1	1.27	2.76	63	< 0.2	4.36	9.67	6.88	338
6	01/14/02 8:45	1.32	< 1	< 1.2		1.62		325.8321		< 1			< 0.2	2.63		< 6	355
6	02/18/02 9:04	1.7	< 1	< 1.2				716.8975		< 1			< 0.2	2.57		< 6	290
6	03/18/02 10:53	1.94	< 1	3.13		3.91		2388.2632		1.48			< 0.2	4.51		10.9454 (UJ)	266
6	04/15/02 9:09	2.96	< 1	7.01		8.24		6051.5464		3.96			< 0.2	8.34		25.1867	202
6	05/20/02 8:50	2.91	< 1	4.64		5.94		3750		2.49			< 0.2	6.26		15.8	193
6	06/17/02 9:56	2.64	< 1	3.19		4.05		2440		1.78			< 0.2	4.82		26.4	304
6	07/15/02 9:30	3.04	< 1	1.87		2.54		600		< 1			< 0.2	3.77		15.6	296
6	08/19/02 9:59	3.78	< 1	1.83		4.09		1370		3.27			< 0.2	4.69		14.4	323
6	09/16/02 8:39	3.33	< 1	< 1.2		1.84		450		< 1			< 0.2	3.42		< 6	304
6	10/21/02 9:01	2.44	< 1	< 1.2		2.17		604		1.44			< 0.2	3.06		6.32 (UJ)	351
6	11/18/02 9:07	2.3	< 1	1.28		3.18		856		< 1			< 0.2	3.75		13	302
6	12/16/02 9:05	1.95	< 1	< 1.2		2.31		331		< 1			< 0.2	4.29		< 6	380
6	02/18/03 9:12	1.85	< 1	< 1.2		3.13		440		< 1			< 0.2	4.47		8.05	373
6	03/18/03 9:25	3.04	< 1	5.17				5360		3.74			< 0.2	7.17			175
6	04/21/03 8:45	2.36	< 1	2.16		3.52		1750		1.28			< 0.2	5.22		10.2	334
6	05/19/03 8:07	2.97	< 1	4.37		6.61		3990		2.92			< 0.2	7.46 (JB)		16.6	276

IDEM Fort Wayne Rivers - Metals - Years 2002 and 2003

Station	Sample Date	Arsenic (Total) (ug/L)	Cadmium (Total) (ug/L)	Chromium (Total) (ug/L)	Copper (Dissolved) (ug/L)	Copper (Total) (ug/L)	Iron (Dissolved) (ug/L)	Iron (Total) (ug/L)	Lead (Dissolved) (ug/L)	Lead (Total) (ug/L)	Manganese (Dissolved) (ug/L)	Manganese (Total) (ug/L)	Mercury (Total) (ug/L)	Nickel (Total) (ug/L)	Zinc (Dissolved) (ug/L)	Zinc (Total) (ug/L)	Hardness (as CaCO3) (mg/L)
6	06/16/03 8:55	5.25	< 1	8.74		11.4		9010		6.47			< 0.2	11.9		40.3	217
6	07/21/03 8:33	5.04	< 1	10.4		15.4		11000		15			< 0.2	13		72.2	194
6	08/18/03 9:15	2.96	< 1	1.6		4.43		1100		1.5			< 0.2	4.51		11	305
7	01/14/02 12:00	1.28	< 1	< 1.2	1.31	1.7	19.8872	419.2436	< 1	< 1	44.1	49.31	< 0.2	3.14		< 6	347
7	02/18/02 12:48	1.73	< 1	1.28			27.8411	791.3895	< 1	< 1	27.1	43.19	< 0.2	3.62		6.2601 (UJ)	284
7	03/18/02 12:02	1.81	< 1	2.81	2.4	3.9	203.2131	2100.0881	< 1	1.55	41.39	58.91	< 0.2	4.88	7.6171	11.8509	268
7	04/15/02 11:40	3.02	< 1	7.23	2.49	8.16	55.0708	5940.6572	< 1	4.08	7.72	98.84	< 0.2	8.5	3.0516	27.8513	202
7	05/20/02 12:35	2.85	< 1	4.11	2.42	5.68	61.7	3450	< 1	2.35	14.8	72.7	< 0.2	5.88	16.9	14.8	193
7	06/17/02 12:40	2.39	< 1	3.53	2.18	4.92	8.94	2720	< 1	2.8	4.95	120	< 0.2	8.17	6.46	16.4	309
7	07/15/02 13:00	2.83	< 1	2.25	1.99	3.92	9.97	902	< 1	2.02	31.5	130	< 0.2	7.34	7.93	15.3	302
7	08/19/02 13:17	2.59	< 1	2.2	2.4	5.92	18.1	1250	< 1	3.33	30.1	134	< 0.2	8.7	14.4	21.4	274
7	09/16/02 11:12	2.49	< 1	1.45	1.44	3.55	16.3	762	< 1	2.05	47.2	128	< 0.2	8.42	10.8	17.4	298
7	10/21/02 12:22	1.76	< 1	< 1.2	1.38	2.69	10.8	478	< 1	1.51	41.3	109	< 0.2	11	8.7	15	322
7	11/18/02 11:47	1.89	< 1	< 1.2	1.86	2.93	90.2	730	< 1	1.06	37.9	65.8	< 0.2	6.88		11.7 (UJ)	288
7	12/16/02 11:55	1.49	< 1	< 1.2	1.74	2.28	37.5	324	< 1	< 1	48.3	58.4	< 0.2	8.43	16.3 (UJ)	16.7	366
7	01/21/03 11:23	1.25	< 1	< 1.2	2.2		21	350	< 1	< 1	44.5	46.5	< 0.2			26	390
7	02/18/03 11:11	1.69	< 1	1.22	3.91	2.89	39.4	377	< 1	< 1	57.7	65.2	< 0.2	6.81	35.4	11.8	356
7	03/18/03 13:01	2.88	< 1	6.12	2.41 (JB)		92.8	5850	< 1	5.16	25.2	91.8	< 0.2	8.05			182
7	04/21/03 13:00	2.26	< 1	2.3	1.68	4.01	14.1	1500	< 1	1.96	5.34	97.7	< 0.2	5.79	3.08	12.9	337
7	05/19/03 12:17	3.02	< 1	4.86	2.39	6.8	61.2	4280	< 1	3.37	18.2	97.5	< 0.2	7.75 (JB)	11.8	20.3	279
7	06/16/03 11:55	4.76	< 1	8.24	2.96	10.6	41.6	8810	< 1	6.64	2.86	107	< 0.2	11.4	13.9	41.5	219
7	07/21/03 13:16	4.65	< 1	9.26	2.76	13.8	38.8	8710	< 1	11.7	5.6	175	< 0.2	11.8	19.2	54.1	189
7	08/18/03 13:00	2.3	< 1	1.91	2.73	4.89	27.8	1590	< 1	2.3	2.96	110	< 0.2	5.18	11.2	13	308
8	01/14/02 11:30	1.44	< 1	< 1.2		1.83		345.3799		< 1			< 0.2	3.53		< 6	365
8	02/18/02 12:13	1.63	< 1	1.2				673.4157		< 1			< 0.2	3.41		< 6	298
8	03/18/02 11:38	1.92	< 1	3.06		4.11		2455.5657		1.69			< 0.2	5		12.646	272
8	04/15/02 11:14	3.13	< 1	7.83		9.11		6766.8091		6.51			< 0.2	9.22		28.9009	198
8	05/20/02 12:10	2.84	< 1	4.93		6.66		3890		2.86			< 0.2	6.53		17.7	191
8	06/17/02 12:15	2.49	< 1	2.57		4.24		1720		1.86			< 0.2	7.93		13.6	300
8	07/15/02 11:30	3.25	< 1	2		4.12		620		1.48			< 0.2	7.17		10.9 (UJ)	298
8	08/19/02 12:45	2.87	< 1	1.78		3.78		781		1.83			< 0.2	7.76		15.5	272
8	09/16/02 10:44	1.8	< 1	< 1.2		4.6		363		1.05			< 0.2	7.41		11.4 (UJ)	254
8	10/21/02 11:49	1.93	< 1	< 1.2		2.5		306		1.15			< 0.2	8.33		8.26 (UJ)	331
8	11/18/02 11:18	1.81	< 1	< 1.2		3.04		686		1.07			< 0.2	6.87		11.6 (UJ)	296
8	12/16/02 11:22	1.45	< 1	< 1.2		2.34		214		< 1			< 0.2	8.31		11.3 (UJ)	350
8	01/21/03 10:54	1.24	< 1	< 1.2				371		< 1			< 0.2			11.4	376
8	02/18/03 10:39	1.56	< 1	< 1.2		3.06		385		< 1			< 0.2	6.87		13	372
8	03/18/03 12:34	3	< 1	5.78				5780		4.59			< 0.2	7.83			179
8	04/21/03 12:35	2.03	< 1	1.87		3.56		898		1.43			< 0.2	5.38		13.5	336
8	05/19/03 11:50	2.64	< 1	4.29		6.19		3640		3.09			< 0.2			17.8	279
8	06/16/03 11:20	5.95	< 1	11.8		13.8		12500		8.9			< 0.2	14.4		55.6	207
8	07/21/03 12:49	5.86	< 1	12.8		26.4		12400		25.6			< 0.2	16.1		97.1	209
8	08/18/03 11:30	2.25	< 1	1.67		4.52		1000		1.89			< 0.2	4.85		9.81	304

IDEM Fort Wayne Rivers - General Chemicals - Years 2002 and 2003

Station	Sample Date & Time	Alkalinity (as CaCO3) (mg/L)	Chloride (mg/L)	COD (mg/L)	Cyanide (Total) (mg/L)	E_Coli (MPN/100mL)	Fluoride (mg/L)	Hardness (as CaCO3) (mg/L)	Nitrogen, Ammonia (mg/L)	Nitrogen, Nitrate+Nitrite (mg/L)	pH (SU)	Phosphorus, Total (mg/L)	Sulfate (mg/L)	TBOD5 (mg/L)	TDS (mg/L)	TKN (mg/L)	TOC (mg/L)	TS (mg/L)	TSS (mg/L)
1	01/14/02 10:30	281	40.4382	15.5				373	0.1166	1.7791	7.9	0.0481	75.8209		490	0.551	5.657	497	4
1	02/18/02 11:21	245	31.6018	17.7				328	< 0.1	1.7796	8.2	0.0479	68.6123		433	0.529	6.875	433	5
1	03/18/02 10:53	229	30.2759	21.2				306	< 0.1	2.0297	8.3	0.0604	55.8277		391	0.9324	7.966	421	10
1	04/15/02 10:31	183	22.6211	28.9				242	< 0.1	2.4789	8.1	0.1705	41.6565		341	1.3834	9.125	393	49
1	05/20/02 11:30			20.9				282	< 0.1	2		0.11				1.2	8.4		
1	06/17/02 11:30	281	36	16.3				369	< 0.1	1.4	8.4	0.07	66		463	0.5	6.3	501	8
1	07/15/02 11:00	276	42	14.4				353	< 0.1	1	8.6	0.07	75		473	0.4	4.6	500	15
1	08/19/02 12:00	270	49	16				329	< 0.1	1.3	8.1	0.14	60		467	0.5	3.8	517	30
1	09/16/02 10:01	296	60	10.6				355	< 0.1	1.5	8.2	0.1	72		507	0.3	3.5	532	15
1	10/21/02 11:10	228	46	12				300	0.1	1.2	8	0.07	62		400	0.4 (QJ)	3.9	419	< 4
1	11/18/02 10:42	278	59	11.8				346	< 0.1	1.2	8	0.07	74		501	0.4	3.8	511	< 4
1	12/16/02 10:44	294	65	9.8				368	< 0.1	1.3	8.1	< 0.03	77		519	0.4	3	532	< 4
1	03/18/03 11:58	134	47	32				294	0.2	6.5	7.7	0.2	112		415	1.4	10.3	472	30
1	04/21/03 12:00	234	47	31.3				367	< 0.1	2	8.2	0.13	84		483	1	8.3	527	9
1	05/19/03 10:06	179	31	33.6				316	< 0.1	4.5	7.9	0.12	63		407	1.4 (QJ)	10.4	478	37
1	06/16/03 10:45	223	41	31.6				372	< 0.1	5.7	8	0.11	76		473	0.9	9	516	22
1	07/21/03 10:09	136	38	39.5				240	< 0.1	1.4	8.1	0.34	41		324	1.6	8.2	560	240
1	08/18/03 11:00	270	46	20.5				374	< 0.1	1.1	8.2	0.06	81		492	0.8	7.8	522	9
2	01/14/02 10:00	263	31.8905	14.7				335	< 0.1	1.3176	8	0.0415	51.9985		432	0.5547	4.943	439	5
2	02/18/02 10:56	207	25.1056	18				276	< 0.1	1.4914	8.2	0.0563	49.0156		364	0.5889	6.544	366	12
2	03/18/02 10:33	187	22.6653	22.7				242	< 0.1	1.5727	8.2	0.1225	39.6362		309	1.1128	7.768	366	42
2	04/15/02 10:05	143	16.7336	31.5				190	< 0.1	1.7299	8	0.281	28.7059		300	1.5665	9.241	389	105
2	05/20/02 11:27	147	13	22.4				191	< 0.1	1.1	8.1	0.16	22		251	1.1	8.3	303	41
2	06/17/02 11:00	248	29	22.8				317	< 0.1	0.8	8.6	0.13	46		398	0.9	7	464	45
2	07/15/02 10:30	238	33	20.1				309	< 0.1	0.5	8.6	0.13	53		407	0.8	5.5	454	44
2	08/19/02 11:32	225	38		< 0.005			280			8.2		53		397			448	44
2	09/16/02 9:41	261	46	18.6				321	< 0.1	0.5	8.2	0.14	57		434	0.8	4.6	480	38
2	10/21/02 10:42	265	54	14.7				357	< 0.1	0.6	8.3	0.05	67		463	0.5 (QJ)	4.5	487	15
2	11/18/02 10:21	255	50	15.6				324	< 0.1	0.6	8	0.07	60		443	0.5	5.2	468	10
2	12/16/02 10:23	282	52	12	< 0.005			348	< 0.1	0.7	8.1	0.04	73		472	0.6	4.3	492	4
2	03/18/03 11:01	96	34	36.8				208	0.3	4.2	7.6	0.28	54		303	1.8	10.8	360	39
2	04/21/03 11:35	207	39	30.5				336	< 0.1	3.4	8.3	0.11	80		436	1.1	7.2	484	40
2	05/19/03 9:46	163	29	38.6				289	< 0.1	3.3	7.9	0.16	51		355	1.5	10.2	428	57
2	06/16/03 10:15	181	35	37				307	0.2	5.7	7.8	0.16	55		402	1.5	9	462	45
2	07/21/03 9:46	107	25	44				226	0.1	1.2	7.9	0.4	37		257	1.9	9	519	246
2	08/18/03 10:25	216	29	31.5				306	< 0.1	0.4	8.4	0.11	60		380	1.3	9.4	425	35
3	01/14/02 9:45	259	33.9024	14.7	< 0.005		0.2963	343	< 0.1		7.9	0.0414	57.5199		432	0.4262	5.182	443	5
3	02/18/02 10:15	205	25.0799	19.2	< 0.005		0.2331	270	< 0.1	1.4931	8.2	0.0501	43.9513		357	0.589	6.382	365	12
3	03/18/02 9:50	185	22.5503	24.3			0.2303	244	< 0.1	1.6007	8.3	0.1195	36.9492	< 1	313	1.2116	7.871	363	43
3	04/15/02 8:45	141	16.0942	33.1	< 0.005		0.1687	184	< 0.1	1.723	8.1	0.2744	27.0358		298	1.6576	9.219	389	109
3	05/20/02 9:40	139	13	22.8	< 0.005			185	< 0.1	1.1	8.1	0.15	21	1.9	253	1.2	7.7	307	48
3	06/17/02 10:32	257	28	20.9	< 0.005		0.3	321	< 0.1	0.7	8.6	0.11	52		386	0.9	6.9	428	26
3	07/15/02 10:00	230	38	39.9			0.4	296	< 0.1	0.4	8.7	0.12	55	2.6	402	1	6.3	439	23
3	08/19/02 10:47	180	30	25.1	< 0.005		0.4	225	< 0.1	0.2	8	0.12	46		316	0.9	5	367	46
3	09/16/02 9:15	225	74	22.8	< 0.005		0.5	315	< 0.1	< 0.1	8	0.11	87	3.7 (QJ)	485	1	6.1	511	16
3	10/21/02 9:59	262	51	15.9	< 0.005		0.6	353	< 0.1	0.2	8.2	0.08	65		445	0.5 (QJ)	4.6	470	13
3	11/18/02 9:53	248	47	13.7	< 0.005		0.5	318	< 0.1	0.3	7.9	0.05	61	2	432	0.5	4.6	457	9
3	12/16/02 9:48	276	50	15.4	< 0.005		0.5	356	< 0.1	1	8.1	0.06	69		468	0.6	5	491	6
3	03/18/03 10:12	92	35	37.2	< 0.005		0.2	191	< 0.1	3.6	7.6	0.27	48		297	2.2	10.8	354	42
3	04/21/03 9:35	206	38	32.5	< 0.005		0.2	328	0.4	2.2	8.3	0.09	77		422	0.9	8.1	474	35
3	05/19/03 9:02	161	28	38.6	< 0.005		0.2	279	< 0.1	3.4	7.9	0.14	55	3.6	360	1.5	10.1	431	56
3	06/16/03 9:40	201	37	32.9	< 0.005		0.3	323	< 0.1	4.4	7.9	0.1	52		408	1	8.2	444	22
3	07/21/03 9:15	118	24	33.5	< 0.005		0.2	219	< 0.1	1.4	8.1	0.24	36	2.1	259	1.5	7.2	459	176

IDEM Fort Wayne Rivers - General Chemicals - Years 2002 and 2003

Station	Sample Date & Time	Alkalinity (as CaCO3) (mg/L)	Chloride (mg/L)	COD (mg/L)	Cyanide (Total) (mg/L)	E_Coli (MPN/100mL)	Fluoride (mg/L)	Hardness (as CaCO3) (mg/L)	Nitrogen, Ammonia (mg/L)	Nitrogen, Nitrate+Nitrite (mg/L)	pH (SU)	Phosphorus, Total (mg/L)	Sulfate (mg/L)	TBOD5 (mg/L)	TDS (mg/L)	TKN (mg/L)	TOC (mg/L)	TS (mg/L)	TSS (mg/L)
3	08/18/03 10:01	205	28	30.4	< 0.005		0.3	287	< 0.1	0.5	8.4	0.1	47	3.9	366	1.4	9.4	403	28
4	01/14/02 12:30	232	98.1907	12.8	< 0.005			412	0.1619	3.7408	7.9	0.1138	161.0924		660	0.8602	4.154	678	5
4	02/18/02 13:25	213	55.2666	14.2	< 0.005			362	< 0.1	5.6744	8.2	0.1019	109.9339	< 1	538	0.5524	4.221	542	10
4	03/18/02 12:28	195	50.4839	16.9	< 0.005			324	< 0.1	5.8312	8.2	0.1428	89.2051		483	1.1802	5.119	520	31
4	04/15/02 11:15	149	27.277	28.1	< 0.005			236	< 0.1	5.5288	8	0.3378	52.6548	1.9	375	1.8075	7.23	501	131
4	05/20/02 13:15	153	26	23.2	< 0.005			246	< 0.1	6.5	8	0.26	50		365	1.5	7.3	444	58
4	06/17/02 13:50	228	71	29.3	< 0.005			365	< 0.1	3.7	8.7	0.29	121	5	581	1.8	5.9	684	88
4	07/15/02 13:20	187	125	49.4	< 0.005			363	< 0.1	< 0.1	9.1	0.29	180		691	3	10.1	812	94
4	08/19/02 13:45	179	127	28.9	< 0.005			323	< 0.1	1.4	8.1	0.28	124	3.6 (QJ)	622	1.4	7.2	745	69
4	09/16/02 11:39	201	176	30.4	< 0.005			398	< 0.1	0.4	8.3	0.32	220		784	1.6	8	869	61
4	10/21/02 12:56	203	214	31.4	< 0.005			460	0.1	0.5	8.7	0.22	234	7.3	914	1.6 (QJ)	7.8	970	12
4	11/18/02 12:16	164	111	25.8	< 0.005			334	< 0.1	9.6	7.8	0.2	138		599	1.6	9.1	667	11
4	12/16/02 12:39	213	149	20.3				418	< 0.1	3.7	8.2	0.14	200	1.1	779	0.8	7.1	813	< 4
4	03/18/03 13:27	57	25	26.4	< 0.005			176	0.2	8	7.5	0.42	34		290	1.3	7.1	385	84
4	04/21/03 13:30	180	66	46.1	< 0.005			363	0.2	5.3	8.7	0.15	134	6.2	522	1.7	5.6	603	38
4	05/19/03 12:47	114	28	27.7	< 0.005			253	< 0.1	8	7.8	0.33 (QJ)	44		348	1.6	6.2	476	114
4	06/16/03 12:40	67	16	39.5	< 0.005			183	0.2	11	7.5	0.5	26	2.3	319	1.9	7.7	510	202
4	07/21/03 11:59	92	23	49.3	< 0.005			201	0.1	1.8	7.7	0.51	38		266	2.1	11.4	606	344
4	08/18/03 12:20	210	46	35	< 0.005			332	< 0.1	1.3	8.3	0.19	101	3.6	473	1.8	10.8	532	45
4	09/22/03 12:00																3		
5	01/14/02 9:15	240	98.5652	13.2	< 0.005			428	0.1592	3.3549	7.6	0.1103	147.4126		675	0.7408	4.219	690	5
5	02/18/02 9:53	221	52.9883	14.2	< 0.005			346	< 0.1	5.4481	8.1	0.1094	96.3798	< 1	512	0.7025	4.7	521	14
5	03/18/02 9:36	209	51.3001	18	< 0.005			336	< 0.1	5.3801	8.2	0.1397	93.1994		475	0.9883	5.133	523	25
5	04/15/02 9:25	153	28.5758	27.4	< 0.005			244	< 0.1	5.9769	8	0.3159	53.6047	1.8	390	1.9347	6.995	478	96
5	05/20/02 9:32	145	23	23.2	< 0.005			223	< 0.1	6.5	7.9	0.31	42		347	1.6	8	427	59
5	06/17/02 10:22	202	48	23.9	< 0.005			329	< 0.1	5.8	8.3	0.21	87	3	485	1.6	6.1	586	46
5	07/15/02 9:45	179	85	28.1	< 0.005			317	0.2	0.1	8.5	0.24	121		529	1.9	8	577	17
5	08/19/02 10:23	170	84	38.4	< 0.005			274	0.6	0.3	7.4	0.32	95	7.3 (QJ)	484	2.2	7.6	564	55
5	09/16/02 9:02	208	120	37.2	< 0.005			298	0.5	< 0.1	8	0.37	145		620	2.3	9.4	677	46
5	10/21/02 9:36	201	112	32.6	< 0.005			373	0.1	< 0.1	8.3	0.14	152	5.5	598	1.7 (QJ)	8.1	644	23
5	11/18/02 9:30	147	84	27	< 0.005			320	0.2	12	7.6	0.22	108		521	1.9	8.8	600	18
5	03/18/03 9:47	53	25	33.5	< 0.005			157	0.2	8	7.5	0.46	30		303	2.3	6.4	388	96
5	04/21/03 9:20	182	65	27.2	< 0.005			330	0.3	5.7	8.4	0.15	113	6.6	508	1.8	5.2	583	35
5	05/19/03 8:40	110	28	28.6	< 0.005			232	0.1	7.5	7.8	0.37	50		348	1.9	6.2	478	118
5	06/16/03 9:20	74	16	39.1	< 0.005			206	0.3	12	7.5	0.54	27	2.6	311	2.2	7.4	525	188
5	07/21/03 8:59	53	12	6.8	< 0.005			159	0.2	1	7.7	0.42	21		168	2.1	7.4	478	340
5	08/18/03 9:45	220	42	39.9	< 0.005			338	< 0.1	0.8	8.4	0.18	101	5.5	462	2.2	10.6	516	37
6	01/14/02 8:45	259	43.6749	13.6				355	< 0.1	1.6453	8	0.0505	76.6375		481	0.491	4.852	489	< 4
6	02/18/02 9:04	205	33.8181	16.1				290	< 0.1	2.6627	8.2	0.0693	63.8187		400	0.5212	5.94	410	12
6	03/18/02 10:53	185	31.3963	21.2				266	< 0.1	2.6572	8.3	0.1337	52.5478		366	1.4352	7.095	416	40
6	04/15/02 9:09	145	20.6687	31.2				202	< 0.1	3.0244	8	0.276	35.3273		333	1.8348	8.896	419	105
6	05/20/02 8:50	143	16	23.6				193	< 0.1	2.7	8.1	0.19	26		275	1.4	7.7	343	54
6	06/17/02 9:56	228	34	27.4				304	< 0.1	2.6	8.5	0.16	60		433	1.2	7	494	56
6	07/15/02 9:30	212	49	23.2				296	0.1	0.2	8.5	0.16	73		430	1.3	6.6	469	27
6	08/19/02 9:59	215	91		< 0.005			323			7.7		106		550			617	45
6	09/16/02 8:39	206	81	23.6				304	0.2	< 0.1	7.9	0.13	106		502	1.2	6.8	535	22
6	10/21/02 9:01	248	58	19				351	< 0.1	0.1	8.3	0.07	78		457	0.7 (QJ)	4.8	488	20
6	11/18/02 9:07	183	60	21.7				302	0.1	7.2	7.8	0.15	83		457	1.3	7.1	504	18
6	12/16/02 9:05	255	86	16.9				380	< 0.1	3.8	8	0.08	119		598	0.9	5.6	614	< 4
6	01/21/03 8:57	218	80	18.4				408	0.1	10	7.8	0.1	112		627	1	5.8	649	5
6	02/18/03 9:12	210	88	20.3				373	0.3	4.4	7.7	0.14	114		568	1.1	6.5	592	8
6	03/18/03 9:25	62	29	33.9				175	0.3	5.6	7.6	0.4	38		289	1.8	6.7	372	76
6	04/21/03 8:45	195	47	26.8				334	< 0.1	2.5	8.3	0.06	83		448	0.7	8.5	515	39

IDEM Fort Wayne Rivers - General Chemicals - Years 2002 and 2003

Station	Sample Date & Time	Alkalinity (as CaCO3) (mg/L)	Chloride (mg/L)	COD (mg/L)	Cyanide (Total) (mg/L)	E_Coli (MPN/100mL)	Fluoride (mg/L)	Hardness (as CaCO3) (mg/L)	Nitrogen, Ammonia (mg/L)	Nitrogen, Nitrate+Nitrite (mg/L)	pH (SU)	Phosphorus, Total (mg/L)	Sulfate (mg/L)	TBOD5 (mg/L)	TDS (mg/L)	TKN (mg/L)	TOC (mg/L)	TS (mg/L)	TSS (mg/L)
6	05/19/03 8:07	140	28	34.9				276	< 0.1	5.7	7.9	0.23	53		359	1.5	8.6	445	82
6	06/16/03 8:55	104	20	35.8				217	0.2	11	7.6	0.44	33		328	2	7.8	504	176
6	07/21/03 8:33	82	19	40.6				194	0.2	1.1	7.9	0.39	32		207	1.9	6.8	506	292
6	08/18/03 9:15	208	33	31.9				305	< 0.1	0.6	8.4	0.13	65		390	1.5	9.7	443	39
7	01/14/02 12:00	265	45.2815	15.1	0.0052			347			7.9	0.0659	72.6763		468	0.7559	5.376	481	6
7	02/18/02 12:48	207	38.1459	17.7	< 0.005			284	< 0.1	2.7978	8.2	0.08	60.8273	< 1	410	0.6739	6.189	418	15
7	03/18/02 12:02	185	34.516	20.8	< 0.005			268	0.1075	2.8558	8.2	0.1391	54.0424		366	1.2728	7.214	425	40
7	04/15/02 11:40	145	21.811	33.8	< 0.005			202	< 0.1	3.0153	8	0.2918	36.6474	1.9	339	1.8606	8.685	428	106
7	05/20/02 12:35	143	18	24.3	< 0.005			193	< 0.1	2.8	8.1	0.21	29		279	1.2	8	348	55
7	06/17/02 12:40	220	44	23.2	< 0.005			309	< 0.1	3.5	8.4	0.2	65	3.3	447	1.3	6.9	528	61
7	07/15/02 13.00	204	76	25.1	< 0.005			302	0.1	1.4	8.4	0.19	91		500	1.4	6.8	550	33
7	08/19/02 13:17	172	139	25.8	< 0.005			274	0.1	2.5	7.8	0.21	91	3.8 (QJ)	579	1.5	7.1	636	39
7	09/16/02 11:12	197	108	20.9	< 0.005			298	0.4	2.9	7.7	0.18	102		549	1.6	6.9	587	27
7	10/21/02 12:22	210	94	21.7	< 0.005			322	< 0.1	3.1	8	0.08	81	2.3	508	1 (QJ)	5.6	525	27
7	11/18/02 11:47	174	74	20.5	< 0.005			288	0.2	7.3	7.8	0.19	84		474	1.4	7.3	512	16
7	12/16/02 11:55	225	110	17.7	< 0.005			366	0.2	5.2	7.9	0.15	129	1.4	614	1	6.1	638	< 4
7	01/21/03 11:23	204	108	18.8	< 0.005			390	0.2	11	7.8	0.12	113		650	1.1	6.1	680	5
7	02/18/03 11:11	188	113	18.8	< 0.005			356	0.3	6	7.7	0.17	110	< 1	602	1.1	6.9	628	8
7	03/18/03 13:01	60	31	32	< 0.005			182	0.3	5.8	7.5	0.38	37		296	1.5	8.6	377	74
7	04/21/03 13:00	195	55	30.9	< 0.005	57		337	0.1	4.1	8.3	0.14	87	4.6	467	1.2	7.8	528	37
7	05/19/03 12.17	141	30	45.8	< 0.005			279	< 0.1	5.8	7.9	0.24 (QJ)	54		373	1.6 (QJ)	8.4	469	82
7	06/16/03 11:55	102	21	39.9	< 0.005			219	0.3	11	7.6	0.5	32	2.7	317	2	7.6	519	196
7	07/21/03 13:16	87	20	36.5	< 0.005			189	0.2	1.2	7.8	0.32	34		218	1.7	6.7	436	216
7	08/18/03 13:00	210	42	31.5	< 0.005			308	< 0.1	1.1	8.4	0.14	71	4.2	417	1.6	9.3	476	47
8	01/14/02 11:30	252	57.6559	14.7	< 0.005			365	0.1024	2.4235	7.9	0.0771	82.6496		524	0.6339	5.003	531	6
8	02/18/02 12:13	205	37.2766	16.1	< 0.005			298	< 0.1	2.8423	8.2	0.0776	62.1253	< 1	411	0.5928	5.846	417	13
8	03/18/02 11:38	189	33.4136	23.5	< 0.005			272	< 0.1	2.9133	8.2	0.1515	54.8104		360	1.2672	7.02	423	48
8	04/15/02 11:14	139	21.2029	34.2	< 0.005			198	< 0.1	3.0206	8	0.3116	34.3184		322	2.0296	8.746	427	137
8	05/20/02 12:10	141	18	23.9	< 0.005			191	< 0.1	2.9	8.1	0.24	29		273	1.4	8.3	354	64
8	06/17/02 12:15	218	44	25.5	< 0.005			300	< 0.1	3	8.5	0.19	55	3	435	1.2	6.9	496	52
8	07/15/02 11:30	190	64	31.9	< 0.005			298	< 0.1	0.6	8.8	0.14	60		438	1.5	8.3	512	62
8	08/19/02 12:45	176	72	27.4	< 0.005			272	< 0.1	1.8	8	0.19	60	2.7 (QJ)	446	1.1	7	507	37
8	09/16/02 10:44	164	110	31.2	< 0.005			254	< 0.1	2.3	8.6	0.12	98		502	1.5	7.8	543	32
8	10/21/02 11:49	213	89	19.4	< 0.005			331	< 0.1	1.4	8.3	0.08	65	2.9	494	0.9 (QJ)	5.6	527	13
8	11/18/02 11:18	166	74	20.9	< 0.005			296	0.2	9.2	7.9	0.16	66		488	1.3	7.3	530	14
8	12/16/02 11:22	220	107	18	< 0.005			350	< 0.1	5.1	8.1	0.11	112	1.2	604	0.7	6.2	626	< 4
8	01/21/03 10:54	206	101	18	< 0.005			376	0.1	11	7.8	0.12	107		626	1	6.2	654	7
8	02/18/03 10:39	189	108	22.9	< 0.005			372	0.3	5.8	7.8	0.17	101	1.4	587	1.2	6.8	620	8
8	03/18/03 12:34	59	32	33.1	< 0.005			179	0.3	6.1	7.5	0.4	38		295	1.6	8.5	388	102
8	04/21/03 12:35	198	54	28	< 0.005			336	< 0.1	3.8	8.5	0.14	96	4.8	465	1.2	7.3	528	31
8	05/19/03 11:50	142	31	36.5	< 0.005			279	< 0.1	6	7.9	0.24	56		364	1.6	8.2	454	86
8	06/16/03 11:20	90	18	42	< 0.005			207	0.2	10	7.6	0.5	29	2.5	299	2.1	7.5	565	232
8	07/21/03 12:49	87	21	49.6	< 0.005			209	0.2	1.5	7.8	0.54	34		228	2.2	7.6	574	344
8	08/18/03 11:30	209	40	30.8	< 0.005			304	< 0.1	1	8.5	0.12	71	4.5	408	1.7	9.3	460	41

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
DEPTH	4/1/02	13.55	13.6	7.71	15.79	15.71	18.73
DEPTH	4/8/02	4.86	9.69	6.47	12.43	8.28	11.63
DEPTH	4/15/02	5.39	10.83	7.89	13.04	9.85	13.19
DEPTH	4/22/02	2.61	9.34	5.27	11.58	5.96	9.32
DEPTH	4/29/02	7.24	9.86	2.68	12.02	8.12	10.64
DEPTH	5/6/02	2.84	7.19	1.55	10.51	3.51	7.2
DEPTH	5/13/02	7.72	11.46	9.08	13.79	13.45	17.68
DEPTH	5/20/02	4.15	9.94	5.69	12.37	8.63	11.12
DEPTH	5/29/02	2.6	8.36	4.42	10.47	4.16	6.98
DEPTH	6/3/02	4.1	8.9	2.84	11.43	4.27	7.84
DEPTH	6/10/02	2.03	7.51	2.41	9.52	3.36	6.75
DEPTH	6/17/02	1.61	8.82	2.73	11.3	1.34	6.25
DEPTH	6/24/02	0.66	9.02	2.57	11.22	1.78	5.22
DEPTH	7/1/02	1.28	8.87	2.09	10.87	1.84	5.8
DEPTH	7/8/02	1.36	9.1	11.08	11.7	2.15	5.87
DEPTH	7/15/02	0.1	8.27	1.51	10.72	1.39	5.27
DEPTH	7/22/02	0.51	8.66	2.66	10.71	1	4.46
DEPTH	7/29/02	0.28	9.31	3.57	11.28	1.94	5.3
DEPTH	8/5/02	0.56	8.16	2.04	10.21	2.46	5.73
DEPTH	8/12/02	0.94	3.19	2.07	5.34	0.96	4.73
DEPTH	8/19/02	0.97	5.35	2.94	7.64	1.74	5.77
DEPTH	8/26/02	1.59	5.05	2.21	7.23	1.48	5.64
DEPTH	9/3/02	0.89	8.69	2.76	10.99	1.23	4.88
DEPTH	9/9/02	1.03	8.59	2.83	10.92	1.1	4.59
DEPTH	9/16/02	0.65	8.63	1.86	10.7	0.98	4.33
DEPTH	9/23/02	1.24	8.77	2.74	11.06	1.31	4.72
DEPTH	9/30/02	1.72	8.94	1.7	11.11	2.01	5.69
DEPTH	10/7/02	1.32	8.83	1.71	11.06	1.72	4.73
DEPTH	10/14/02	0.85	8.69	3	11.08	1.21	4.59
DEPTH	10/21/02	0.74	8.89	1.09	11.17	1.06	4.79
DEPTH	10/28/02	0.64	8.74	0.89	10.85	1.06	4.66
DO	4/1/02	11.26	10.85	11.49	11.94	10.99	11.07
DO	4/8/02	10.99	10.89	11.73	12.52	12.17	12.16
DO	4/15/02	8.69	8.65	9.5	9.92	9.84	9.66
DO	4/22/02	9.78	8.13	9.66	9.96	9.93	9.96
DO	4/29/02	9.06	8.84	11.57	11.47	10.36	10.44
DO	5/6/02	9.13	10.86	10.26	12.19	12.09	10.64
DO	5/13/02	9.35	8.78	9.3	10.3	9.71	9.34
DO	5/20/02	10.21	9.45	10.71	11.21	11.03	11.48
DO	5/29/02	9.01	9.01	11.1	11.72	11.28	10.1
DO	6/3/02	7.03	7.28	9.98	9.34	8.72	8.97
DO	6/10/02	10.2	7.98	8.96	9.72	8.91	8.79
DO	6/17/02	10.79	8.49	9.13	9.66	8.97	9.5
DO	6/24/02	13.74	17.83	6.92	7.79	8.51	6.9
DO	7/1/02	8.95	6.53	6.53	7.27	7.5	6.81

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
DO	7/8/02	9.34	10.95	5.24	7.58	6.84	5.51
DO	7/15/02	15.34	10.32	6.79	9.27	8.25	6.92
DO	7/22/02	9.88	9.73	5.9	11.47	5.47	6.88
DO	7/29/02	7.86	10.51	6.34	5.91	7.67	6.06
DO	8/5/02	10.61	8.74	5.2	5.32	5.87	5.28
DO	8/12/02	8.53	1.9	6.04	8.9	6.44	7.68
DO	8/19/02	7.21	4.04	6.47	6.72	5.36	6.75
DO	8/26/02	5.54	2.69	6.52	6.39	5.51	4.88
DO	9/3/02	7.01	15.77	6.27	11.85	6.65	7.11
DO	9/9/02	10.38	16.56	6.88	8.17	7.31	4.76
DO	9/16/02	9.49	7.81	6.88	5.6	6.29	4.26
DO	9/23/02	5.35	0.77	7.58	7.16	6.53	5.25
DO	9/30/02	8.48	3.21	7.3	10.14	8.17	6.2
DO	10/7/02	8.56	5.61	8.01	13.89	6.74	10.71
DO	10/14/02	11.15	9.01	9.13	8.75	8.45	8.18
DO	10/21/02	15.73	10.69	10.46	10.12	10.18	9.76
DO	10/28/02	11.81	9.67	11.38	10.7	10.81	10.37
ECOLI	4/1/02	396	884	548	544	616	768
ECOLI	4/8/02	800	740	1280	320	1040	440
ECOLI	4/15/02	640	660	200	220	460	400
ECOLI	4/22/02	460	680	620	200	360	300
ECOLI	4/29/02	5660	3740	500	360	4440	5000
ECOLI	5/6/02	200	1000	100	100	300	400
ECOLI	5/13/02	7500	5400	3300	5600	4300	5400
ECOLI	5/20/02	100	500	100	100	100	300
ECOLI	5/29/02	1450	2700	350	100	1100	1800
ECOLI	6/3/02	420	560	180	140	540	200
ECOLI	6/10/02	700	1400	380	290	330	470
ECOLI	6/17/02	350	420	120	140	260	250
ECOLI	6/24/02	2880	360	510	240	430	660
ECOLI	7/1/02	170	220	740	240	540	430
ECOLI	7/8/02	760	300	240	210	290	420
ECOLI	7/15/02	60	380	240	220	70	fail
ECOLI	7/22/02	750	170	80	150	470	400
ECOLI	7/29/02	90	270	240	80	60	130
ECOLI	8/5/02	180	740	20	50	270	160
ECOLI	8/12/02	130	55	265	245	600	65
ECOLI	8/19/02	130	130	360	980	400	620
ECOLI	8/26/02	400	fail	100	210	2400	1480
ECOLI	9/3/02	200	1600	90	70	110	420
ECOLI	9/9/02	240	60	90	50	50	560
ECOLI	9/16/02	100	240	70	30	90	370
ECOLI	9/23/02	350	250	200	320	900	640
ECOLI	9/30/02	385	220	195	415	310	680
ECOLI	10/7/02	230	260	270	100	220	220

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
ECOLI	10/14/02	280	600	110	10	70	130
ECOLI	10/21/02	15	190	80	75	115	105
ECOLI	10/28/02	80	160	35	150	800	270
NH3-N	4/1/02	0.1	0.188	0.206	0.172	0.189	0.173
NH3-N	4/8/02	0.1	0.0493	0.0407	0.0371	0.0387	0.0469
NH3-N	4/15/02	0.1	0.1	0.1	0.1	0.1	0.1
NH3-N	4/22/02	0.0401	0.0283	0.0554	0.0425	0.0399	0.0506
NH3-N	4/29/02	0.804	0.779	0.125	0.0183	0.503	0.495
NH3-N	5/6/02	0.0485	0.0149	0.0202	0.0291	0.015	0.0265
NH3-N	5/13/02	0.25	0.155	0.12	0.0796	0.118	0.115
NH3-N	5/20/02	0.1	0.1	0.1	0.1	0.1	0.1
NH3-N	5/29/02	0.0565	0.0825	0.002	0.002	0.022	0.0416
NH3-N	6/3/02	0.0317	0.0357	0.0189	0.0106	0.0249	0.0452
NH3-N	6/10/02	0.002	0.002	0.002	0.002	0.002	0.002
NH3-N	6/17/02	0.1	0.1	0.1	0.1	0.1	0.1
NH3-N	6/24/02	0.37	0.0135	0.0097	0.0093	0.0657	0.155
NH3-N	7/1/02	0.0415	0.0235	0.0058	0.002	0.0063	0.0439
NH3-N	7/8/02	0.002	0.002	0.002	0.002	0.0557	0.112
NH3-N	7/15/02	0.1	0.2	0.1	0.1	0.1	0.1
NH3-N	7/22/02	0.101	0.0275	0.187	0.0517	0.298	0.114
NH3-N	7/29/02	0.002	0.002	0.002	0.002	0.0053	0.0215
NH3-N	8/5/02	0.0225	0.0216	0.0433	0.0439	0.0353	0.157
NH3-N	8/12/02	0.0189	0.782	0.0322	0.0026	0.179	0.0164
NH3-N	8/19/02	0.1	0.6	N/A	0.1	N/A	0.1
NH3-N	8/26/02	0.0565	0.321	0.0051	0.0546	0.244	0.218
NH3-N	9/3/02	0.0146	0.0172	0.024	0.0038	0.171	0.08
NH3-N	9/9/02	0.19	0.16	0.071	0.14	0.262	0.458
NH3-N	9/16/02	0.1	0.5	0.1	0.1	0.2	0.4
NH3-N	9/23/02	0.173	0.361	0.0583	0.0822	0.195	0.325
NH3-N	9/30/02	0.002	0.324	0.0055	0.002	0.0925	0.241
NH3-N	10/7/02	0.002	0.0697	0.147	0.002	0.186	0.124
NH3-N	10/14/02	0.106	0.117	0.0483	0.0217	0.109	0.258
NH3-N	10/21/02	0.1	0.1	0.1	0.1	0.1	0.1
NH3-N	10/28/02	0.137	0.0979	0.0555	0.0298	0.074	0.127
PH	4/1/02	8.17	7.56	7.69	7.71	7.52	7.64
PH	4/8/02	7.91	7.73	7.87	7.86	7.77	7.82
PH	4/15/02	7.76	7.73	7.76	7.72	7.75	7.74
PH	4/22/02	7.93	7.78	7.91	7.98	7.88	7.95
PH	4/29/02	7.48	7.36	7.87	7.89	7.61	7.71
PH	5/6/02	7.8	7.82	8.14	8.14	7.96	7.96
PH	5/13/02	7.52	7.48	7.61	7.63	7.51	7.6
PH	5/20/02	7.79	7.8	7.89	7.91	7.83	7.86
PH	5/29/02	7.85	7.66	8.06	8.03	7.85	7.88
PH	6/3/02	7.7	7.62	8.1	8.01	7.69	7.87
PH	6/10/02	8.01	7.71	8.04	8.09	7.91	7.9

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
PH	6/17/02	8.33	7.91	8.28	8.31	8.1	8.08
PH	6/24/02	8.34	7.76	7.87	8.2	7.87	7.72
PH	7/1/02	8.32	7.42	7.95	7.99	7.79	7.64
PH	7/8/02	8.35	7.77	7.75	7.89	7.76	7.56
PH	7/15/02	8.77	8.04	8.12	8.24	7.87	7.81
PH	7/22/02	8.46	7.95	7.84	8.23	7.52	7.69
PH	7/29/02	8.1	8.28	7.98	7.94	7.98	7.77
PH	8/5/02	8.7	7.61	7.9	7.72	7.48	7.8
PH	8/12/02	8.28	7.22	7.77	7.65	7.41	7.57
PH	8/19/02	7.8	7.14	7.9	7.77	7.2	7.5
PH	8/26/02	7.47	7.15	7.9	7.71	7.29	7.39
PH	9/3/02	7.82	8.03	7.9	8.04	7.42	7.67
PH	9/9/02	8.41	7.77	8.01	7.94	7.35	7.42
PH	9/16/02	8.21	7.75	7.98	7.66	7.45	7.5
PH	9/23/02	7.29	7.02	7.78	7.7	7.42	7.37
PH	9/30/02	7.24	7	7.71	7.97	7.57	7.3
PH	10/7/02	7.83	7.5	7.65	7.91	7.61	7.66
PH	10/14/02	7.81	7.5	7.88	7.85	7.49	7.36
PH	10/21/02	8.51	7.93	7.88	7.93	7.81	7.68
PH	10/28/02	7.75	7.63	7.95	7.82	7.61	7.73
PHOS	4/1/02	0.1	0.489	0.279	0.261	0.39	0.417
PHOS	4/8/02	0.14	0.308	0.177	0.183	0.205	0.216
PHOS	4/15/02	0.34	0.31	0.28	0.27	0.28	0.29
PHOS	4/22/02	0.212	0.128	0.188	0.141	0.151	0.155
PHOS	4/29/02	0.959	0.994	0.139	0.095	0.643	0.671
PHOS	5/6/02	0.237	0.12	0.072	0.061	0.089	0.099
PHOS	5/13/02	0.714	0.631	0.47	0.526	0.585	0.509
PHOS	5/20/02	0.26	0.31	0.15	0.15	0.19	0.21
PHOS	5/29/02	0.346	0.408	0.156	0.146	0.253	0.291
PHOS	6/3/02	0.411	0.373	0.145	0.104	0.254	0.25
PHOS	6/10/02	0.299	0.304	0.165	0.152	0.236	0.407
PHOS	6/17/02	0.29	0.21	0.13	0.11	0.16	0.2
PHOS	6/24/02	0.239	0.188	0.135	0.089	0.104	0.131
PHOS	7/1/02	0.371	0.249	0.188	0.125	0.174	0.204
PHOS	7/8/02	0.281	0.22	0.191	0.16	0.138	0.179
PHOS	7/15/02	0.29	0.24	0.13	0.12	0.16	0.19
PHOS	7/22/02	0.454	0.298	0.179	0.118	0.229	0.215
PHOS	7/29/02	0.394	0.151	0.21	0.128	0.14	0.201
PHOS	8/5/02	0.35	0.14	0.114	0.072	0.165	0.161
PHOS	8/12/02	0.26	0.369	0.108	0.112	0.146	0.167
PHOS	8/19/02	0.28	0.32	N/A	0.12	N/A	0.21
PHOS	8/26/02	0.447	0.271	0.164	0.116	0.21	0.178
PHOS	9/3/02	0.193	0.082	0.088	0.06	0.016	0.009
PHOS	9/9/02	0.346	0.062	0.139	0.063	0.058	0.198
PHOS	9/16/02	0.32	0.37	0.14	0.11	0.13	0.18

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
PHOS	9/23/02	0.312	0.297	0.158	0.121	0.202	0.206
PHOS	9/30/02	0.186	0.26	0.207	0.183	0.213	0.326
PHOS	10/7/02	0.597	0.245	0.243	0.132	0.399	0.533
PHOS	10/14/02	0.266	0.211	0.102	0.101	0.147	0.263
PHOS	10/21/02	0.22	0.14	0.05	0.08	0.07	0.08
PHOS	10/28/02	0.279	0.06	0.015	0.0.18	0.039	0.073
TDS	4/1/02	538	140	104	124	180	72
TDS	4/8/02	483	276	188	216	216	244
TDS	4/15/02	375	390	300	298	333	339
TDS	4/22/02	376	332	236	240	264	284
TDS	4/29/02	336	328	328	312	320	320
TDS	5/6/02	440	524	352	412	456	456
TDS	5/13/02	388	356	276	280	300	308
TDS	5/20/02	365	347	251	253	275	279
TDS	5/29/02	540	464	392	360	392	416
TDS	6/3/02	504	500	360	332	384	352
TDS	6/10/02	460	412	336	304	388	388
TDS	6/17/02	581	485	398	386	433	447
TDS	6/24/02	544	532	452	460	416	448
TDS	7/1/02	568	432	448	472	364	372
TDS	7/8/02	628	488	384	320	388	432
TDS	7/15/02	691	529	407	402	430	500
TDS	7/22/02	772	572	432	432	448	488
TDS	7/29/02	544	408	324	308	336	456
TDS	8/5/02	144	400	296	324	400	368
TDS	8/12/02	916	840	472	464	628	608
TDS	8/19/02	622	484	397	316	550	579
TDS	8/26/02	444	436	444	380	396	472
TDS	9/3/02	720	532	508	376	400	572
TDS	9/9/02	796	416	404	380	388	492
TDS	9/16/02	784	620	434	485	502	549
TDS	9/23/02	496	440	412	456	552	520
TDS	9/30/02	528	368	428	464	428	460
TDS	10/7/02	688	484	408	328	424	476
TDS	10/14/02	852	560	460	472	488	532
TDS	10/21/02	914	598	463	445	457	508
TDS	10/28/02	884	460	440	424	464	508
TEMPF	4/1/02	36.78	41.69	41.97	42.08	41.85	42.23
TEMPF	4/8/02	43.56	44.94	42.59	42.48	43.29	43.76
TEMPF	4/15/02	59.11	57.62	56.8	56.46	56.85	57.66
TEMPF	4/22/02	56.14	57.38	55.48	57.12	57.77	57.7
TEMPF	4/29/02	50.91	50.43	49.72	50.89	50.57	50.68
TEMPF	5/6/02	58.64	59.2	58.55	59.11	59.54	59.68
TEMPF	5/13/02	55.61	54.92	53.69	57.48	53.99	54.04
TEMPF	5/20/02	52.38	52.68	51.84	52.13	52.45	52.94

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
TEMPF	5/29/02	61.98	61.74	62.2	62.21	62.21	62.24
TEMPF	6/3/02	68.7	68.07	67.96	69.8	69.21	69.36
TEMPF	6/10/02	71.43	71.33	71.55	71.93	70.61	71.02
TEMPF	6/17/02	68.68	69.53	68.55	69.96	69.9	70.24
TEMPF	6/24/02	77.49	79.65	75.44	79.99	77.02	76.29
TEMPF	7/1/02	78.61	78.66	76.89	77.78	78.04	77.14
TEMPF	7/8/02	77.36	80.87	77.12	80.31	80	79.53
TEMPF	7/15/02	78.38	79.02	74.84	77.58	77.69	77.84
TEMPF	7/22/02	81.94	83.48	79.24	82.69	79.98	81.71
TEMPF	7/29/02	79.2	79.81	77.93	78.31	78.61	78.6
TEMPF	8/5/02	81.06	82.47	79.6	80.73	80.85	81.27
TEMPF	8/12/02	75.48	75.82	75.38	77.56	76.83	77.7
TEMPF	8/19/02	74.42	73.38	73.66	74.66	76.38	75.61
TEMPF	8/26/02	73.64	75.35	74.15	75.12	76.25	75.11
TEMPF	9/3/02	75.02	77.2	74.64	77.65	76.39	76.14
TEMPF	9/9/02	73.16	77.48	72.23	77.02	75.63	76.18
TEMPF	9/16/02	69.67	73.25	69.54	73.1	73.29	72.43
TEMPF	9/23/02	61.9	67.29	62.52	68.99	69.33	65.54
TEMPF	9/30/02	64.68	65.72	64.98	65.84	65.26	67.03
TEMPF	10/7/02	58.49	65.19	64.55	65.51	65.46	63.8
TEMPF	10/14/02	52.29	58.85	53.66	59.54	59.4	57.26
TEMPF	10/21/02	48.33	51.51	47.11	51.04	52.63	52.6
TEMPF	10/28/02	47.61	47.82	47.19	48.15	48.51	50.74
TSS	4/1/02	10	112	96	100	144	100
TSS	4/8/02	31	26	64	66	76	84
TSS	4/15/02	131	96	105	109	333	106
TSS	4/22/02	42	260	66	56	46	60
TSS	4/29/02	286	44	176	24	224	224
TSS	5/6/02	94	272	40	38	44	50
TSS	5/13/02	336	59	208	220	260	244
TSS	5/20/02	58	110	41	48	54	55
TSS	5/29/02	112	158	76	42	74	108
TSS	6/3/02	138	76	34	14	58	66
TSS	6/10/02	84	46	36	58	76	74
TSS	6/17/02	88	34	45	26	56	61
TSS	6/24/02	104	36	30	24	48	36
TSS	7/1/02	80	34	60	30	70	66
TSS	7/8/02	56	17	44	37	27	27
TSS	7/15/02	94	20	44	23	27	33
TSS	7/22/02	76	20	32	40	150	210
TSS	7/29/02	60	13	120	25	11	28
TSS	8/5/02	70	62	24	21	36	53
TSS	8/12/02	64	55	42	34	37	32
TSS	8/19/02	69	76	44	46	45	39
TSS	8/26/02	104	28	36	27	52	52

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
TSS	9/3/02	54	11	35	11	17	21
TSS	9/9/02	46	46	25	15	10	20
TSS	9/16/02	61	6	38	16	22	27
TSS	9/23/02	46	11	36	15	17	70
TSS	9/30/02	52	19	23	29	10	13
TSS	10/7/02	20	51	15	10	9	13
TSS	10/14/02	32	23	19	20	27	33
TSS	10/21/02	12	20	15	13	20	27
TSS	10/28/02	60	20	70	10	20	20
DEPTH	04/07/03	7.09	11.48	6.52	13.53	11.24	14.59
DEPTH	04/14/03	3.01	9.54	3.41	11.69	3.63	8.02
DEPTH	04/21/03	2.06	9.27	2.88	11.55	2.84	6.39
DEPTH	04/28/03	1.54	9.15	1.91	11.31	1.98	6.04
DEPTH	05/05/03	11.07	12.04	7.58	14.12	11.45	15.57
DEPTH	05/12/03	15.81	16.53	9.58	18.73	18.41	21.48
DEPTH	05/19/03	3.28	10.46	4.19	12.27	6.35	9.48
DEPTH	05/27/03	1.84	9.08	3.06	11.01	1.66	6.07
DEPTH	06/02/03	2.27	9.19	2.73	11.3	1.97	6.17
DEPTH	06/09/03	2.19	9.15	3.01	11.32	2.19	5.93
DEPTH	06/16/03	9.63	11.01	3.34	13.38	8.96	11.97
DEPTH	06/23/03	5.57	9.43	2.69	11.92	4.79	8.6
DEPTH	06/30/03	2.14	9.38	2.37	11.29	2.2	5.87
DEPTH	07/07/03	17	13.25	12.57	15.36	15.44	18.95
DEPTH	07/15/03	11.35	11.82	2.97	13.91	10.82	14.98
DEPTH	07/21/03	6.03	12.27	5.04	14.37	12.56	17.65
DEPTH	07/28/03	5.55	10.44	5.08	12.95	5.61	9.29
DEPTH	08/04/03	11.27	12.1	6.52	14.46	11.88	15.2
DEPTH	08/11/03	4.24	9.97	3.66	12.01	4.44	8.52
DEPTH	08/18/03	2.25	9.83	2.42	11.51	2.62	6.45
DEPTH	08/25/03	2.11	9.09	3.09	11.2	1.75	5.9
DEPTH	09/02/03	9.03	12.63	10.54	15.51	13.85	16.98
DEPTH	09/08/03	5.09	10.13	3.55	12.16	5.07	8.84
DEPTH	09/15/03	1.88	9.61	3.44	12.07	3.12	7.26
DEPTH	09/22/03	2.18	9.62	3.15	11.93	7.39	7.55
DEPTH	09/29/03	11.42	12.19	5.98	14.3	12.21	15.51
DEPTH	10/06/03	3.06	9.58	3.49	11.96	3.05	7.5
DEPTH	10/13/03	2.19	9.34	1.67	11.58	2.15	6.38
DEPTH	10/20/03						
DEPTH	10/27/03	2.64	9.61	2.38	11.69	2.64	6.49
DO	04/07/03	6.01	5.8	6.26	7.12	7.36	4.9
DO	04/14/03	7.25	8.62	9.05	9.64	10.43	8.46
DO	04/21/03	16.51	15.57	9.91	10.7	10.54	12.28
DO	04/28/03	15.37	20.36	11.72	13.74	13.55	12.52
DO	05/05/03	10.02	9.81	10.67	11.3	10.78	10.03
DO	05/12/03	9.36	8.19	11.14	10.75	8.4	9.41

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
DO	05/19/03	7.9	7.14	9.10	9.29	9.03	8.7
DO	05/27/03	10.49	10.92	10.01	10.33	10.37	9.87
DO	06/02/03	11.78	11.8	9.74	10.36	9.89	9.98
DO	06/09/03	8.7	8.35	9.24	9.84	8.98	9.32
DO	06/16/03	3.11	3.14	4.07	4.22	5.96	3.64
DO	06/23/03	6.75	7.05	7.66	10.25	8.48	8.07
DO	06/30/03	7.56	8.22	5.03	5.68	7.01	5.93
DO	07/07/03	2.78	5.8	4.19	7.12	6.35	2.84
DO	07/15/03	1.38	1.43	4.43	6.13	2.77	2.74
DO	07/21/03	6.03	7.69	7	9.11	7.28	7.92
DO	07/28/03	6.78	6.74	7.32	8.07	8.47	7.12
DO	08/04/03	2.3	9.71	3.32	3.45	6.71	2.66
DO	08/11/03	6.62	6.24	8.02	8.15	8.29	7.6
DO	08/18/03	9.76	11.54	8.49	9.72	9.13	10.4
DO	08/25/03	11.64	13.22	6.47	13.63	8.16	7.07
DO	09/02/03	6.24	5.85	7.19	7.18	6.81	6.9
DO	09/08/03	7.37	7.25	8.63	8.74	9.04	8.5
DO	09/15/03	9.78	8.05	8.08	8.89	8.99	7.88
DO	09/22/03	7.71	10.28	6.55	7.33	9.11	6.78
DO	09/29/03	6.67	7.00	9.16	9.37	8.29	7.62
DO	10/06/03	9.8	9.62	11	10.9	11.06	10.41
DO	10/13/03	8.32	9.33	9.9	9.53	9.8	9.48
DO	10/20/03						
DO	10/27/03	8.8	8.82	10.77	10.11	10.62	10.68
ECOLI	04/07/03	6	32	Failed	8	Failed	32
ECOLI	04/14/03	18	8	16	34	80	36
ECOLI	04/21/03	6	20	9	5	9	7
ECOLI	04/28/03	7	8	4	3	13	48
ECOLI	05/05/03	8	8	8	12	28	28
ECOLI	05/12/03	1200	2000	1300	700	1100	1000
ECOLI	05/19/03	76	249	62	78	146	152
ECOLI	05/27/03	52	88	94	76	84	64
ECOLI	06/02/03	28	36	30	38	40	352
ECOLI	06/09/03	224	20	54	80	44	296
ECOLI	06/16/03	720	300	150	130	495	500
ECOLI	06/23/03	540	260	60	40	320	340
ECOLI	06/30/03	240	620	100	190	400	500
ECOLI	07/07/03	370	250	1040	360	250	200
ECOLI	07/15/03	200	500	<100	500	300	1500
ECOLI	07/21/03	320	200	340	440	140	140
ECOLI	07/28/03	30	20	10	60	10	15
ECOLI	08/04/03	416	800	780	640	760	840
ECOLI	08/11/03	290	340	190	120	230	250
ECOLI	08/18/03	288	29	52	54	42	78
ECOLI	08/25/03	65	67	35	20	26	22

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
ECOLI	09/02/03	4	24	2	8	10	8
ECOLI	09/08/03	38	34	48	96	14	20
ECOLI	09/15/03	120	3	168	92	3	1
ECOLI	09/22/03	116	5	132	92	5	7
ECOLI	09/29/03	80	64	176	184	104	24
ECOLI	10/06/03	30	18	76	104	80	78
ECOLI	10/13/03	70	56	106	20	136	84
ECOLI	10/20/03						
ECOLI	10/27/03	15	1	18	23	15	52
NH3-N	04/07/03	0.239	0.294	0.190	0.181	0.261	0.246
NH3-N	04/14/03	0.221	0.050	0.427	0.081	0.030	0.092
NH3-N	04/21/03	0.2	0.300	<0.1	<0.1	<0.1	0.100
NH3-N	04/28/03	0.003	0.003	<0.003	<0.003	<0.003	<0.003
NH3-N	05/05/03	0.507	0.271	0.219	0.062	0.170	0.242
NH3-N	05/12/03	0.26	0.188	0.174	0.313	0.144	0.156
NH3-N	05/19/03	0.1	0.100	<0.1	<0.1	<0.1	<0.1
NH3-N	05/27/03	0.054	0.011	0.098	0.027	0.005	0.043
NH3-N	06/02/03	0.113	0.003	<0.003	<0.003	<0.003	<0.003
NH3-N	06/09/03	0.0487	0.035	0.007	<0.003	0.082	0.048
NH3-N	06/16/03	0.2	0.300	0.200	<0.1	0.200	0.300
NH3-N	06/23/03	0.0405	0.016	0.037	0.018	0.019	0.035
NH3-N	06/30/03	0.0169	0.036	0.099	0.053	0.030	0.060
NH3-N	07/07/03	0.142	0.072	0.119	0.047	0.070	0.063
NH3-N	07/15/03	0.0237	0.014	0.024	0.011	0.012	0.034
NH3-N	07/21/03	0.1	0.200	0.100	<0.1	0.200	0.200
NH3-N	07/28/03	0.148	0.036	0.063	0.023	0.010	0.047
NH3-N	08/04/03	0.0394	0.068	0.060	0.077	0.071	0.060
NH3-N	08/11/03	0.0234	0.143	0.029	0.012	0.053	0.046
NH3-N	08/18/03	0.1	0.100	<0.1	<0.1	<0.1	<0.1
NH3-N	08/25/03	0.0105	0.035	0.027	0.155	0.039	0.101
NH3-N	09/02/03	0.244	0.174	0.119	0.076	0.082	0.078
NH3-N	09/08/03	0.0892	0.016	0.047	0.029	0.011	0.024
NH3-N	09/15/03	0.0166	0.162	0.022	0.024	0.046	0.133
NH3-N	09/22/03	0.1	0.300	<0.1	<0.1	0.200	0.100
NH3-N	09/29/03	0.0226	0.028	0.052	0.043	0.022	0.023
NH3-N	10/06/03	0.0511	0.037	0.051	0.039	0.031	0.049
NH3-N	10/13/03	0.004	0.004	<0.004	0.009	<0.004	<0.004
NH3-N	10/20/03						
NH3-N	10/27/03	0.0929	0.074	0.018	0.034	0.029	0.111
PH	04/07/03	7.03	6.95	7.06	7.07	6.95	7.01
PH	04/14/03	7.26	7.1	7.3	7.28	6.95	7.27
PH	04/21/03	8.43	8.05	8.02	8	7.81	8.11
PH	04/28/03	8.21	8.14	8.09	8.15	8.15	8.04
PH	05/05/03	7.2	7.24	7.45	7.58	7.24	7.59
PH	05/12/03	7.06	6.95	7.01	7.08	6.69	7.08

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
PH	05/19/03	7.7	7.12	7.18	7.27	7.07	7.70
PH	05/27/03	8.21	7.7	8.05	7.87	7.33	8.05
PH	06/02/03	8.6	8.6	8.5	8.6	8.4	8.4
PH	06/09/03	8	7.80	8.40	8.3	7.6	8.1
PH	06/16/03	6.97	7.03	7.39	7.48	6.87	7.13
PH	06/23/03	6.78	6.99	7.21	7.67	7.37	6.99
PH	06/30/03	7.76	7.72	7.46	7.63	7.7	7.62
PH	07/07/03	6.95	6.95	7.48	7.07	6.94	7.16
PH	07/15/03	7.15	7.03	7.4	7.35	6.92	7.22
PH	07/21/03	7.13	7.13	7.45	7.71	6.93	7.32
PH	07/28/03	7.18	7.09	7.25	7.32	7.06	7.12
PH	08/04/03	7.18	7.11	7.21	7.26	6.85	7.22
PH	08/11/03	7.28	7.07	7.44	7.23	7.01	7.39
PH	08/18/03	8.03	8.04	8.15	8.19	7.76	8.13
PH	08/25/03	7.93	7.83	7.53	7.67	7.49	7.49
PH	09/02/03	7.1	7.21	7.09	7.27	7.02	7.16
PH	09/08/03	7.1	7.12	7.23	7.19	6.91	7.23
PH	09/15/03	7.64	7.37	7.67	7.61	7.4	7.51
PH	09/22/03	8.18	8.08	7.85	7.98	7.73	7.98
PH	09/29/03	6.31	6.24	6.35	6.41	6.2	6.39
PH	10/06/03	7.07	6.89	7.1	7.01	6.89	7.16
PH	10/13/03	7.19	7.16	7.37	7.33	7.08	7.36
PH	10/20/03						
PH	10/27/03	6.92	6.88	7.15	7.13	6.93	7.13
PHOS	04/07/03	0.438	0.499	0.320	0.348	0.337	0.438
PHOS	04/14/03						
PHOS	04/21/03	0.15	0.150	0.110	0.130	0.060	0.140
PHOS	04/28/03	0.027	0.087	0.190	0.079	0.106	0.160
PHOS	05/05/03	1.38	0.573	0.411	0.174	0.421	0.444
PHOS	05/12/03	0.694	0.763	0.263	0.358	0.605	0.620
PHOS	05/19/03	0.33	0.370	0.160	0.140	0.230	0.240
PHOS	05/27/03	0.286	0.145	0.241	0.225	0.215	0.241
PHOS	06/02/03	0.173	0.119	0.219	0.057	0.117	0.094
PHOS	06/09/03	0.03	0.121	< 0.02	0.021	0.075	0.081
PHOS	06/16/03	0.5	0.54	0.16	0.1	0.44	0.500
PHOS	06/23/03	0.265	0.262	0.139	0.120	0.288	0.319
PHOS	06/30/03	0.057	0.175	0.187	0.131	0.153	0.176
PHOS	07/07/03	0.358	0.406	0.124	0.136	0.378	0.382
PHOS	07/15/03	1.904	1.248	1.426	0.793	1.131	1.133
PHOS	07/21/03	0.51	0.420	0.400	0.350	0.390	0.320
PHOS	07/28/03	0.322	0.261	0.494	0.192	0.219	0.238
PHOS	08/04/03	0.501	0.583	0.495	0.316	0.458	0.497
PHOS	08/11/03	0.309	0.255	0.225	0.145	0.190	0.208
PHOS	08/18/03	0.19	0.180	0.110	0.100	0.130	0.140
PHOS	08/25/03	0.252	0.176	0.081	0.126	0.141	0.136

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
PHOS	09/02/03	0.661	0.506	0.518	0.541	0.553	0.644
PHOS	09/08/03	0.197	0.168	0.150	0.110	0.188	0.129
PHOS	09/15/03	0.082	0.072	0.085	0.009	0.041	0.183
PHOS	09/22/03	0.22	0.220	0.120	0.110	0.150	0.180
PHOS	09/29/03	0.337	0.515	0.331	0.279	0.420	0.491
PHOS	10/06/03	0.152	0.203	0.181	0.153	0.208	0.211
PHOS	10/13/03	0.201	0.184	0.132	0.107	0.125	0.169
PHOS	10/20/03						
PHOS	10/27/03	0.207	0.159	0.112	0.062	0.137	0.151
TDS	04/07/03	236	208	272	260	244	284
TDS	04/14/03	428	422	390	370	362	400
TDS	04/21/03	522	508	436	483	448	467
TDS	04/28/03	578	548	426	420	458	480
TDS	05/05/03	320	272	366	394	310	348
TDS	05/12/03	220	224	300	308	272	292
TDS	05/19/03	348	348	355	412	359	373
TDS	05/27/03	452	524	352	372	412	404
TDS	06/02/03	576	536	400	440	440	456
TDS	06/09/03	490	484	474	468	462	488
TDS	06/16/03	319	311	402	408	328	317
TDS	06/23/03	212	228	332	336	220	224
TDS	06/30/03	126	118	98	100	109	115
TDS	07/07/03	104	124	296	212	120	100
TDS	07/15/03	140	128	316	288	152	132
TDS	07/21/03	266	168	257	328	207	218
TDS	07/28/03	336	324	296	392	328	308
TDS	08/04/03	156	204	232	256	180	200
TDS	08/11/03	268	276	340	324	296	312
TDS	08/18/03	473	462	380	366	390	417
TDS	08/25/03	496	400	316	264	332	388
TDS	09/02/03	236	144	176	188	232	272
TDS	09/08/03	272	292	304	316	280	300
TDS	09/15/03	452	340	296	300	288	360
TDS	09/22/03	607	402	411	394	437	497
TDS	09/29/03	192	172	224	244	176	168
TDS	10/06/03	352	352	328	304	308	320
TDS	10/13/03	592	536	472	444	496	504
TDS	10/20/03						
TDS	10/27/03	572	492	436	432	476	468
TEMPF	04/07/03	41.1	41.34	39.73	40.11	40.87	41.04
TEMPF	04/14/03	51.2	50.92	50.22	51.05	50.81	51.19
TEMPF	04/21/03	59.1	60.01	58.49	59.16	59.68	59.67
TEMPF	04/28/03	57.3	56.49	56.52	57.02	56.63	56.28
TEMPF	05/05/03	54.1	54.77	56.52	57.56	55.74	55.07
TEMPF	05/12/03	59.3	59.76	57.34	57.86	59.24	59.4

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
TEMPF	05/19/03	61.3	59.83	59.47	59.84	59.72	61.7
TEMPF	05/27/03	61.0	61.16	60.26	61.7	61.52	62.42
TEMPF	06/02/03	61.5	62.78	62.60	62.78	62.78	63.14
TEMPF	06/09/03	63.7	64.4	64.04	65.12	63.68	65.48
TEMPF	06/16/03	68.6	67.61	69.59	68.95	67.92	68.25
TEMPF	06/23/03	68.2	69.14	70.16	73.33	69.70	69.35
TEMPF	06/30/03	70.8	71.35	71.54	73.58	73.17	72.24
TEMPF	07/07/03	72.9	71.98	75.85	75.27	72.3	72.71
TEMPF	07/15/03	73.9	74.24	72.74	74.3	74.43	74.77
TEMPF	07/21/03	70.4	69.73	70.64	72.58	71.03	71.47
TEMPF	07/28/03	72.0	71.73	71.34	73.3	72.17	72.04
TEMPF	08/04/03	70.9	70.83	69.25	70.63	70.73	70.86
TEMPF	08/11/03	71.5	71.85	72.06	72.5	72.43	72.79
TEMPF	08/18/03	74.3	76.4	75.4	77.29	77.68	77.19
TEMPF	08/25/03	73.0	75.86	73.24	77.35	76.14	75.37
TEMPF	09/02/03	65.8	65.58	63.48	64.04	64.76	65.21
TEMPF	09/08/03	67.0	67.1	66.49	66.36	66.93	67.38
TEMPF	09/15/03	68.1	69.69	68.28	69.37	69.96	69.57
TEMPF	09/22/03	63.3	65.79	63.88	66.24	66.96	66.23
TEMPF	09/29/03	57.7	58.1	56.26	56.96	57.86	58
TEMPF	10/06/03	50.8	52.18	50.38	51.01	51.32	51.80
TEMPF	10/13/03	57.5	60.31	57.39	58.76	60.05	58.85
TEMPF	10/20/03						
TEMPF	10/27/03	48.7	50.25	49.47	50.57	50.73	50.92
TSS	04/07/03	146	166	74	90	108	110
TSS	04/14/03	46	33	30	25	29	34
TSS	04/21/03	38	35	40	9	39	37
TSS	04/28/03	30	24	23	26	30	25
TSS	05/05/03	1220	536	372	124	374	308
TSS	05/12/03	340	392	144	176	356	260
TSS	05/19/03	114	118	57	39	82	82
TSS	05/27/03	43	39	39	28	35	43
TSS	06/02/03	41	35	35	27	40	34
TSS	06/09/03	44	22	18	14	30	34
TSS	06/16/03	202	188	45	22	176	196
TSS	06/23/03	88	92	59	35	64	110
TSS	06/30/03	38	41	29	26	29	35
TSS	07/07/03	134	232	116	54	246	222
TSS	07/15/03	32	33	58	42	36	40
TSS	07/21/03	344	340	246	236	292	216
TSS	07/28/03	80	36	196	72	37	49
TSS	08/04/03	98	136	89	87	139	126
TSS	08/11/03	47	25	35	31	32	40
TSS	08/18/03	45	37	35	28	39	47
TSS	08/25/03	31	26	14	13	17	11

Fort Wayne River Sampling Data

Parameter	Date	St. Marys River @ Ferguson	St. Marys River @ Spy Run	St. Joseph River @ Mayhew	St. Joseph River @ Tennessee	Maumee River @ Anthony	Maumee River @ Landin
TSS	09/02/03	232	100	103	200	216	210
TSS	09/08/03	38	33	26	20	27	40
TSS	09/15/03	27	33	44	38	32	46
TSS	09/22/03	40	30	28	25	31	44
TSS	09/29/03	94	102	65	63	100	73
TSS	10/06/03	18	21	31	22	29	26
TSS	10/13/03	7	14.4	19.2	18.4	20	32.8
TSS	10/20/03						
TSS	10/27/03	6.5	16	17.5	22.4	23.2	21

APPENDIX F

Water Pollution Control Plant

Effluent Sampling Data Results

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
01/01/02	2.68	0.70	0.266	0.272	2.1	7.8		
01/02/02	2.76	0.62	0.328	0.308	2.7	7.3		
01/03/02	3.28	0.72	0.359	0.313	3.2	7.2		
01/04/02	2.76	1.08	0.335	0.408	2.2	7.3		
01/05/02	7.02	2.11	0.339	0.479	4.8	7.4		
01/06/02	2.46	1.22	0.324	0.469	4.2	7.5		
01/07/02	2.57	0.59	0.222	0.412	3.4	7.4		
01/08/02	2.80	0.78	0.228	0.334	3.6	7.4		
01/09/02	2.80	1.01	0.222	0.278	3.6	7.5		
01/10/02	2.34	0.73	0.209	0.278	2.2	7.6		
01/11/02	2.88	1.07	0.289	0.308	5.4	7.4		
01/12/02	3.02	0.62	0.313	0.292	3.8	7.5		
01/13/02	2.54	0.61	0.397	0.268	3.2	7.3		
01/14/02	2.68	0.99	0.283	0.283	2.8	7.3		
01/15/02	2.62	1.59	0.341	0.268	6.0	7.4		
01/16/02	2.64	0.56	0.328	0.268	3.0	7.3		
01/17/02	3.28	0.68	0.312	0.272	2.2	7.3		
01/18/02	2.58	0.62	0.272	0.263	2.8	7.4		
01/19/02	3.12	0.58	0.204	0.249	2.6	7.4		
01/20/02	3.10	0.66	0.311	0.283	1.6	7.7		
01/21/02	2.72	0.66	0.323	0.282	3.2	7.4		
01/22/02	2.84	0.92	0.347	0.347	4.0	7.0		
01/23/02	3.48	0.96	0.316	0.308	1.4	7.2		
01/24/02	4.38	0.70	0.326	0.360	3.0	7.2		
01/25/02	5.16	1.40	0.374	0.306	6.0	7.0		
01/26/02	3.76	0.81	0.375	0.269	4.2	7.0		
01/27/02	3.46	0.94	0.384	0.226	4.2	7.2		
01/28/02	3.86	1.20	0.484	0.322	2.8	7.1		
01/29/02	4.48	0.87	0.670	0.244	1.0	7.1		
01/30/02	5.36	2.00	1.070	0.358	4.8	7.0		
01/31/02	4.88	1.66	1.360	0.306	4.6	7.2		
02/01/02	5.30	1.42	0.623	0.134	3.8	7.1		
02/02/02	3.92	1.69	0.739	0.182	1.4	7.3		
02/03/02	3.90	2.25	0.465	0.128	4.4	7.5		
02/04/02	2.52	0.51	0.592	0.136	3.4	7.2		
02/05/02	3.20	1.06	0.640	0.124	3.6	7.2		
02/06/02	3.12	1.34	0.599	0.135	4.0	7.3		
02/07/02	4.38	1.22	0.735	0.128	2.0	7.2		
02/08/02	6.10	2.09	0.896	0.248	4.2	7.2		
02/09/02	3.98	1.31	1.120	0.271	5.4	7.0		
02/10/02	4.50	1.07	1.110	0.268	4.2	7.4		
02/11/02	6.72	1.56	1.430	0.226	2.8	7.3		
02/12/02	6.62	1.71	1.300	0.213	5.0	7.3		
02/13/02	4.84	1.60	0.875	0.236	1.8	7.2		
02/14/02	5.22	1.27	0.629	0.242	1.4	7.2		
02/15/02	4.08	1.48	0.469	0.262	2.0	7.3		
02/16/02	2.94	0.87	0.386	0.233	2.2	7.5		
02/17/02	4.02	0.81	0.372	0.221	2.0	7.5		
02/18/02			0.336	0.221	3.4	7.4		

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
02/19/02	3.02	0.83	0.427	0.196	3.0	7.2		
02/20/02	3.84	1.11	0.464	0.262	2.4	7.1		
02/21/02	6.21	1.03	0.566	0.240	3.2	7.2		
02/22/02	2.57	1.30	0.315	0.224	3.2	7.2		
02/23/02	3.00	0.97	0.236	0.225	3.0	7.1		
02/24/02	3.36	0.80	0.192	0.210	4.4	7.1		
02/25/02	3.58	1.21	0.226	0.277	3.8	7.2		
02/26/02	3.90	1.05	0.267	0.266	4.1	7.2		
02/27/02	4.54	1.32	0.472	0.242	3.6	7.3		
02/28/02	5.52	1.16	0.483	0.291	3.6	7.3		
03/01/02	4.38	1.76	0.441	0.214		7.2		
03/02/02	3.76	0.89	0.252	0.206		7.2		
03/03/02	3.98	0.88	0.411	0.216		7.8		
03/04/02	4.12	0.79	0.181	0.192	2.4	7.3		
03/05/02	3.62	0.96	0.108	0.154	2.4	7.3		
03/06/02	1.62	1.11	0.109	0.171	3.4	7.3		
03/07/02	4.20	0.72	0.128	0.559	3.4	7.3		
03/08/02	5.56	1.02	0.249	0.197	5.4	7.3		
03/09/02	4.52	0.79	0.295	0.238	6.2	7.2		
03/10/02	4.02	0.68	0.385	0.198	8.0	7.7		
03/11/02	4.38	0.79	0.200	0.122	2.0	7.2		
03/12/02	3.16	1.14	0.164	0.118	2.8	7.3		
03/13/02	4.54	1.04	0.157	0.194	1.0	7.2		
03/14/02	5.04	1.10	0.180	0.198	4.6	7.3		
03/15/02	4.12	0.99	0.216	0.268	4.6	7.3		
03/16/02	3.86	1.34	0.238	0.218	5.6	7.3		
03/17/02	3.64	1.16	0.171	0.221	3.8	7.7		
03/18/02	3.70	0.48	0.269	0.204	4.2	7.3		
03/19/02	3.46	0.56	0.220	0.184	2.2	7.4		
03/20/02	4.44	1.38	0.208	0.192	2.4	7.4		
03/21/02	4.64	1.41	0.310	0.174	5.8	7.4		
03/22/02	4.28	1.60	0.229	0.116	5.0	7.4		
03/23/02	3.62	1.33	0.301	0.103	2.6	7.4		
03/24/02	3.04	1.28	0.236	0.096	2.2	7.7		
03/25/02	4.42	3.80	0.244	0.156	2.0	7.5		207
03/26/02	4.14	1.06	0.169	0.129	4.6	7.4		250
03/27/02	4.24	1.24	0.309	0.198	1.2	7.3		32
03/28/02	6.02	1.44	0.235	0.210	2.0	7.2		15
03/29/02	3.76	1.96	0.136	0.294	2.2	7.1		12
03/30/02	2.87	1.08	0.137	0.248	1.0	7.3		9
03/31/02	2.25	1.00	0.105	0.203	2.4	7.4		1
04/01/02	2.76	1.13	0.099	0.156	3.1	7.2	4	1
04/02/02	2.22	1.03	0.134	0.101	2.2	7.4	1	1
04/03/02	3.92	1.63	0.108	0.198	3.4	7.2	24	16
04/04/02	3.50	1.02	0.109	0.184	3.0	7.2	26	21
04/05/02	3.64	1.39	0.114	0.205	4.4	7.1	25	4
04/06/02	3.96	1.12	0.119	0.144	4.4	7.2	10	5
04/07/02	3.48	2.64	0.131	0.144	3.6	7.3		14
04/08/02	4.70	0.92	0.137	0.184	2.2	7.2	28	10
04/09/02	4.28	0.98	0.215	0.135	0.5	7.3	24	10
04/10/02	3.88	1.29	0.111	0.171	2.5	7.1	16	3

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
04/11/02	4.02	0.94	0.153	0.166	2.7	7.2	21	18
04/12/02	2.96	1.52	0.148	0.212	2.0	7.2	27	8
04/13/02	3.06	1.09	0.119	0.168	4.8	7.2	42	35
04/14/02	2.80	1.19	0.107	0.114	2.1	7.4		11
04/15/02	2.28	0.71	0.086	0.160	2.2	7.2	34	11
04/16/02	2.52	1.14	0.096	0.128	2.2	7.4	73	25
04/17/02	2.88	1.47	0.094	0.138	3.0	7.5	51	34
04/18/02	3.06	1.87	0.109	0.170	4.6	7.1	41	33
04/19/02	3.24	1.53	0.150	0.176	5.6	7.2	37	40
04/20/02	2.80	1.02	0.141	0.176	4.6	7.2	56	20
04/21/02	2.82	0.88	0.134	0.226	3.6	7.4		20
04/22/02	3.14	1.03	0.122	0.260	2.0	7.0	9	4
04/23/02	2.50	0.86	0.096	0.228	1.6	7.3	15	6
04/24/02	3.22	1.44	0.153	0.246	2.8	7.5	29	16
04/25/02	3.62	1.40	0.149	0.274	6.4	7.4	55	22
04/26/02	3.52	1.54	0.209	0.330	3.2	7.2	24	28
04/27/02	3.08	1.10	0.178	0.266	5.8	7.1	Too numerous	103
04/28/02	2.78	1.04	0.161	0.260	4.0	7.0		14
04/29/02	2.92	0.90	0.123	0.338	3.6	7.5	32	27
04/30/02	2.98	1.04	0.136	0.272	3.4	7.2	15	10
05/01/02	2.84	1.19	0.139	0.298	2.6	7.2	9	5
05/02/02	5.72	1.43	0.171	0.226	3.0	7.2	10	8
05/03/02	3.56	1.40	0.158	0.205	4.8	7.2	13	12
05/04/02	3.70	1.55	0.148	0.186	1.8	7.5	11	11
05/05/02	3.74	1.50	0.191	0.172	3.6	7.6		18
05/06/02	2.48	0.96	0.148	0.172	1.8	7.2	214	205
05/07/02	2.62	1.73	0.145	0.165	1.6	7.3	15	13
05/08/02	3.28	1.54	0.172	0.251	4.6	7.6	41	38
05/09/02	3.56	1.43	0.145	0.294	2.6	7.2	29	7
05/10/02	2.24	2.24	0.132	0.340	4.4	7.6	45	16
05/11/02	2.34	0.79	0.140	0.302	4.8	7.6	26	26
05/12/02	2.14	0.81	0.092	0.284	3.0	7.6		24
05/13/02	2.20	0.52	0.107	0.273	0.8	8.0	22	21
05/14/02	2.26	0.73	0.151	0.248	1.0	7.6	21	11
05/15/02	2.20	1.42	0.147	0.274	4.0	7.3	22	5
05/16/02	2.92	1.12	0.140	0.278	2.8	7.3	10	9
05/17/02	3.18	1.50	0.197	0.312	2.6	7.4	23	6
05/18/02	3.34	1.09	0.148	0.239	2.0	7.0	39	14
05/19/02	3.42	1.03	0.127	0.184	3.6	7.6		11
05/20/02	1.80	0.96	0.108	0.226	1.8	7.4	12	14
05/21/02	1.32	1.15	0.087	0.174	2.4	7.4	22	5
05/22/02	3.34	1.93	0.106	0.116	2.4	7.2	29	22
05/23/02	6.14	3.47	0.086	0.314	9.2	7.3	20	23
05/24/02	4.14	2.07	0.154	0.322	5.6	7.4	29	29
05/25/02	3.00	1.60	0.142	0.322	5.0	7.5	17	32
05/26/02	2.24	1.37	0.133	0.247	3.0	7.4		26
05/27/02	1.74	0.75	0.114	0.200	2.4	7.4	19	17
05/28/02	2.68	1.95	0.041	0.400	5.6	7.4	24	17
05/29/02	1.68	2.61	0.052	0.366	4.6	7.1	59	15
05/30/02	4.08	2.07	0.068	0.390	2.4	7.2	27	28
05/31/02	2.24	1.60	0.122	0.382	1.4	7.3	38	32
06/01/02	2.30	1.32	0.132	0.392	3.2	7.5	33	42

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
06/02/02	2.20	1.42	0.153	0.367	4.4	7.5		38
06/03/02	4.10	1.30	0.150	0.314	1.6	7.5	43	64
06/04/02	3.30	1.20	0.149	0.256	1.6	7.4	21	32
06/05/02	2.20	1.57	0.149	0.224	2.0	7.1	10	17
06/06/02	2.26	1.22	0.211	0.246	1.4	7.2	16	15
06/07/02	2.96	2.42.	0.203	0.296	2.0	7.3	19	20
06/08/02	2.56	1.42	0.174	0.256	3.5	7.4	12	32
06/09/02	2.78	1.65	0.378	0.278	2.4	7.5		52
06/10/02	2.70	1.43	0.052	0.313	3.4	7.5	56	40
06/11/02	2.46	1.47	0.147	0.349	4.2	7.4	32	43
06/11/02	3.74	2.21	0.199	0.287	0.6	7.5	30	43
06/12/02	4.10	2.04	0.279	0.264	1.6	7.5	24	43
06/14/02	3.60	1.28	0.306	0.386	4.2	7.4	88	21
06/15/02	1.98	1.22	0.361	0.394	3.4	7.4	3	68
06/16/02	2.98	1.38	0.312	0.314	0.8	7.6		26
06/17/02	2.32	1.40	0.325	0.290	5.2	7.6	21	21
06/18/02	2.50	1.41	0.240	0.282	3.4	7.5	72	61
06/19/02	4.10	2.04	0.160	0.324	3.6	7.3		31
06/20/02	3.98	1.61	0.271	0.318	2.0	7.4	31	42
06/21/02	4.76	2.23	0.337	0.321	3.0	7.3	25	38
06/22/02	4.68	1.54	0.348	0.323	4.0	7.3	34	57
06/23/02	5.22	1.81	0.296	0.296	4.2	7.2		50
06/24/02	4.88	2.67	0.312	0.379	5.4	7.3	26	43
06/25/02	4.06	1.99	0.283	0.408	8.8	7.2	6	59
06/26/02	3.78	2.57	0.214	0.465	7.8	7.2	51	88
06/27/02	4.06	2.14	0.229	0.390	11.2	7.3	300	539
06/28/02	3.30	1.70	0.285	0.339	8.4	7.2	36	68
06/29/02	1.98	0.71	0.201	0.276	4.4	7.0	100	136
06/30/02	1.84	1.10	0.247	0.251	6.2	7.1		106
07/01/02			0.153	0.246	4.6	7.1	80	84
07/02/02	2.44	0.92	0.113	0.226	7.4	7.2	90	138
07/03/02	3.92	2.83	0.111	0.223	8.2	7.2	62	65
07/04/02	4.76	3.60	0.102	0.210	6.8	7.3	56	51
07/05/02	5.20	3.74	0.059	0.260	12.8	7.6	52	44
07/06/02	4.98	3.06	0.124	0.318	15.6	7.4	76	59
07/07/02	4.50	2.43	0.144	0.334	10.8	7.3		33
07/08/02	5.28	3.07	0.043	0.334	7.2	7.3	8	15
07/09/02	4.76	2.50	0.058	0.309	6.8	7.4	11	28
07/10/02	5.02	2.64	0.042	0.293	13.2	7.4	30	41
07/11/02	2.88	1.82	0.201	0.326	11.2	7.4	28	34
07/12/02	3.04	1.11	0.189	0.328	10.8	7.5	11	35
07/13/02	2.92	0.70	0.231	0.320	8.4	7.4	5	48
07/14/02	2.00	1.13	0.322	0.426	9.8	7.3		51
07/15/02	1.96	0.54	0.179	0.254	8.6	7.0	18	12
07/16/02	2.30	0.97	0.509	0.265	7.2	7.4	18	19
07/17/02	2.22	1.56	0.194	0.275	9.8	7.0	6	23
07/18/02	3.12	2.14	0.156	0.252	8.0	7.2	36	26
07/19/02	4.38	3.13	0.509	0.316	11.1	7.1	32	36
07/20/02	5.26	3.09	0.364	0.256	13.6	7.5	39	25
07/21/02	5.66	3.25	0.101	0.183	10.8	7.2		52
07/22/02	3.18	1.92	0.120	0.249	9.6	7.3	14	23
07/23/02	4.04	3.00	0.054	0.214	8.8	7.4	31	37

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
07/24/02	3.82	2.46	0.046	0.255	6.4	7.3	142	100
07/25/02			< 0.002	0.272	13.5	7.2	53	36
07/26/02	3.30	1.74	0.125	0.192	7.6	7.3	62	57
07/27/02	2.40	1.60	0.042	0.178	4.6	7.3	35	30
07/28/02	2.20	1.53	0.014	0.207	9.2	7.4		27
07/29/02	2.22	1.59	0.026	0.172	12.1	7.3	3	21
07/30/02	2.62	2.03	0.064	0.164	5.9	7.4	49	23
07/31/02	3.50	2.72	0.016	0.186	7.9	7.2	44	28
08/01/02	3.54	2.42	0.111	0.168	7.9	7.2	95	41
08/02/02	4.88	2.50	0.025	0.236	15.3	7.3	<1	109
08/03/02	6.64	3.97	0.039	0.227	16.9	7.4	62	47
08/04/02	5.60	3.14	0.030	0.260	12.1	7.5		27
08/05/02	7.22	4.04	0.038	0.230	15.3	7.8	19	25
08/06/02	8.30	3.83	<0.002	0.290	24.4	7.3	62	49
08/07/02	8.04	4.74	0.029	0.225	21.7	7.5	45	52
08/08/02	5.18	3.33	0.081	0.214	12.1	7.2	27	12
08/09/02	2.15	1.87	0.139	0.280	8.8	7.2	18	18
08/10/02	3.34	1.24	0.183	0.281	6.3	7.4	40	21
08/11/02	3.66	1.52	0.166	0.272	8.7	7.2		34
08/12/02	2.58	1.70	0.104	0.293	8.8	7.0	15	7
08/13/02	2.08	1.42	0.108	0.238	8.1	7.1	14	24
08/14/02	2.16	1.52	0.124	0.222	7.3	7.0	33	17
08/15/02	2.08	1.51	0.188	0.202	5.1	7.2	104	77
08/16/02	1.66	1.32	0.184	0.328	8.0	7.3	59	34
08/17/02	1.61	1.17	0.192	0.305	7.6	7.3	60	18
08/18/02	1.97	1.62	0.146	0.281	9.7	7.0		6
08/19/02	2.02	1.08	0.207	0.280	8.2	7.5	7	2
08/20/02	2.26	1.28	0.196	0.238	7.6	7.2	29	12
08/21/02	2.00	1.03	0.199	0.233	8.2	7.3	18	6
08/22/02	2.22	1.22	0.146	0.200	5.1	7.3	25	10
08/23/02	3.18	1.02	0.225	0.235	6.3	7.3	68	35
08/24/02	2.98	1.15	0.183	0.168	7.7	7.0	36	20
08/25/02	3.54	1.32	0.155	0.257	8.2	7.0		17
08/26/02	3.58	0.71	0.117	0.327	4.3	7.0	45	13
08/27/02	4.42	1.38	0.163	0.334	9.7	7.4	62	15
08/28/02	4.37	1.83	0.163	0.306	10.3	7.5	15	12
08/29/02	3.42	1.70	0.174	0.188	8.5	7.4	12	11
08/30/02	2.13	1.78	0.175	0.292	6.7	7.4	39	23
08/31/02								
09/01/02	3.80	2.51	0.022	0.207	8.4	7.4		41
09/02/02	4.55	2.25	0.006	0.164	10.6	7.7	3	53
09/03/02	5.52	3.50	0.069	0.131	14.9	7.6	9	46
09/04/02	5.47	3.77	0.010	0.325	10.3	7.9	23	17
09/05/02	4.09	2.83	0.216	0.366	11.7	7.6	26	32
09/06/02	1.64	1.68	0.319	0.239	9.6	7.4	46	44
09/07/02	2.05	1.26	0.348	0.312	5.9	7.6	48	29
09/08/02	2.00	1.54	0.283	0.439	8.0	7.5		51
09/09/02	3.94	1.00	0.255	0.592	4.8	7.5	104	47
09/10/02								
09/11/02	7.25	5.14	<0.002	0.382	14.7	7.5	13	54
09/12/02	6.93	4.76	0.043	0.321	16.5	7.6	2	74
09/13/02	5.40	4.20	0.042	0.279	12.1	8.0	57	71

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
09/14/02	3.22	2.45	0.119	0.265	9.9	7.7	62	67
09/15/02	3.37	2.22	0.239	0.256	8.8	7.6		54
09/16/02	3.32	2.21	0.357	0.282	8.5	7.6	80	26
09/17/02	3.30	2.12	0.313	0.291	11.5	7.5	72	10
09/18/02	3.35	1.87	0.359	0.241	7.7	7.5	85	31
09/19/02	3.60	1.55	0.259	0.177	11.7	7.5	104	44
09/20/02	4.40	1.66	0.257	0.210	8.8	7.5	120	30
09/21/02	3.50	1.20	0.208	0.261	5.2	7.5	240	106
09/22/02	2.90	1.00	0.212	0.242	4.9	7.5		72
09/23/02	2.34	1.26	0.261	0.274	10.8	7.4	3	58
09/24/02	3.68	1.76	0.209	0.308	5.6	7.5	200	70
09/25/02	3.46	1.43	0.242	0.633	7.5	7.5	116	70
09/26/02	3.34	1.57	0.222	0.380	7.3	7.5	160	75
09/27/02	2.70	1.08	0.325	0.572	7.3	7.4	221	175
09/27/02	3.10	0.97	0.272	0.889	10.7	7.4	220	193
09/29/02	2.70	1.20	0.258	0.850	12.1	7.3		164
09/30/02	2.76	0.67	0.276	0.579	10.0	7.3	176	105
10/01/02	2.80	0.93	0.172	0.486	13.5	7.4	128	68
10/02/02	3.00	1.21	0.220	0.323	9.7	7.4	64	66
10/03/02	3.13	1.36	0.256	0.275	7.7	7.5	134	56
10/04/02	2.34	1.82	0.257	0.413	7.6	7.4	30	35
10/05/02	2.53	0.96	0.247	0.448	5.2	7.5	66	39
10/06/02	2.92	0.94	0.269	0.475	4.0	7.4		7
10/07/02	3.00	1.03	0.319	0.598	9.4	7.5	24	19
10/08/02	3.38	1.94	0.266	2.280	8.4	7.5	32	3
10/09/02	3.95	1.45	0.342	3.830	6.8	7.5	24	1
10/10/02	2.68	1.32	0.340	4.090	7.2	7.4	26	< 1
10/11/02	2.52	1.48	0.345	2.442	6.8	7.3	43	7
10/12/02	2.84	1.00	0.353	0.830	5.6	7.2	38	15
10/13/02	3.06	1.56	0.481	0.374	8.6	7.2		30
10/14/02	2.20	0.86	0.310	0.219	8.2	7.2	49	2
10/15/02	2.58	1.34	0.277	0.385	4.6	7.3	30	4
10/16/02	1.90	1.48	0.265	0.154	5.8	7.3	29	2
10/17/02	1.82	1.03	0.241	0.081	6.4	7.4	6	9
10/18/02	1.50	0.83	0.175	0.155	4.2	7.4	85	19
10/19/02	1.12	0.36	0.188	0.170.	4.4	7.1	80	19
10/20/02	1.34	0.75	0.186	0.130	6.4	7.1		11
10/21/02	1.46	0.41	0.196	0.154	5.4	7.3	56	8
10/22/02	1.12	0.78	0.257	0.137	5.2	7.4	13	9
10/23/02	1.88	1.33	0.336	0.153	5.4	7.5	20	3
10/24/02	2.40	0.73	0.423	0.139	5.4	7.4	4	12
10/25/02	1.70	1.02	0.437	0.205	4.2	7.6	40	4
10/26/02	2.15	1.27	0.285	0.205	4.0	7.2	49	3
10/27/02	2.10	1.70	0.228	0.194	4.2	7.2		5
10/28/02	2.00	1.58	0.200	0.137	4.8	7.8	5	4
10/29/02	2.20	1.28	0.243	0.145	5.8	7.4	10	4
10/30/02	2.45	1.64	0.244	0.108	4.6	7.5	31	5
10/31/02	1.70	0.88	0.265	0.102	3.8	7.4	24	<1
11/01/02	2.20	1.81	0.260	< 0.060	4.6	7.3		
11/02/02	1.38	0.28	0.241	< 0.060	2.2	7.3		
11/03/02	1.17	0.56	0.246	0.054	2.4	8.7		
11/04/02	1.58	0.64	0.357	0.180	4.4	7.4		

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
11/05/02	1.93	0.82	0.660	0.160	1.4	7.3		
11/06/02	2.57	1.81	0.399	0.101	0.8	7.2		
11/07/02	1.53	0.76	0.278	0.111	2.2	7.4		
11/08/02	3.76	2.07	0.205	0.161	3.8	7.2		
11/09/02	1.55	0.92	0.228	0.172	5.0	7.2		
11/11/02	1.87	1.10	0.179	0.131	5.4	7.3		
11/12/02	1.67	1.04	0.260	0.165	3.8	7.8		
11/12/02	1.73	1.15	0.131		5.2	7.2		
11/13/02	2.52	1.84	0.138	0.122	3.6	7.3		
11/14/02	3.08	2.09	0.206	0.130	4.8	7.4		
11/15/02	2.25	0.97	0.352	0.162	3.4	7.5		
11/16/02	1.48	0.52	0.504	0.079	4.4	7.5		
11/17/02	1.72	1.19	0.421	0.152	4.4	7.5		
11/18/02	2.70	1.39	0.640	0.382	2.2	7.5		
11/19/02	1.97	0.94	0.913	0.368	6.0	7.4		
11/20/02	2.72	1.50	0.691		3.2	7.3		
11/21/02	5.88	2.10	0.290	0.195	4.2	7.4		
11/22/02	2.00	1.34	0.241	0.198	5.0	7.4		
11/23/02	1.88	1.08	0.057	0.406	2.8	7.1		
11/24/02	2.85	0.89	0.209	0.201	3.2	7.3		
11/25/02	2.50	1.36	0.149	0.223	3.0	7.4		
11/26/02	2.47	1.43	0.211	0.216	3.6	7.4		
11/27/02	2.68	1.19	0.205	0.395	3.0	7.4		
11/28/02	1.88	1.22	0.415	0.339	5.0	7.3		
11/29/02	2.80	1.20	0.213	0.263	5.4	7.5		
11/30/02	1.98	1.01	0.238	0.181	3.6	7.7		
12/01/02	2.10	1.49	0.334	0.188	3.0	7.4		
12/02/02	2.26	0.90	0.240	0.288	1.0	7.5		
12/03/02	2.10	1.10	0.193	0.254	3.8	7.6		
12/04/02	1.98	1.22	0.158	0.380	2.4	7.4		
12/05/02	2.82	1.28	0.117	0.409	2.4	7.5		
12/06/02	2.96	1.18	0.020	0.316	4.6	7.6		
12/07/02	2.18	0.94	0.191	0.321	2.2	7.6		
12/08/02	2.58	1.25	0.184	0.311	3.4	8.1		
12/09/02	2.82	1.49	0.317	0.346	2.8	7.6		
12/10/02	2.75	1.56	0.326	0.297	3.8	7.4		
12/11/02	3.53	1.22	0.489	0.328	2.2	7.4		
12/12/02	2.72	1.22	0.614	0.330	5.2	7.3		
12/13/02	3.82	1.27	0.497	0.475	2.8	7.3		
12/14/02	1.68	0.98	0.282	0.571	5.0	7.4		
12/15/02	2.60	1.26	0.278	0.466	5.6	7.7		
12/16/02	2.83	0.97	0.226	0.293	4.8	7.6		
12/17/02	2.98	1.26	0.248	0.249	2.8	7.6		
12/18/02	2.82	1.38	0.235	0.196	2.8	7.5		
12/19/02	3.47	1.60	0.475	0.314	2.2	7.4		
12/20/02	4.72	1.69	0.563	0.184	4.6	7.3		
12/21/02	4.25	0.95	0.331	0.165	3.4	7.5		
12/22/02	4.25	0.76	0.408	0.188	2.2	7.9		
12/23/02	4.23	1.45	0.315	0.248	0.6	7.6		
12/24/02	2.02	0.57	0.250	0.214	2.0	7.6		
12/25/02	2.16	0.95	0.244	0.216	2.0	8.5		
12/26/02	3.52	1.08	0.359	0.219	2.0	7.6		

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Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
12/27/02	2.95	1.00	0.321	0.239	3.6	7.5		
12/28/02	2.35	0.93	0.291	0.273	5.8	7.4		
12/29/02	2.37	0.91	0.052	0.260	2.6	7.4		
12/30/02	3.73	1.22	0.487	0.202	3.8	7.4		
12/31/02	3.33	1.44	0.260	0.166	4.6	7.5		
01/01/03	3.88	1.54	0.269	0.133	2.2	7.8		
01/02/03	4.95	1.13	0.705	0.138	2.4	7.5		
01/03/03	3.95	1.46	1.190	0.170	3.2	7.4		
01/04/03	7.47	0.85	1.250	0.196	2.0	7.2		
01/05/03	6.00	0.83	0.957	0.185	1.9	7.4		
01/06/03	7.68	1.19	0.959	0.545	4.0	7.4		
01/07/03	3.38	1.50	0.766	0.496	3.2	7.4		
01/08/03	5.50	1.97	0.917	0.162	5.0	7.5		
01/09/03	5.33	1.27	1.070	0.170	2.2	7.5		
01/10/03	4.92	1.06	0.516	0.220	4.6	7.4		
01/11/03	3.22	1.24	0.230	0.172	2.2	7.4		
01/12/03	2.48	1.37	0.203	0.139	2.2	7.7		
01/13/03	3.57		0.260	0.036	2.0	7.5		
01/14/03	3.57		0.218	0.045	2.4	7.7		
01/15/03	3.53	0.93	0.228	0.155	2.2	7.6		
01/16/03	2.95	0.80	0.263	0.174	1.8	7.6		
01/17/03	2.87	0.80	0.196	0.159	2.6	7.6		
01/18/03	3.93	0.75	0.497	0.184	2.2	7.3		
01/19/03	4.53	0.99	0.444	0.215	2.0	7.6		
01/20/03	3.65	0.51	0.347	0.156	2.6	7.5		
01/21/03	3.70	0.70	0.328	0.194	2.2	7.5		
01/22/03	3.67	1.47	0.347	0.221	1.8	7.4		
01/23/03			0.313	0.227	2.0	7.5		
01/24/03	3.02	0.98	0.641	0.222	2.6	7.5		
01/25/03	3.82	0.30	0.803	0.211	2.2	7.5		
01/26/03	3.87	0.57	0.706	0.196	1.8	7.1		
01/27/03	3.57	0.48	0.450	0.261	4.8	7.5		
01/28/03	2.90	0.38	0.296	0.285	3.0	7.4		
01/29/03	3.73	0.76	0.285	0.335	3.6	7.5		
01/30/03	1.57	0.62	0.263	0.364	4.2	7.4		
01/31/03	3.52	0.97	0.281	0.416	4.4	7.4		
02/01/03	1.78	0.80	0.299	0.402	5.8	7.3		
02/02/03	2.07	1.13	0.358	0.389	4.6	7.3		
02/03/03	2.98	0.62	0.852	0.330	3.4	7.4		
02/04/03	3.52	0.81	0.488	0.219	4.0	7.5		
02/05/03	3.32	0.72	0.335	0.194	2.2	7.6		
02/06/03	2.45	0.54	0.283	0.136	1.8	7.5		
02/07/03	2.72	0.87	0.587	0.162	4.2	7.4		
02/08/03	2.77	0.72	0.529	0.192	2.0	7.4		
02/09/03	2.42	0.80	0.583	0.180	2.2	7.9		
02/10/03	1.95	0.76	0.368	0.221	3.0	7.5		
02/11/03	1.57	0.70	0.510	0.213	3.8	7.4		
02/12/03	2.85	1.28	0.438	0.256	2.8	7.5		
02/13/03	2.58	1.11	0.376	0.248	2.2	7.6		
02/14/03	2.80	1.33	0.231	0.277	2.8	7.5		
02/15/03	2.08	0.77	0.234	0.278	5.6	7.4		
02/16/03	2.38	0.91	0.293	0.283	2.4	7.5		

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
02/17/03	2.63	0.54	0.277	0.236	3.0	7.5		
02/18/03	2.95	0.83	0.011	0.215	2.0	7.5		
02/19/03	3.37	0.79	0.292	0.232	1.8	7.5		
02/20/03	3.07	1.23	0.251	0.219	2.8	7.6		
02/21/03	3.25	0.97	0.298	0.358	2.2	7.4		
02/22/03	2.52	0.87	0.315	0.360	6.2	7.3		
02/23/03	3.90	0.97	0.309	0.218	3.2	7.1		
02/24/03	4.05	1.10	0.414	0.282	3.4	7.4		
02/25/03	3.95	1.14	0.561	0.154	2.2	7.4		
02/26/03	4.02	1.27	0.535	0.260	1.8	7.4		
02/27/03	4.37	1.58	0.339	0.237	2.6	7.3		
02/28/03	4.32	1.60	0.306	0.200	2.8	7.3		
03/01/03	3.88	1.55	0.518	0.329	3.6	7.2		
03/02/03	4.60	1.53	0.646	0.354	5.8	7.9		
03/03/03	3.50	0.98	0.961	0.333	3.6	7.2		
03/04/03	2.82	1.10	0.671	0.326	2.0	7.4		
03/05/03	3.15	0.82	0.388	0.319	3.0	7.4		
03/06/03	3.82	1.14	0.493	0.200	4.8	7.4		
03/07/03	3.50	1.18	0.394	0.203	2.0	7.3		
03/08/03	3.78	0.90	0.641	0.216	3.0	7.3		
03/09/03	4.89	1.19	0.600	0.199	6.0	7.6		
03/10/03	4.40	1.20	0.541	0.178	3.0	7.5		
03/11/03	4.48	1.51	0.627	0.177	2.4	7.4		
03/12/03	4.67	1.51	0.731	0.235	1.8	7.4		
03/13/03	5.85	1.52	1.160	0.247	3.8	7.2		
03/14/03	5.80	1.53	0.791	0.229	3.0	7.2		
03/15/03	4.08	0.72	0.466	0.176	5.2	7.3		
03/16/03	4.37	0.83	0.592	0.179	3.8	7.4		
03/17/03	4.85	0.46	0.599	0.239	3.0	7.2		
03/18/03	4.98	0.70	0.463	0.245	4.4	7.2		
03/19/03	4.88	1.06	0.447	0.241	5.0	7.3		
03/20/03	5.22	1.09	0.347	0.219	5.0	7.3		
03/21/03	3.87	0.96	0.573	0.256	3.8	7.3		
03/22/03	3.60	0.66	0.402	0.247	7.2	7.4		
03/23/03	4.03	0.77	0.224	0.228	3.0	7.5		
03/24/03	4.38	0.76	0.396	0.230	3.8	7.3		
03/25/03	5.28	1.23	0.618	0.262	3.8	7.3		
03/26/03	5.15	1.48	0.518	0.229	4.8	7.3		
03/27/03	5.52	1.38	0.464	0.235	4.8	7.2		24
03/28/03	4.03	1.56	0.312	0.350	3.0	7.3		5
03/29/03	3.83	1.21	0.282	0.365	4.0	7.4		3
03/30/03	3.78	1.44	0.258	0.267	2.2	7.3		1
03/31/03	3.07	0.96	0.225	0.206	3.4	7.3	2	<1
04/01/03	3.52	1.42	0.136	0.230	2.0	7.4	18	1
04/02/03	4.80	1.43	0.173	0.230	6.6	7.5	21	<1
04/03/03	5.28	1.51	0.234	0.261	6.4	7.4	10	< 1
04/04/03	4.35	1.94	0.302	0.311	3.4	7.4	10	1
04/05/03	3.91	0.99	0.212	0.345	2.2	7.2		<1
04/06/03	4.28	1.63	0.160	0.295	2.6	7.4	4	<1
04/07/03	3.15	0.94	0.200	0.286	2.0	7.4	15	1
04/08/03	3.73	1.29	0.152	0.312	2.2	7.4	5	1
04/09/03	3.67	1.40	0.214	0.317	3.2	7.4	11	2

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
04/10/03	4.30	1.23	0.280	0.338	4.8	7.5	4	2
04/11/03	4.10	1.15	0.186	0.196	4.6	7.5	22	4
04/12/03	2.68	0.83	0.217	0.217	6.2	7.4		1
04/13/03	2.72	1.28	0.305	0.268	3.4	7.3	5	1
04/14/03	3.72	1.15	0.471	0.299	5.4	7.3	9	<1
04/15/03	3.87	1.40	0.259	0.303	7.8	7.3	9	3
04/16/03	4.93	1.69	0.203	0.363	6.4	7.5	18	5
04/17/03	5.53	2.16	0.224	0.454	8.8	7.4	8	10
04/18/03	3.00	1.60	0.288	0.516	6.0	7.5	7	5
04/19/03	3.33	1.37	0.333	0.523	4.0	7.3		5
04/20/03	3.53	1.73	0.293	0.463	5.0	7.4	4	4
04/21/03	4.48	1.62	0.388	0.525	7.4	7.5	23	18
04/22/03	4.30	1.97	0.363	0.500	8.8	7.5	12	11
04/23/03	4.00	1.41	0.325	0.104	5.0	7.5	10	6
04/24/03	5.13	2.40	0.396	0.658	5.8	7.4	34	13
04/25/03	4.75	1.61	0.399	0.194	6.0	7.4	57	18
04/26/03	3.73	1.60	0.330	0.374	4.8	7.4		34
04/27/03	3.90	1.96	0.387	0.351	3.2	7.3	14	8
04/28/03	4.25	1.57	0.299	0.428	5.6	7.4	10	21
04/29/03	4.42	1.54	0.375	0.443	5.8	7.5	32	12
04/30/03	4.33	1.71	0.398	0.277	6.2	7.6	48	54
05/01/03	4.43	1.44	0.337	0.242	6.8	7.4		34
05/02/03	7.15	1.73	0.290	0.158	8.2	7.4	800	370
05/03/03	6.00	1.42	0.256	0.083	5.2	7.1		456
05/04/03	5.47	1.62	0.338	0.066	4.0	7.4	64	40
05/05/03	4.28	1.55	0.451	0.319	5.0	7.4	20	38
05/06/03	4.72	1.83	0.781	0.368	6.4	7.2	57	18
05/07/03	5.20	1.61	0.289	0.035	3.6	7.3	80	30
05/08/03	3.08	1.16	0.309	0.034	6.0	7.3	68	24
05/09/03	3.17	1.27	0.229	0.363	6.6	7.3	252	37
05/10/03	3.35	3.45	0.302	0.358	15.4	7.3		237
05/11/03	3.40	0.97	0.212	0.275	5.8	7.3	114	71
05/12/03	4.85	1.58	0.257	0.265	7.4	7.6	40	54
05/13/03	3.02	1.01	0.290	0.282	9.0	7.5	58	30
05/14/03	3.27	1.08	0.319	0.315	5.0	7.4	2	27
05/15/03	5.27	1.46	0.742	0.350	12.0	7.5	30	12
05/16/03	3.92	1.20	0.263	0.294	7.2	7.4	11	10
05/17/03	3.38	0.59	0.199	0.476	3.4	7.4		9
05/18/03	3.52	0.96	0.242	0.521	4.8	7.6	32	25
05/19/03	4.63	0.92	0.315	0.336	5.6	7.6	21	44
05/20/03	3.30	1.03	0.236	0.312	3.4	7.4	11	9
05/21/03	3.49	0.64	0.207	0.260	4.8	7.4	14	25
05/22/03	4.23	0.76	0.191	0.224	4.2	7.6	77	16
05/23/03	3.82	0.98	0.126	0.346	3.0	7.5	41	55
05/24/03	3.37	0.30	0.158	0.354	4.2	7.5		33
05/25/03	3.52	0.68	0.180	0.342	3.4	7.5	25	15
05/26/03	3.18	0.86	0.148	0.308	4.4	7.5	14	11
05/27/03	2.63	0.95	0.214	0.294	5.0	7.6	25	17
05/28/03	3.45	0.90	0.169	0.206	6.2	7.7	11	25
05/29/03	3.15	1.15	0.165	0.592	5.8	7.6	23	17
05/30/03	3.38	1.22	0.123	0.390	5.8	7.7		26
05/31/03	3.05	1.06	0.096	0.338	4.0	7.6		

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
06/01/03	2.63	0.85	0.098	0.415	2.6	7.6		21
06/02/03	2.57	0.98	0.167	0.313	4.0	7.7	5	27
06/03/03	3.27	1.14	0.187	0.365	4.8	7.7	23	20
06/04/03	3.30	1.13	0.187	0.345	3.8	7.6	25	19
06/05/03	3.42	1.09	0.218	0.337	5.4	7.5	26	14
06/06/03	3.60	0.99	0.186	0.287	6.8	7.7	20	15
06/07/03	2.47	0.95	0.179	0.294	6.6	7.6	24	17
06/08/03	3.18	1.10	0.171	0.214	5.0	7.5		13
06/09/03	3.08	1.12	0.200	0.213	3.4	7.5	10	21
06/10/03	3.00	1.17	0.246	0.227	4.8	7.5	19	13
06/11/03	2.87	1.22	0.235	0.251	2.4	7.5	14	18
06/12/03	1.68	1.04	0.293	0.270	5.4	7.6	4	12
06/13/03	3.90	1.78	0.254	0.387	6.8	7.5	16	29
06/14/03	5.95	3.11	0.228	0.484	13.6	7.5	35	23
06/15/03	4.73	2.80	0.201	0.323	6.8	7.4		13
06/16/03	3.92	1.32	0.267	0.273	5.6	7.5	17	14
06/17/03	1.93	1.32	0.226	0.336	5.2	7.5	5	19
06/18/03	2.88	1.07	0.220	0.335	2.4	7.4	7	18
06/19/03	3.47	1.18	0.207	0.311	3.8	7.4	5	17
06/20/03	3.30	1.37	0.230	0.352	5.0	7.4	34	25
06/21/03	2.26	1.09	0.158	0.305	3.6	7.5	42	27
06/22/03	2.28	1.40	0.295	0.332	2.0	7.5		24
06/23/03	3.68	1.38	0.358	0.376	3.8	7.6	12	18
06/24/03	3.13	1.27	0.221	0.358	3.2	7.6	26	60
06/25/03	3.28	1.86	0.266	0.330	3.6	7.6	17	18
06/26/03	4.22	2.04	0.213	0.363	6.0	7.6	10	11
06/27/03	3.20	1.91	0.359	0.411	5.0	7.6	24	36
06/28/03	3.00	1.65	4.600	0.411	4.4	7.5	22	24
06/29/03	3.50	1.85	0.109	0.406	5.0	7.4		79
06/30/03	3.75	1.79	0.458	0.481	4.2	7.5	42	46
07/01/03	3.48	1.95	0.341	0.338	6.4	7.6	78	36
07/02/03	3.65	2.01	0.235	0.484	5.2	7.5	54	45
07/03/03	2.87	1.54	0.219	0.435	5.0	7.5	42	34
07/04/03	3.52	2.00	0.213	0.475	7.7	7.6	34	21
07/05/03	3.07	1.66	0.331	0.467	9.2	7.6	116	144
07/06/03	3.45	1.73	0.362	0.455	6.2	7.5		38
07/07/03	1.83	1.29	0.355	0.216	7.2	7.4	32	44
07/08/03	2.56	1.20	0.515	0.253	4.2	7.3	66	55
07/09/03						7.3	28	37
07/10/03	2.70	1.32	0.395	0.360	2.2	7.2	34	38
07/11/03	2.68	1.50	0.486	0.436	5.8	7.3	14	37
07/12/03	2.53	1.58	0.773	0.636	9.2	7.5	10	9
07/13/03	3.05	1.99	0.687	0.525	8.2	7.7		20
07/14/03	3.62	2.26	0.786	0.436	8.2	7.4	14	16
07/15/03	3.47	1.92	0.458	0.478	11.8	7.4	16	35
07/16/03	1.60	0.74	0.591	0.435	12.0	7.5	18	46
07/17/03	3.27	1.77	0.329	0.363	6.8	7.4	50	60
07/18/03	3.73	2.44	0.385	0.326	5.8	7.4	112	96
07/19/03	2.18	0.84	0.422	0.325	7.2	7.4	80	120
07/20/03	2.28	1.01	0.482	0.266	5.2	7.4		99
07/21/03	2.25	0.85	0.490	0.362	8.4	7.5	46	48
07/22/03	2.52	1.18	0.470	0.291	5.8	7.5	18	37

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
07/23/03	2.37	0.79	0.245	0.317	7.0	7.5	30	58
07/24/03	2.68	0.91	0.219	0.304	7.2	7.6	14	39
07/25/03	2.17	1.17	0.311	0.390	5.6	7.5	42	46
07/26/03	1.20	0.35	0.227	0.356	5.0	7.4	33	52
07/27/03	1.83	0.94	0.255	0.352	7.2	7.5		53
07/28/03	1.78	0.92	0.256	0.313	6.4	7.5	20	64
07/29/03	2.18	0.91	0.270	0.261	5.8	7.5	4	47
07/30/03	1.93	1.17	0.224	0.313	3.0	7.3	27	39
07/31/03	2.01	1.04	0.178	0.346	4.8	7.4	14	51
08/01/03	2.02	1.15	0.292	0.257	4.4	7.4	25	47
08/02/03	1.38	0.77	0.229	0.254	8.0	7.3	102	128
08/03/03	1.82	1.09	0.259	0.247	4.8	7.3		85
08/04/03	1.88	0.98	0.407	0.320	6.8	7.4	50	52
08/05/03	1.67	0.85	0.218	0.267	6.8	7.2	42	46
08/06/03	1.77	1.23	0.186	0.324	4.6	7.3	7	53
08/07/03	2.22	1.47	0.174	0.331	7.2	7.3	17	58
08/08/03	2.95	1.55	0.279	0.366	5.6	7.3	80	55
08/09/03	2.23	1.08	0.257	0.305	4.6	7.4	72	88
08/10/03	2.15	1.21	0.236	0.321	5.6	7.4		84
08/11/03	2.60	0.70	0.305	0.258	4.2	7.4	30	120
08/12/03	3.02	1.01	0.323	0.255	7.4	7.5	25	66
08/13/03	2.58	1.25	0.226	0.330	4.6	7.6	23	129
08/14/03	3.83	2.22	0.277	0.289	3.8	7.5	18	116
08/15/03	2.77	2.07	0.309	0.325	3.4	7.5	128	69
08/16/03	1.93	1.00	0.286	0.260	2.6	7.5	84	61
08/17/03	4.25	3.26	0.215	0.257	4.4	7.6		256
08/18/03	1.93	1.24	0.328	0.206	9.6	7.7	31	77
08/19/03	2.88	1.75	0.526	0.280	8.0	7.4	45	56
08/20/03	2.33	1.65	0.631	0.400	6.6	7.4	45	47
08/21/03	3.43	1.43	0.605	0.414	4.8	7.3	45	41
08/22/03	3.52	1.78	0.472	0.453	8.2	7.5	77	83
08/23/03	1.88	0.82	0.384	0.825	6.2	7.6	106	80
08/24/03	1.25	0.98	0.452	0.420	7.4	7.5		60
08/25/03	2.73	1.00	0.365	0.763	5.2	7.5	63	68
08/26/03	3.52	1.44	0.460	0.484	7.2	7.5	43	34
08/27/03	3.63	1.33	0.361	0.446	5.0	7.5	110	82
08/28/03	2.02	1.32	0.333	0.468	5.2	7.4	58	81
08/29/03			0.414	0.499	6.2	7.5	70	56
08/29/03	3.54	1.61	0.381	0.365	7.4	7.5	46	68
08/31/03	2.51	1.93	0.464	0.273	8.0	7.6		58
09/01/03	2.58	1.24	0.400	0.313	8.8	7.4	88	98
09/02/03	2.62	1.41	0.350	0.346	6.8	7.4	32	68
09/03/03	2.92	1.39	0.386	0.304	5.4	7.3	56	46
09/04/03	2.84	1.70	0.395	0.469	6.4	7.4	20	33
09/05/03	2.92	2.28	0.243	0.584	7.2	7.4	102	69
09/06/03	2.57	1.20	0.307	0.481	5.8	7.4	16	50
09/07/03	2.48	1.67	0.279	0.305	4.6	7.4		55
09/08/03	1.98	1.46	0.263	0.231	4.4	7.4	15	47
09/09/03	2.18	1.22	0.301	0.200	5.6	7.4	17	44
09/10/03	2.12	1.81	0.280	0.727	5.2	7.5	8	32
09/11/03	2.92	1.53	0.277	0.365	5.8	7.5	7	37
09/12/03	2.37	1.26	0.339	0.389	6.0	7.4	32	39

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
09/13/03	1.91	1.09	0.363	0.357	5.0	7.5	38	27
09/14/03	2.68	1.42	0.376	0.327	4.4	7.6		20
09/15/03	2.03	1.12	0.322	0.166	7.4	7.4	6	43
09/16/03	2.25	1.49	0.291	0.096	5.4	7.4	12	45
09/17/03	2.58	1.70	0.303	0.179	3.8	7.5	10	24
09/18/03	2.73	1.53	0.271	0.112	5.4	7.5	15	35
09/19/03	2.80	1.40	0.389	0.215	7.8	7.5	16	22
09/20/03	2.02	1.16	0.473	0.052	3.8	7.5	16	24
09/21/03	2.72	1.65	0.435	0.243	6.8	7.4		30
09/22/03	2.22	1.26	0.392	0.349	6.8	7.4	12	23
09/23/03	2.63	1.56	0.449	0.336	6.0	7.4	22	21
09/24/03	2.97	1.73	0.328	0.334	6.0	7.4	6	31
09/25/03	3.10	1.78	0.276	0.348	7.4	7.5	15	21
09/26/03	3.40	1.93	0.224	0.410	7.8	7.3	56	37
09/27/03	2.18	1.24	0.196	0.542	8.6	7.4	58	45
09/28/03	2.32	1.32	0.252	0.417	7.0	7.3		35
09/29/03	2.22	1.22	0.198	0.479	6.0	7.4	10	30
09/30/03	2.13	1.42	0.246	0.406	6.4	7.4	6	29
10/01/03	2.13	1.73	0.227	0.367	4.8	7.4	9	13
10/02/03	1.80	1.18	0.229	0.394	5.0	7.5	6	17
10/03/03	1.98	1.31	0.302	0.375	6.6	7.5	20	29
10/04/03	1.67	1.08	0.223	0.336	4.8	7.5	11	67
10/05/03	1.92	1.32	0.248	0.307	4.2	7.5		50
10/06/03	2.50	1.54	0.232	0.343	4.0	7.5	32	71
10/07/03	2.32	1.56	0.199	0.304	3.8	7.5	16	83
10/08/03	2.92	1.43	0.392	0.312	2.0	7.5	14	86
10/09/03	3.62	2.01	0.374	0.354	4.0	7.5	9	111
10/10/03	3.22	1.99	0.328	0.388	5.6	7.5	110	117
10/11/03	2.17	1.51	0.247	0.377	6.2	7.4	98	78
10/12/03	2.83	2.08	0.386	0.330	5.4	7.4		64
10/13/03	2.18	1.62	0.308	0.412	5.4	7.5	22	84
10/14/03	2.48	1.79	0.270	0.349	5.4	7.6	30	51
10/15/03	2.58	1.92	0.297	0.340	4.8	7.5	41	18
10/16/03	2.90	1.89	0.065	0.288	4.0	7.4	28	39
10/17/03	2.43	2.32	0.259	0.284	5.2	7.4	52	48
10/18/03	2.02	1.48	0.214	0.244	3.4	7.3	51	110
10/19/03	2.58	1.74	0.374	0.271	4.8	7.5		65
10/20/03			0.318	0.314	4.4	7.5	20	105
10/21/03	2.55	1.67	0.302	0.309	5.4	7.5	18	90
10/22/03	2.13	1.73	0.283	0.331	5.4	7.5	38	51
10/23/03	2.85	1.69	0.288	0.317	5.2	7.6	10	58
10/24/03	2.07	1.53	0.311	0.256	4.6	7.2	17	46
10/25/03	2.15	1.30	0.317	0.268	4.4	7.5	66	54
10/26/03	2.55	1.52	0.304	0.503	4.6	7.5		54
10/27/03	2.40	1.28	0.265	0.305	6.0	7.5	11	60
10/28/03	2.83	1.67	0.283	0.286	3.0	7.5	15	46
10/29/03	2.88	1.87	0.231	0.298	4.4	7.6	43	51
10/30/03	3.05	1.79	0.231	0.303	2.8	7.5	13	35
10/31/03	3.07	1.75	0.303	0.282	5.2	7.4	34	31
11/01/03	2.85	1.74	0.444	0.376	5.0	7.6		
11/02/03	3.75	2.02	0.957	0.374	5.2	7.6		
11/03/03	3.90	1.41	0.835	0.296	5.6	7.5		

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
11/04/03	3.18	1.45	0.834	0.274	6.4	7.5		
11/05/03	4.40	2.07	0.369	0.304	4.2	7.6		
11/06/03	3.28	1.37	0.407	0.278	4.0	7.6		
11/07/03	4.20	1.98	0.302	0.388	2.6	7.5		
11/08/03	2.72	1.39	0.294	0.358	6.6	7.5		
11/09/03	2.57	1.43	0.249	0.409	3.6	7.8		
11/10/03	3.02	1.44	0.270	0.347	1.8	7.5		
11/11/03	3.43	1.59	0.316	0.307	6.4	7.5		
11/12/03	5.72	2.52	0.305	0.430	3.8	7.4		
11/13/03	4.10	1.47	0.332	0.487	9.0	7.7		
11/14/03	4.23	2.79	0.337	0.526	4.4	7.8		
11/15/03	3.40	2.03	0.217	0.490	5.2	7.6		
11/16/03	2.78	1.87	0.197	0.407	3.8	7.7		
11/17/03	3.80	1.79	0.271	0.394	4.6	7.4		
11/18/03	3.13	1.88	0.348	0.332	4.4	7.5		
11/19/03	3.30	1.83	0.326	0.310	4.8	7.5		
11/20/03	3.35	1.43	0.267	0.345	5.0	7.5		
11/21/03	3.73	1.99	0.455	0.483	6.6	7.4		
11/22/03	4.72	1.93	0.532	0.465	9.4	7.4		
11/23/03	2.80	1.72	0.373	0.341	4.0	7.4		
11/24/03	3.62	1.45	0.368	0.417	7.6	7.6		
11/25/03	2.72	1.58	0.271	0.235	2.8	7.6		
11/26/03	3.07	1.91	0.269	0.357	2.6	7.4		
11/27/03	1.92	1.91	0.298	0.304	4.4	7.4		
11/28/03	2.00	1.82	0.315	0.307	5.0	7.5		
11/29/03	1.80	1.08	0.247	0.263	5.2	7.6		
11/30/03	1.70	1.02	0.205	0.266	4.4	7.1		
12/01/03	1.63	1.01	0.173	0.304	5.2	7.7		
12/02/03	1.27	0.46	0.243	0.233	5.2	7.7		
12/03/03	1.98	1.20	0.272	0.235	5.0	7.5		
12/04/03	1.78	0.72	0.176	0.146	6.4	7.6		
12/05/03	2.03	1.21	0.283	0.185	3.8	7.6		
12/06/03	2.23	1.10	0.264	0.244	5.6	7.5		
12/07/03	2.32	1.04	0.244	0.166	3.4	7.2		
12/08/03	1.87	0.78	0.137	0.454	6.0	7.4		
12/09/03	2.63	0.95	0.175	0.367	5.2	7.4		
12/10/03	2.50	1.22	0.131	0.288	2.2	7.4		
12/11/03	2.55	1.63	0.145	0.274	5.6	7.5		
12/12/03	3.03	1.66	0.175	0.360	3.4	7.6		
12/13/03	1.62	0.72	0.122	0.351	2.4	7.1		
12/14/03	1.85	1.07	0.135	0.392	2.6	7.7		
12/15/03	3.33	1.55	0.140	0.282	3.4	7.5		
12/16/03	2.55	1.35	0.211	0.182	4.2	7.5		
12/17/03	2.03	1.22	0.218	0.230	3.8	7.6		
12/18/03	1.87	1.13	0.155	0.215	2.2	7.8		
12/19/03	2.58	1.60	0.186	0.189	4.4	7.6		
12/20/03	2.26	1.00	0.209	0.231	3.6	7.6		
12/21/03	2.28	1.14	0.218	0.240	4.2	7.6		
12/22/03	2.80	1.21	0.349	0.283	4.0	7.6		
12/23/03	2.83	1.12	0.207	0.318	2.8	7.5		
12/24/03	3.42	2.25	0.221	0.370	5.6	7.3		
12/25/03	3.20	1.17	0.115	0.220	4.0	7.4		

WWTP - Pond 3 Effluent

Date	BOD (mg/L)	CBOD (mg/L)	NH3-N (mg/L)	TP (mg/L)	TSS (mg/L)	pH	ECOLI (col./100mL)	FCOLI (col./100mL)
12/26/03	2.55	0.84	0.134	0.303	2.2	7.4		
12/27/03	2.20	1.00	0.150	0.338	2.6	7.4		
12/28/03	2.48	1.16	0.164	0.420	2.8	8.4		
12/29/03	3.12	1.06	0.295	0.506	3.2	7.5		
12/30/03	2.60	1.11	0.241	0.528	3.8	7.4		
12/31/03	2.37	0.85	0.175	0.511	4.2	7.5		

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
01/07/02	AG	0.01	01/09/02	AG	<0.002
01/14/02	AG	0.01	01/16/02	AG	<0.002
02/11/02	AG	0.0065	02/13/02	AG	<0.002
02/25/02	AG	<0.002	02/27/02	AG	<0.002
03/12/02	AG	0.0075	03/14/02	AG	<0.002
03/18/02	AG	0.0065	03/20/02	AG	<0.002
04/01/02	AG	0.003	04/03/02	AG	<0.002
04/08/02	AG	0.018	04/10/02	AG	<0.002
05/13/02	AG	0.007	05/15/02	AG	<0.0020
05/20/02	AG	0.0025	05/22/02	AG	<0.0020
06/11/02	AG	0.014	06/12/02	AG	<0.0005
06/17/02	AG	0.004	06/19/02	AG	<0.0005
07/16/02	AG	0.024	07/18/02	AG	0.0006
07/22/02	AG	0.011	07/24/02	AG	0.0035
08/14/02	AG	0.0036	08/07/02	AG	0.0009
09/17/02	AG	0.021	08/15/02	AG	0.0019
09/24/02	AG	0.0029	09/25/02	AG	<0.0005
10/14/02	AG	0.008	10/16/02	AG	<0.0005
10/28/02	AG	0.01	10/30/02	AG	0.0009
11/04/02	AG	0.016	11/06/02	AG	<0.0005
11/12/02	AG	0.022	11/14/02	AG	<0.0005
12/16/02	AG	0.021	12/18/02	AG	0.0007
12/17/02	AG	0.0069	12/19/02	AG	<0.0005
01/07/03	AG	0.026	01/08/03	AG	0.0016
01/13/03	AG	0.0087	01/15/03	AG	0.0026
02/10/03	AG	0.0027	02/12/03	AG	<0.0005
02/17/03	AG	0.0042	02/19/03	AG	0.0013
03/10/03	AG	0.0056	03/12/03	AG	0.0016
03/17/03	AG	0.0071	03/19/03	AG	0.0005
04/07/03	AG	0.0041	04/09/03	AG	0.003
04/14/03	AG	0.0037	04/16/03	AG	0.01
05/05/03	AG	0.0042	05/07/03	AG	<0.0005
05/13/03	AG	0.001	05/14/03	AG	<0.0005
06/02/03	AG	0.0061	06/04/03	AG	0.0016
06/09/03	AG	0.0047	06/11/03	AG	<0.0005
07/14/03	AG	0.0014	07/17/03	AG	0.0005
07/22/03	AG	0.0064	07/24/03	AG	0.0016
08/12/03	AG	0.0035	08/13/03	AG	<0.0005
08/18/03	AG	0.004	08/20/03	AG	0.0014
09/08/03	AG	0.0021	09/11/03	AG	<0.0005
09/15/03	AG	0.0017	09/17/03	AG	0.002
10/06/03	AG	0.0045	10/08/03	AG	<0.0005
10/13/03	AG	0.0013	10/15/03	AG	<0.0005
11/03/03	AG	0.0017	11/05/03	AG	<0.0005
11/17/03	AG	0.0017	11/19/03		<0.0005
12/01/03	AG	0.0005	12/03/03	AG	<0.0005
12/08/03	AG	0.005	12/10/03	AG	<0.0005
01/07/02	CD	0.0007	01/09/02	CD	0.0002
01/14/02	CD	0.0006	01/16/02	CD	0.0005
02/11/02	CD	0.0009	02/13/02	CD	0.0014
02/25/02	CD	0.0012	02/27/02	CD	0.0007
03/12/02	CD	0.0025	03/14/02	CD	<0.002
03/18/02	CD	<0.002	03/20/02	CD	<0.002

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
04/01/02	CD	<0.002	04/03/02	CD	<0.002
04/08/02	CD	0.002	04/10/02	CD	0.0025
05/13/02	CD	<0.0020	05/15/02	CD	<0.0020
05/20/02	CD	<0.0020	05/22/02	CD	<0.0020
06/11/02	CD	0.0005	06/12/02	CD	<0.0005
06/17/02	CD	0.001	06/19/02	CD	<0.0005
07/16/02	CD	0.002	07/18/02	CD	<0.0005
07/22/02	CD	0.0005	07/24/02	CD	<0.0005
08/14/02	CD	< 0.0005	08/07/02	CD	<0.0005
09/17/02	CD	<0.0005	08/15/02	CD	< 0.0005
09/24/02	CD	<0.0005	09/25/02	CD	<0.0005
10/14/02	CD	0.0005	10/16/02	CD	<0.0005
10/28/02	CD	<0.0005	10/30/02	CD	<0.0005
11/04/02	CD	<0.0005	11/06/02	CD	<0.0005
11/12/02	CD	<0.0005	11/14/02	CD	<0.0005
12/16/02	CD	0.0011	12/18/02	CD	<0.0005
12/17/02	CD	<0.0005	12/19/02	CD	<0.0005
01/07/03	CD	<0.0005	01/08/03	CD	<0.0005
01/13/03	CD	<0.0005	01/15/03	CD	<0.0005
02/10/03	CD	<0.0005	02/12/03	CD	<0.0005
02/17/03	CD	<0.0005	02/19/03	CD	<0.0005
03/10/03	CD	0.0016	03/12/03	CD	<0.0005
03/17/03	CD	0.0006	03/19/03	CD	<0.0005
04/07/03	CD	0.0002	04/09/03	CD	<0.0002
04/14/03	CD	0.0004	04/16/03	CD	<0.0002
05/05/03	CD	<0.0002	05/07/03	CD	<0.0002
05/13/03	CD	<0.0002	05/14/03	CD	0.0009
06/02/03	CD	0.0003	06/04/03	CD	<0.0002
06/09/03	CD	0.0002	06/11/03	CD	<0.0002
07/14/03	CD	<0.0002	07/17/03	CD	<0.0002
07/22/03	CD	<0.0002	07/24/03	CD	<0.0002
08/12/03	CD	0.0003	08/13/03	CD	<0.0002
08/18/03	CD	0.0004	08/20/03	CD	<0.0002
09/08/03	CD	0.0002	09/11/03	CD	<0.0002
09/15/03	CD	0.0009	09/17/03	CD	0.0005
10/06/03	CD	0.001	10/08/03	CD	<0.0002
10/13/03	CD	0.0015	10/15/03	CD	<0.0002
11/03/03	CD	0.0002	11/05/03	CD	<0.0002
11/17/03	CD	0.0004	11/19/03	CD	<0.0002
12/01/03	CD	0.0002	12/03/03	CD	<0.0002
12/08/03	CD	0.0002	12/10/03	CD	<0.0002
01/07/02	CN	0.002	01/09/02	CN	0.002
01/14/02	CN	0.002	01/16/02	CN	0.002
02/11/02	CN	0.002	02/13/02	CN	0.002
02/25/02	CN	0.002	02/27/02	CN	0.002
03/12/02	CN	0.0001	03/14/02	CN	0.0004
03/18/02	CN	0.0007	03/20/02	CN	0.0005
04/01/02	CN	0.0006	04/03/02	CN	0.0008
04/08/02	CN	0.0007	04/10/02	CN	0.0013
05/13/02	CN	0.0008	05/15/02	CN	0.0013
05/20/02	CN	0.0008	05/22/02	CN	0.0017
06/11/02	CN	0.0015	06/12/02	CN	0.0016
06/17/02	CN	0.0003	06/19/02	CN	0.0011

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
07/16/02	CN	0.0095	07/18/02	CN	0.0018
07/22/02	CN	0.0014	07/24/02	CN	0.0027
08/14/02	CN	0.0008	08/07/02	CN	0.0027
09/17/02	CN	0.00034	08/15/02	CN	0.0012
09/24/02	CN	0.00054	09/25/02	CN	0.000675
10/14/02	CN	0.00163	10/16/02	CN	0.00129
10/28/02	CN	0.0014	10/30/02	CN	0.00132
11/04/02	CN	0.0008	11/06/02	CN	0.0013
11/12/02	CN	0.0014	11/14/02	CN	0.0019
12/16/02	CN	0.00063	12/18/02	CN	0.00052
12/17/02	CN	0.0013	12/19/02	CN	0.00054
01/07/03	CN	0.00064	01/08/03	CN	0.00093
01/13/03	CN	0.0012	01/15/03	CN	0.00073
02/10/03	CN	0.0011	02/12/03	CN	0.00061
02/17/03	CN	0.00069	02/19/03	CN	0.00024
03/10/03	CN	< 0.0002	03/12/03	CN	0.0003
03/17/03	CN	0.0006	03/19/03	CN	0.0007
04/07/03	CN	0.0008	04/09/03	CN	< 0.002
04/14/03	CN	0.003	04/16/03	CN	0.003
05/05/03	CN	0.0011	05/07/03	CN	0.00085
05/13/03	CN	0.00076	05/14/03	CN	0.0011
06/02/03	CN	0.001	06/04/03	CN	0.001
06/09/03	CN	0.003	06/11/03	CN	0.002
07/14/03	CN	0.0012	07/17/03	CN	0.0009
07/22/03	CN	0.0004	07/24/03	CN	0.0017
08/12/03	CN	0.001	08/13/03	CN	0.00012
08/18/03	CN	0.0005	08/20/03	CN	0.001
09/08/03	CN	0.0007	09/11/03	CN	0.0008
09/15/03	CN	0.0006	09/17/03	CN	0.0007
10/06/03	CN	0.0004	10/08/03	CN	0.0015
10/13/03	CN	0.001	10/15/03	CN	0.001
11/03/03	CN	<0.0002	11/05/03	CN	0.0007
11/17/03	CN	0.0036	11/19/03	CN	0.0021
12/01/03	CN	0.00036	12/03/03	CN	0.00061
12/08/03	CN	0.00072	12/10/03	CN	0.00016
01/07/02	CR	0.011	01/09/02	CR	0.002
01/14/02	CR	0.014	01/16/02	CR	0.002
02/11/02	CR	0.014	02/13/02	CR	0.002
02/25/02	CR	0.002	02/27/02	CR	0.002
03/12/02	CR	0.016	03/14/02	CR	<0.002
03/18/02	CR	0.02	03/20/02	CR	<0.002
04/01/02	CR	0.011	04/03/02	CR	<0.002
04/08/02	CR	0.014	04/10/02	CR	<0.002
05/13/02	CR	0.012	05/15/02	CR	<0.0020
05/20/02	CR	0.009	05/22/02	CR	<0.0020
06/11/02	CR	0.01	06/12/02	CR	0.0015
06/17/02	CR	0.011	06/19/02	CR	0.0025
07/16/02	CR	0.016	07/18/02	CR	<0.0005
07/22/02	CR	0.014	07/24/02	CR	0.0012
08/14/02	CR	0.011	08/07/02	CR	0.035
09/17/02	CR	0.0072	08/15/02	CR	0.0012
09/24/02	CR	0.0037	09/25/02	CR	0.0016
10/14/02	CR	0.024	10/16/02	CR	0.0018

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
10/28/02	CR	0.0099	10/30/02	CR	0.0013
11/04/02	CR	0.005	11/06/02	CR	0.003
11/12/02	CR	0.0089	11/14/02	CR	0.0022
12/16/02	CR	0.028	12/18/02	CR	0.0023
12/17/02	CR	0.015	12/19/02	CR	0.0016
01/07/03	CR	0.0078	01/08/03	CR	<0.0005
01/13/03	CR	0.01	01/15/03	CR	0.0007
02/10/03	CR	0.0051	02/12/03	CR	0.0006
02/17/03	CR	0.0095	02/19/03	CR	0.002
03/10/03	CR	0.0089	03/12/03	CR	0.0052
03/17/03	CR	0.012	03/19/03	CR	0.0064
04/07/03	CR	0.0024	04/09/03	CR	0.0012
04/14/03	CR	0.0059	04/16/03	CR	0.0018
05/05/03	CR	0.0085	05/07/03	CR	0.0026
05/13/03	CR	0.003	05/14/03	CR	0.0032
06/02/03	CR	0.0068	06/04/03	CR	0.0026
06/09/03	CR	0.0055	06/11/03	CR	0.0029
07/14/03	CR	0.0043	07/17/03	CR	0.0016
07/22/03	CR	0.0031	07/24/03	CR	0.0019
08/12/03	CR	0.0023	08/13/03	CR	0.0015
08/18/03	CR	0.0027	08/20/03	CR	0.0011
09/08/03	CR	0.0028	09/11/03	CR	0.01
09/15/03	CR	0.0027	09/17/03	CR	0.005
10/06/03	CR	0.0075	10/08/03	CR	0.0007
10/13/03	CR	0.0057	10/15/03	CR	0.0006
11/03/03	CR	0.0055	11/05/03	CR	0.0008
11/17/03	CR	0.0023	11/19/03	CR	0.0006
12/01/03	CR	0.0016	12/03/03	CR	0.0011
12/08/03	CR	0.0031	12/10/03	CR	0.0004
01/07/02	CU	0.1	01/09/02	CU	0.016
01/14/02	CU	0.098	01/16/02	CU	0.012
02/11/02	CU	0.082	02/13/02	CU	0.013
02/25/02	CU	0.026	02/27/02	CU	0.014
03/12/02	CU	0.09	03/14/02	CU	0.012
03/18/02	CU	0.089	03/20/02	CU	0.01
04/01/02	CU	0.06	04/03/02	CU	0.012
04/08/02	CU	0.16	04/10/02	CU	0.014
05/13/02	CU	0.066	05/15/02	CU	0.013
05/20/02	CU	0.038	05/22/02	CU	0.011
06/11/02	CU	0.051	06/12/02	CU	0.0095
06/17/02	CU	0.066	06/19/02	CU	0.01
07/16/02	CU	0.059	07/18/02	CU	0.0057
07/22/02	CU	0.084	07/24/02	CU	0.015
08/14/02	CU	0.069	08/07/02	CU	0.0084
09/17/02	CU	0.064	08/15/02	CU	0.01
09/24/02	CU	0.065	09/25/02	CU	0.0037
10/14/02	CU	0.073	10/16/02	CU	0.004
10/28/02	CU	0.089	10/30/02	CU	0.0045
11/04/02	CU	0.07	11/06/02	CU	0.0033
11/12/02	CU	0.054	11/14/02	CU	0.0043
12/16/02	CU	0.12	12/18/02	CU	0.0025
12/17/02	CU	0.064	12/19/02	CU	0.0028
01/07/03	CU	0.042	01/08/03	CU	0.0017

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
01/13/03	CU	0.052	01/15/03	CU	0.0022
02/10/03	CU	0.058	02/12/03	CU	0.0024
02/17/03	CU	0.076	02/19/03	CU	0.004
03/10/03	CU	0.064	03/12/03	CU	0.0038
03/17/03	CU	0.091	03/19/03	CU	0.0052
04/07/03	CU	0.036	04/09/03	CU	0.007
04/14/03	CU	0.052	04/16/03	CU	0.0068
05/05/03	CU	0.076	05/07/03	CU	0.019
05/13/03	CU	0.031	05/14/03	CU	0.0051
06/02/03	CU	0.07	06/04/03	CU	0.0038
06/09/03	CU	0.054	06/11/03	CU	0.0033
07/14/03	CU	0.027	07/17/03	CU	0.0061
07/22/03	CU	0.03	07/24/03	CU	0.0065
08/12/03	CU	0.035	08/13/03	CU	0.0047
08/18/03	CU	0.041	08/20/03	CU	0.004
09/08/03	CU	0.029	09/11/03	CU	0.0042
09/15/03	CU	0.032	09/17/03	CU	0.004
10/06/03	CU	0.034	10/08/03	CU	0.0037
10/13/03	CU	0.06	10/15/03	CU	0.0038
11/03/03	CU	0.026	11/05/03	CU	0.0024
11/17/03	CU	0.031	11/19/03	CU	0.0022
12/01/03	CU	0.038	12/03/03	CU	0.0041
12/08/03	CU	0.039	12/10/03	CU	0.0021
01/07/02	HG	0.00023	01/09/02	HG	0.000035
01/14/02	HG	0.00018	01/16/02	HG	0.000016
02/11/02	HG	0.00015	02/13/02	HG	0.000071
02/25/02	HG	0.00023	02/27/02	HG	0.000016
03/12/02	HG	0.00018	03/14/02	HG	0.000073
03/18/02	HG	0.00013	03/20/02	HG	<0.000016
04/01/02	HG	0.000098	04/03/02	HG	<0.000016
04/08/02	HG	0.00013	04/10/02	HG	<0.000016
05/13/02	HG	0.00011	05/15/02	HG	<0.000016
05/20/02	HG	0.00002	05/22/02	HG	<0.000016
06/11/02	HG	0.0002	06/12/02	HG	0.00007
06/17/02	HG	0.0001	06/19/02	HG	0.00003
07/16/02	HG	0.00018	07/18/02	HG	<0.000016
07/22/02	HG	0.0002	07/24/02	HG	0.00002
08/14/02	HG	0.00021	08/07/02	HG	0.000018
09/17/02	HG	0.0019	08/15/02	HG	0.000022
09/24/02	HG	0.00023	09/25/02	HG	0.000026
10/14/02	HG	0.00054	10/16/02	HG	0.000078
10/28/02	HG	0.00029	10/30/02	HG	0.00002
11/04/02	HG	0.00029	11/06/02	HG	0.000024
11/12/02	HG	0.00018	11/14/02	HG	0.000017
12/16/02	HG	0.00029	12/18/02	HG	0.000054
12/17/02	HG	0.00015	12/19/02	HG	0.000041
01/07/03	HG	0.00013	01/08/03	HG	0.000017
01/13/03	HG	0.000043	01/15/03	HG	0.0000085
02/10/03	HG	0.000038	02/12/03	HG	0.0000062
02/17/03	HG	0.000059	02/19/03	HG	0.000026
03/10/03	HG	0.000072	03/12/03	HG	<0.000005
03/17/03	HG	0.000061	03/19/03	HG	<0.000005
04/07/03	HG	0.000084	04/09/03	HG	<0.000007

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
04/14/03	HG	0.000046	04/16/03	HG	<0.000007
05/05/03	HG	0.00027	05/07/03	HG	0.000017
05/13/03	HG	0.00013	05/14/03	HG	0.000017
06/02/03	HG	0.0002	06/04/03	HG	<0.000007
06/09/03	HG	0.00054	06/11/03	HG	0.000024
07/14/03	HG	0.000059	07/17/03	HG	<0.000007
07/22/03	HG	0.00013	07/24/03	HG	0.000088
08/12/03	HG	0.000041	08/13/03	HG	0.0000096
08/18/03	HG	0.0001	08/20/03	HG	<0.000007
09/08/03	HG	0.000027	09/11/03	HG	<0.000007
09/15/03	HG	0.000031	09/17/03	HG	<0.000007
10/06/03	HG	0.000039	10/08/03	HG	0.0000095
10/13/03	HG	0.00013	10/15/03	HG	0.0000086
11/03/03	HG	0.00012	11/05/03	HG	<0.000007
11/17/03	HG	0.00015	11/19/03	HG	<0.000007
12/01/03	HG	0.00014	12/03/03	HG	<0.000007
12/08/03	HG	0.000065	12/10/03	HG	0.0000085
01/07/02	NI	0.018	01/09/02	NI	0.007
01/14/02	NI	0.025	01/16/02	NI	0.012
02/11/02	NI	0.022	02/13/02	NI	0.019
02/25/02	NI	0.014	02/27/02	NI	0.01
03/12/02	NI	0.024	03/14/02	NI	0.015
03/18/02	NI	0.02	03/20/02	NI	0.014
04/01/02	NI	0.024	04/03/02	NI	0.014
04/08/02	NI	0.02	04/10/02	NI	0.024
05/13/02	NI	0.014	05/15/02	NI	0.007
05/20/02	NI	0.012	05/22/02	NI	0.0095
06/11/02	NI	0.026	06/12/02	NI	0.049
06/17/02	NI	0.016	06/19/02	NI	0.021
07/16/02	NI	0.022	07/18/02	NI	0.012
07/22/02	NI	0.025	07/24/02	NI	0.006
08/14/02	NI	0.025	08/07/02	NI	0.015
09/17/02	NI	0.02	08/15/02	NI	0.0035
09/24/02	NI	0.012	09/25/02	NI	0.0088
10/14/02	NI	0.038	10/16/02	NI	0.024
10/28/02	NI	0.035	10/30/02	NI	0.013
11/04/02	NI	0.013	11/06/02	NI	0.014
11/12/02	NI	0.025	11/14/02	NI	0.019
12/16/02	NI	0.089	12/18/02	NI	0.02
12/17/02	NI	0.078	12/19/02	NI	0.028
01/07/03	NI	0.054	01/08/03	NI	0.015
01/13/03	NI	0.04	01/15/03	NI	0.018
02/10/03	NI	0.013	02/12/03	NI	0.013
02/17/03	NI	0.015	02/19/03	NI	0.01
03/10/03	NI	0.018	03/12/03	NI	0.012
03/17/03	NI	0.014	03/19/03	NI	0.0096
04/07/03	NI	0.0051	04/09/03	NI	0.0058
04/14/03	NI	0.02	04/16/03	NI	0.0091
05/05/03	NI	0.016	05/07/03	NI	0.0065
05/13/03	NI	0.0062	05/14/03	NI	0.0062
06/02/03	NI	0.015	06/04/03	NI	0.0083
06/09/03	NI	0.01	06/11/03	NI	0.0091
07/14/03	NI	0.0082	07/17/03	NI	0.0077

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	**Parameter**	**Value**	**Date**	**Parameter**	**Value**
07/22/03	NI	0.0099	07/24/03	NI	0.0064
08/12/03	NI	0.0098	08/13/03	NI	0.0081
08/18/03	NI	0.012	08/20/03	NI	0.0082
09/08/03	NI	0.0093	09/11/03	NI	0.0068
09/15/03	NI	0.013	09/17/03	NI	0.007
10/06/03	NI	0.0095	10/08/03	NI	0.0063
10/13/03	NI	0.013	10/15/03	NI	0.0087
11/03/03	NI	0.0068	11/05/03	NI	0.009
11/17/03	NI	0.0066	11/19/03	NI	0.0066
12/01/03	NI	0.0088	12/03/03	NI	0.0068
12/08/03	NI	0.016	12/10/03	NI	0.01
01/07/02	PB	0.01	01/09/02	PB	0.022
01/14/02	PB	0.0065	01/16/02	PB	0.002
02/11/02	PB	0.008	02/13/02	PB	0.002
02/25/02	PB	0.002	02/27/02	PB	0.002
03/12/02	PB	0.011	03/14/02	PB	0.015
03/18/02	PB	0.0095	03/20/02	PB	<0.002
04/01/02	PB	0.021	04/03/02	PB	0.014
04/08/02	PB	0.058	04/10/02	PB	0.018
05/13/02	PB	0.02	05/15/02	PB	0.007
05/20/02	PB	0.01	05/22/02	PB	0.0055
06/11/02	PB	0.011	06/12/02	PB	0.006
06/17/02	PB	0.014	06/19/02	PB	0.0045
07/16/02	PB	0.014	07/18/02	PB	<0.0005
07/22/02	PB	0.016	07/24/02	PB	0.0006
08/14/02	PB	0.015	08/07/02	PB	0.0022
09/17/02	PB	0.0056	08/15/02	PB	0.0009
09/24/02	PB	0.0029	09/25/02	PB	<0.001
10/14/02	PB	0.0061	10/16/02	PB	<0.001
10/28/02	PB	0.0042	10/30/02	PB	0.001
11/04/02	PB	0.0044	11/06/02	PB	<0.001
11/12/02	PB	0.0055	11/14/02	PB	<0.001
12/16/02	PB	<0.001	12/18/02	PB	<0.001
12/17/02	PB	<0.001	12/19/02	PB	<0.001
01/07/03	PB	0.0029	01/08/03	PB	<0.001
01/13/03	PB	0.0032	01/15/03	PB	<0.001
02/10/03	PB	0.0015	02/12/03	PB	<0.001
02/17/03	PB	0.004	02/19/03	PB	0.001
03/10/03	PB	0.0065	03/12/03	PB	<0.001
03/17/03	PB	0.0079	03/19/03	PB	0.001
04/07/03	PB	0.0086	04/09/03	PB	<0.001
04/14/03	PB	0.0034	04/16/03	PB	<0.001
05/05/03	PB	0.011	05/07/03	PB	0.0027
05/13/03	PB	0.0051	05/14/03	PB	<0.001
06/02/03	PB	0.0068	06/04/03	PB	<0.001
06/09/03	PB	0.0036	06/11/03	PB	<0.001
07/14/03	PB	0.0029	07/17/03	PB	0.0023
07/22/03	PB	0.0028	07/24/03	PB	<0.001
08/12/03	PB	0.002	08/13/03	PB	0.001
08/18/03	PB	0.0049	08/20/03	PB	<0.001
09/08/03	PB	0.0028	09/11/03	PB	<0.001
09/15/03	PB	0.0037	09/17/03	PB	0.0055
10/06/03	PB	0.0095	10/08/03	PB	<0.001

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
10/13/03	PB	0.0054	10/15/03	PB	<0.001
11/03/03	PB	0.0014	11/05/03	PB	<0.001
11/17/03	PB	0.0026	11/19/03	PB	<0.001
12/01/03	PB	0.0026	12/03/03	PB	0.001
12/08/03	PB	0.0033	12/10/03	PB	0.0009
01/07/02	ZN	0.098	01/09/02	ZN	0.034
01/14/02	ZN	0.12	01/16/02	ZN	0.03
02/11/02	ZN	0.092	02/13/02	ZN	0.028
02/25/02	ZN	0.005	02/27/02	ZN	0.028
03/12/02	ZN	0.094	03/14/02	ZN	0.027
03/18/02	ZN	0.095	03/20/02	ZN	0.023
04/01/02	ZN	0.066	04/03/02	ZN	0.014
04/08/02	ZN	0.12	04/10/02	ZN	0.18
05/13/02	ZN	0.078	05/15/02	ZN	0.021
05/20/02	ZN	0.048	05/22/02	ZN	0.024
06/11/02	ZN	0.084	06/12/02	ZN	0.022
06/17/02	ZN	0.092	06/19/02	ZN	0.022
07/16/02	ZN	0.082	07/18/02	ZN	0.035
07/22/02	ZN	0.12	07/24/02	ZN	0.021
08/14/02	ZN	0.095	08/07/02	ZN	0.037
09/17/02	ZN	0.08	08/15/02	ZN	0.014
09/24/02	ZN	0.059	09/25/02	ZN	0.02
10/14/02	ZN	0.096	10/16/02	ZN	0.022
10/28/02	ZN	0.063	10/30/02	ZN	0.023
11/04/02	ZN	0.062	11/06/02	ZN	0.026
11/12/02	ZN	0.066	11/14/02	ZN	0.026
12/16/02	ZN	0.12	12/18/02	ZN	0.021
12/17/02	ZN	0.089	12/19/02	ZN	0.026
01/07/03	ZN	0.052	01/08/03	ZN	<0.0005
01/13/03	ZN	0.058	01/15/03	ZN	0.022
02/10/03	ZN	0.044	02/12/03	ZN	0.027
02/17/03	ZN	0.062	02/19/03	ZN	0.026
03/10/03	ZN	0.08	03/12/03	ZN	0.028
03/17/03	ZN	0.088	03/19/03	ZN	0.026
04/07/03	ZN	0.054	04/09/03	ZN	0.022
04/14/03	ZN	0.068	04/16/03	ZN	0.028
05/05/03	ZN	0.076	05/07/03	ZN	0.03
05/13/03	ZN	0.038	05/14/03	ZN	0.014
06/02/03	ZN	0.072	06/04/03	ZN	0.023
06/09/03	ZN	0.056	06/11/03	ZN	0.0002
07/14/03	ZN	0.035	07/17/03	ZN	0.021
07/22/03	ZN	0.041	07/24/03	ZN	0.016
08/12/03	ZN	0.048	08/13/03	ZN	0.021
08/18/03	ZN	0.067	08/20/03	ZN	0.018
09/08/03	ZN	0.043	09/11/03	ZN	0.017
09/15/03	ZN	0.049	09/17/03	ZN	0.014
10/06/03	ZN	0.047	10/08/03	ZN	0.016
10/13/03	ZN	0.076	10/15/03	ZN	0.02
11/03/03	ZN	0.038	11/05/03	ZN	0.018
11/17/03	ZN	0.04	11/19/03	ZN	0.018
12/01/03	ZN	0.052	12/03/03	ZN	0.023
12/08/03	ZN	0.054	12/10/03	ZN	0.02
01/12/04	ZN	0.058	01/14/04	ZN	0.0199

WWTP - Pond 3 Influent / Effluent - Metals Data

Raw (Influent)			Pond 3 (Effluent)		
Date	Parameter	Value	Date	Parameter	Value
01/20/04	ZN	PENDING	01/22/04	ZN	PENDING
02/09/04	ZN	0.1043	02/11/04	ZN	0.0018
02/16/04	ZN	0.0869	02/18/04	ZN	0.0282
03/01/04	ZN	PENDING	03/03/04	ZN	PENDING

AG - Silver
CD - Cadmium
CN - Cyanide
CR - Chromium
CU - Copper
HG - Mercury
NI - Nickel
PB - Lead
ZN - Zinc

APPENDIX G

Significant Industrial Users

Industrial Wastewater Discharge Permits
Sampling Data Results
Site Consumption (Flow) Reports

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **01801**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Cintas Corporation 3201 Brooklyn Avenue Fort Wayne, IN 46809	Same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

:s permit shall become effective on **July 31, 2003.**

This permit and the authorization to discharge wastewater shall expire on **July 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ___________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Cintas Corporation** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Self-Monitoring Frequency	Sample Type
pH	6.0-12.0	2/month	grab
Oil and Grease	100	2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located in the drive outside of the truck gate. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

Cintas Corporation

Sample Date	Parameter	Result	Limit
02/06/02	Ammonia-Nitrogen	3	25.00
05/14/02	Ammonia-Nitrogen	1.28	
08/14/02	Ammonia-Nitrogen	0.537	
02/26/03	Ammonia-Nitrogen	3	
05/22/03	Ammonia-Nitrogen	1	
08/22/03	Ammonia-Nitrogen	7	
11/19/03	Ammonia-Nitrogen	1.9	
02/06/02	Biochemical Oxygen Demand 5 Day	189	300.00
05/14/02	Biochemical Oxygen Demand 5 Day	282	
08/14/02	Biochemical Oxygen Demand 5 Day	100	
02/26/03	Biochemical Oxygen Demand 5 Day	194	
05/22/03	Biochemical Oxygen Demand 5 Day	168	
08/22/03	Biochemical Oxygen Demand 5 Day	198	
11/19/03	Biochemical Oxygen Demand 5 Day	129	
02/06/02	Cadmium	<0.04	0.70
05/14/02	Cadmium	<0.04	
08/14/02	Cadmium	< 0.01	
02/26/03	Cadmium	<0.01	
05/22/03	Cadmium	<0.01	
08/22/03	Cadmium	<0.01	
11/19/03	Cadmium	<0.01	
02/06/02	Chemical Oxygen Demand	564	600.00
05/14/02	Chemical Oxygen Demand	724	
08/14/02	Chemical Oxygen Demand	450	
02/26/03	Chemical Oxygen Demand	646	
05/22/03	Chemical Oxygen Demand	489	
08/22/03	Chemical Oxygen Demand	650	
11/19/03	Chemical Oxygen Demand	831	
02/06/02	Chromium	<0.04	10.00
05/14/02	Chromium	<0.04	
08/14/02	Chromium	0.017	
02/26/03	Chromium	0.02	
05/22/03	Chromium	0.02	
08/22/03	Chromium	0.03	
11/19/03	Chromium	0.03	
02/06/02	Copper	0.18	2.00
05/06/02	Copper	0.179	
05/14/02	Copper	0.22	
08/14/02	Copper	0.2	
11/05/02	Copper	0.096	
02/26/03	Copper	0.15	
05/06/03	Copper	0.234	
05/22/03	Copper	0.16	
08/22/03	Copper	0.29	
11/12/03	Copper	0.097	
11/19/03	Copper	0.2	
02/06/02	Lead	0.06	0.60
05/06/02	Lead	<0.040	
05/14/02	Lead	0.05	
08/14/02	Lead	0.041	
11/05/02	Lead	<0.040	
02/26/03	Lead	0.05	
05/06/03	Lead	<0.040	
05/22/03	Lead	<0.03	
08/22/03	Lead	<0.03	

Cintas Corporation

Sample Date	Parameter	Result	Limit
11/12/03	Lead	<0.040	
11/19/03	Lead	0.04	
02/06/02	Mercury	0.000056	0.01
02/26/03	Mercury	0.000018	
02/06/02	Nickel	<0.04	3.00
05/14/02	Nickel	<0.04	
08/14/02	Nickel	0.016	
02/26/03	Nickel	0.01	
05/22/03	Nickel	0.01	
08/22/03	Nickel	0.03	
11/19/03	Nickel	0.03	
01/02/02	pH	10.4	6.0-12.0
01/03/02	pH	10.4	
02/04/02	pH	10.5	
02/05/02	pH	10.4	
02/06/02	pH	10.6	
03/04/02	pH	10.4	
03/05/02	pH	10.8	
05/01/02	pH	10.6	
05/03/02	pH	10.6	
05/06/02	pH	10.6	
05/07/02	pH	10.2	
05/14/02	pH	9.8	
06/03/02	pH	10.5	
06/06/02	pH	10	
08/01/02	pH	10	
08/02/02	pH	9.8	
08/14/02	pH	10	
09/04/02	pH	10	
09/05/02	pH	10.1	
10/03/02	pH	10.3	
10/04/02	pH	10.5	
11/04/02	pH	10.7	
11/05/02	pH	10.7	
12/02/02	pH	10	
12/03/02	pH	<10.0	
01/07/03	pH	10.9	
01/08/03	pH	11.2	
02/03/03	pH	10.3	
02/04/03	pH	10.7	
02/26/03	pH	10	
04/03/03	pH	11	
04/07/03	pH	11.1	
05/05/03	pH	10.4	
05/06/03	pH	10.5	
05/22/03	pH	8.5	
06/16/03	pH	10.5	
06/17/03	pH	10.5	
07/01/03	pH	10.3	
07/02/03	pH	10.5	
08/04/03	pH	9.6	
08/05/03	pH	10	
08/22/03	pH	9.8	
09/02/03	pH	9	
09/03/03	pH	10.6	

Cintas Corporation

Sample Date	Parameter	Result	Limit
10/07/03	pH	10.1	
10/08/03	pH	10.1	
11/06/03	pH	9.8	
11/07/03	pH	10.1	
11/19/03	pH	10.6	
12/01/03	pH	10.1	
12/02/03	pH	10.1	
02/06/02	Silver	<0.04	0.30
05/14/02	Silver	<0.04	
08/14/02	Silver	<0.01	
02/26/03	Silver	<0.01	
05/22/03	Silver	<0.01	
08/22/03	Silver	0.01	
11/19/03	Silver	<0.01	
02/06/02	Tot. Suspended Solids	62	300.00
05/14/02	Tot. Suspended Solids	66	
08/14/02	Tot. Suspended Solids	140	
02/26/03	Tot. Suspended Solids	170	
05/22/03	Tot. Suspended Solids	240	
08/22/03	Tot. Suspended Solids	216	
11/19/03	Tot. Suspended Solids	128	
02/06/02	Total Phosphorus	23.4	10.00
05/14/02	Total Phosphorus	55	
08/14/02	Total Phosphorus	9.9	
02/26/03	Total Phosphorus	1	
05/22/03	Total Phosphorus	31	
08/22/03	Total Phosphorus	27	
11/19/03	Total Phosphorus	39.087	
02/06/02	Zinc	0.11	6.00
05/06/02	Zinc	0.255	
05/14/02	Zinc	0.25	
08/14/02	Zinc	0.36	
11/05/02	Zinc	0.043	
02/26/03	Zinc	0.29	
05/06/03	Zinc	0.165	
05/22/03	Zinc	0.3	
08/22/03	Zinc	0.4	
11/12/03	Zinc	0.117	
11/19/03	Zinc	0.33	

Site Consumption

[illegible]ny: CINTAS CORP.
Site Name: CINTAS CORP.

IWS Number: 6605
Site Number: 1

Begin	End	Water	Sewer
12/10/2001	01/10/2002	2,104	2,062
01/10/2002	02/07/2002	2,076	2,034
02/07/2002	03/12/2002	2,135	2,092
03/12/2002	04/09/2002	2,125	2,082
04/09/2002	05/13/2002	2,437	2,388
05/13/2002	07/15/2002	4,030	3,949
07/15/2002	08/13/2002	1,845	1,808
08/13/2002	09/13/2002	2,592	2,540
09/13/2002	10/11/2002	1,851	1,814
10/11/2002	11/12/2002	2,179	2,135
11/12/2002	12/10/2002	1,930	1,891
12/10/2002	01/10/2003	2,660	2,607
01/10/2003	02/04/2003	0	1,975
02/04/2003	03/07/2003	2,498	2,448
03/07/2003	04/07/2003	2,162	2,119
04/07/2003	05/09/2003	2,827	2,770
05/09/2003	06/09/2003	2,584	2,532
06/09/2003	07/08/2003	2,324	2,278
07/08/2003	08/08/2003	2,035	1,994
08/08/2003	09/08/2003	2,306	2,260
09/08/2003	10/07/2003	1,855	1,818
1[illegible]7/2003	11/07/2003	2,523	2,523
1[illegible]7/2003	12/05/2003	1,960	1,921
12/05/2003	01/09/2004	2,761	2,706

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **04301**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
The Crown Group, Fort Wayne Plant 4301 Engle Road Fort Wayne, IN 46804	Same Phone: (219) 432-6900

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.17 standards.

This permit shall become effective on **February 26, 1999.**

.is permit and the authorization to discharge wastewater shall expire on **February 26, 2004.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ________________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

.ame:

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **The Crown Group** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for Monthly Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.11	0.07	2/year	composite
Chromium	2.69	1.66	2/year	composite
Copper	2.00	2.01	2/year	composite
Lead	0.60	0.42	2/month	composite
Nickel	3.00	2.31	2/month	composite
Silver	0.30	0.23	2/year	composite
Zinc	2.53	1.44	2/month	composite
Cyanide	1.16	0.63	2/year	composite
T.T.O.	2.07	N/A	2/year	
pH	6.0-12.0		2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

Crown Group

Sample Date	Parameter	Result	Limit
02/06/02	Ammonia-Nitrogen	18	25
05/14/02	Ammonia-Nitrogen	0.02	
08/14/02	Ammonia-Nitrogen	1.2	
02/26/03	Ammonia-Nitrogen	3	
05/22/03	Ammonia-Nitrogen	3	
08/22/03	Ammonia-Nitrogen	3	
11/19/03	Ammonia-Nitrogen	4.5	
02/06/02	Biochemical Oxygen Demand 5 Day	186	300
05/14/02	Biochemical Oxygen Demand 5 Day	59	
08/14/02	Biochemical Oxygen Demand 5 Day	49	
02/26/03	Biochemical Oxygen Demand 5 Day	49	
05/22/03	Biochemical Oxygen Demand 5 Day	16	
08/22/03	Biochemical Oxygen Demand 5 Day	26	
11/19/03	Biochemical Oxygen Demand 5 Day	70	
02/06/02	Cadmium	<0.04	0.07
05/14/02	Cadmium	<0.04	
08/14/02	Cadmium	< 0.01	
11/01/02	Cadmium	<0.01	
11/05/02	Cadmium	<0.01	
02/26/03	Cadmium	<0.01	
05/06/03	Cadmium	<0.01	
05/22/03	Cadmium	<0.01	
05/23/03	Cadmium	<0.01	
08/22/03	Cadmium	<0.01	
11/04/03	Cadmium	<0.01	
11/19/03	Cadmium	<0.01	
11/20/03	Cadmium	<0.01	
02/06/02	Chemical Oxygen Demand	618	600
05/14/02	Chemical Oxygen Demand	197	
08/14/02	Chemical Oxygen Demand	347	
02/26/03	Chemical Oxygen Demand	568	
05/22/03	Chemical Oxygen Demand	151	
08/22/03	Chemical Oxygen Demand	154	
11/19/03	Chemical Oxygen Demand	257	
02/06/02	Chromium	<0.04	1.66
05/14/02	Chromium	<0.04	
08/14/02	Chromium	< 0.01	
11/01/02	Chromium	0.01	
11/05/02	Chromium	<0.01	
02/26/03	Chromium	<0.01	
05/06/03	Chromium	0.01	
05/22/03	Chromium	0.07	
05/23/03	Chromium	0.07	
08/22/03	Chromium	<0.01	
11/04/03	Chromium	<0.01	
11/19/03	Chromium	<0.01	
11/20/03	Chromium	0.01	
02/06/02	Copper	0.07	2.01
05/14/02	Copper	0.05	
08/14/02	Copper	0.013	
11/01/02	Copper	0.08	
11/05/02	Copper	0.02	
02/26/03	Copper	0.02	
05/06/03	Copper	0.06	
05/22/03	Copper	0.06	

Crown Group

Sample Date	Parameter	Result	Limit
05/23/03	Copper	0.07	
08/22/03	Copper	0.01	
11/04/03	Copper	0.02	
11/19/03	Copper	0.02	
11/20/03	Copper	0.04	
01/08/02	Lead	<0.02	0.42
01/15/02	Lead	0.04	
01/22/02	Lead	0.05	
01/30/02	Lead	<0.02	
02/05/02	Lead	0.04	
02/06/02	Lead	<0.04	
02/07/02	Lead	0.05	
02/12/02	Lead	0.06	
02/19/02	Lead	0.04	
02/26/02	Lead	0.03	
03/05/02	Lead	0.03	
03/12/02	Lead	<0.02	
03/19/02	Lead	0.03	
03/27/02	Lead	0.03	
04/02/02	Lead	0.04	
04/09/02	Lead	<0.02	
04/16/02	Lead	<0.02	
04/23/02	Lead	<0.02	
05/02/02	Lead	<0.02	
05/08/02	Lead	<0.02	
05/14/02	Lead	<0.04	
05/15/02	Lead	<0.02	
05/22/02	Lead	<0.01	
05/22/02	Lead	<0.02	
06/05/02	Lead	<0.06	
06/12/02	Lead	<0.06	
06/19/02	Lead	<0.06	
06/26/02	Lead	<0.06	
07/08/02	Lead	<0.06	
07/09/02	Lead	<0.06	
07/18/02	Lead	<0.06	
07/23/02	Lead	<0.06	
08/06/02	Lead	0.11	
08/13/02	Lead	<0.06	
08/14/02	Lead	< 0.01	
08/20/02	Lead	0.07	
08/27/02	Lead	<0.06	
09/05/02	Lead	<0.06	
09/11/02	Lead	<0.06	
09/18/02	Lead	<0.06	
09/25/02	Lead	<0.06	
10/01/02	Lead	<0.06	
10/08/02	Lead	<0.06	
10/15/02	Lead	<0.06	
10/22/02	Lead	<0.06	
11/01/02	Lead	<0.06	
11/05/02	Lead	<0.06	
11/12/02	Lead	0.08	
11/19/02	Lead	<0.06	
11/26/02	Lead	<0.06	

Crown Group

Sample Date	Parameter	Result	Limit
12/03/02	Lead	<0.06	
12/10/02	Lead	<0.06	
12/17/02	Lead	<0.06	
12/26/02	Lead	<0.06	
01/07/03	Lead	<0.06	
01/14/03	Lead	<0.06	
01/21/03	Lead	<0.06	
01/28/03	Lead	0.14	
02/04/03	Lead	<0.06	
02/11/03	Lead	0.07	
02/18/03	Lead	<0.06	
02/25/03	Lead	<0.06	
02/26/03	Lead	<0.02	
02/27/03	Lead	<0.06	
03/03/03	Lead	<0.06	
03/11/03	Lead	<0.06	
03/18/03	Lead	<0.06	
03/25/03	Lead	<0.06	
04/01/03	Lead	<0.06	
04/08/03	Lead	<0.06	
04/15/03	Lead	<0.06	
04/22/03	Lead	<0.06	
05/06/03	Lead	<0.06	
05/13/03	Lead	0.14	
05/22/03	Lead	<0.03	
05/23/03	Lead	0.09	
05/28/03	Lead	<0.06	
06/03/03	Lead	<0.06	
06/10/03	Lead	<0.06	
06/17/03	Lead	<0.06	
06/24/03	Lead	<0.06	
07/01/03	Lead	<0.06	
07/08/03	Lead	<0.06	
07/15/03	Lead	<0.06	
07/22/03	Lead	<0.06	
08/05/03	Lead	<0.06	
08/12/03	Lead	<0.06	
08/19/03	Lead	<0.06	
08/22/03	Lead	<0.03	
08/22/03	Lead	<0.06	
08/26/03	Lead	<0.06	
09/02/03	Lead	<0.06	
09/10/03	Lead	<0.06	
09/16/03	Lead	<0.06	
09/23/03	Lead	<0.06	
10/07/03	Lead	<0.06	
10/14/03	Lead	<0.06	
10/21/03	Lead	0.09	
10/28/03	Lead	<0.06	
11/04/03	Lead	<0.06	
11/11/03	Lead	<0.06	
11/18/03	Lead	<0.06	
11/19/03	Lead	<0.03	
11/20/03	Lead	<0.06	
11/25/03	Lead	<0.06	

Crown Group

Sample Date	Parameter	Result	Limit
12/02/03	Lead	<0.06	
12/09/03	Lead	<0.06	
12/17/03	Lead	<0.06	
12/23/03	Lead	0.1	
02/06/02	Mercury	0.000057	0.01
02/26/03	Mercury	<0.000005	
01/08/02	Nickel	0.23	3.00
01/15/02	Nickel	0.13	
01/18/02	Nickel	0.6	
01/18/02	Nickel	0.43	
01/22/02	Nickel	0.05	
01/30/02	Nickel	0.42	
02/05/02	Nickel	0.29	
02/06/02	Nickel	0.12	
02/07/02	Nickel	0.14	
02/12/02	Nickel	0.39	
02/19/02	Nickel	0.37	
02/26/02	Nickel	0.34	
03/05/02	Nickel	1.23	
03/12/02	Nickel	0.21	
03/19/02	Nickel	0.4	
03/27/02	Nickel	0.16	
04/02/02	Nickel	1.43	
04/09/02	Nickel	0.2	
04/16/02	Nickel	0.16	
04/23/02	Nickel	0.3	
05/02/02	Nickel	0.28	
05/08/02	Nickel	0.18	
05/14/02	Nickel	0.28	
05/15/02	Nickel	0.25	
05/22/02	Nickel	0.27	
05/22/02	Nickel	0.2	
06/05/02	Nickel	0.13	
06/12/02	Nickel	0.1	
06/19/02	Nickel	0.12	
06/26/02	Nickel	0.4	
07/08/02	Nickel	0.4	
07/09/02	Nickel	0.33	
07/18/02	Nickel	0.11	
07/23/02	Nickel	0.16	
08/06/02	Nickel	0.42	
08/13/02	Nickel	0.17	
08/14/02	Nickel	0.19	
08/20/02	Nickel	0.18	
08/27/02	Nickel	0.13	
09/05/02	Nickel	0.13	
09/11/02	Nickel	0.12	
09/18/02	Nickel	0.09	
09/25/02	Nickel	0.12	
10/01/02	Nickel	0.16	
10/08/02	Nickel	0.15	
10/15/02	Nickel	0.28	
10/22/02	Nickel	0.26	
11/01/02	Nickel	0.54	
11/05/02	Nickel	0.15	

Crown Group

Sample Date	Parameter	Result	Limit
11/12/02	Nickel	0.45	
11/19/02	Nickel	0.09	
11/26/02	Nickel	0.13	
12/03/02	Nickel	0.38	
12/10/02	Nickel	0.04	
12/17/02	Nickel	0.11	
12/26/02	Nickel	0.11	
01/07/03	Nickel	0.2	
01/14/03	Nickel	0.12	
01/21/03	Nickel	0.4	
01/28/03	Nickel	0.79	
02/04/03	Nickel	0.09	
02/11/03	Nickel	0.63	
02/18/03	Nickel	0.07	
02/25/03	Nickel	0.14	
02/26/03	Nickel	0.5	
02/27/03	Nickel	0.42	
03/03/03	Nickel	0.15	
03/11/03	Nickel	0.07	
03/18/03	Nickel	0.12	
03/25/03	Nickel	0.18	
04/01/03	Nickel	0.08	
04/08/03	Nickel	0.1	
04/15/03	Nickel	0.12	
04/22/03	Nickel	0.16	
05/06/03	Nickel	0.25	
05/13/03	Nickel	9.36	
05/22/03	Nickel	5.59	
05/23/03	Nickel	4.41	
05/28/03	Nickel	0.16	
06/03/03	Nickel	0.52	
06/10/03	Nickel	0.36	
06/17/03	Nickel	0.3	
06/24/03	Nickel	0.17	
07/01/03	Nickel	0.15	
07/07/03	Nickel	0.15	
07/08/03	Nickel	0.14	
07/08/03	Nickel	0.32	
07/15/03	Nickel	0.44	
07/21/03	Nickel	0.34	
07/22/03	Nickel	0.11	
07/22/03	Nickel	0.31	
08/05/03	Nickel	0.51	
08/12/03	Nickel	0.18	
08/19/03	Nickel	0.23	
08/22/03	Nickel	0.14	
08/22/03	Nickel	0.12	
08/26/03	Nickel	0.13	
09/02/03	Nickel	0.33	
09/10/03	Nickel	0.22	
09/16/03	Nickel	0.1	
09/23/03	Nickel	0.14	
10/07/03	Nickel	0.21	
10/14/03	Nickel	0.16	
10/21/03	Nickel	0.33	

Crown Group

Sample Date	Parameter	Result	Limit
10/28/03	Nickel	0.26	
11/04/03	Nickel	0.16	
11/11/03	Nickel	0.4	
11/18/03	Nickel	0.69	
11/19/03	Nickel	0.23	
11/20/03	Nickel	0.23	
11/25/03	Nickel	0.5	
12/02/03	Nickel	0.27	
12/09/03	Nickel	0.03	
12/17/03	Nickel	0.03	
12/23/03	Nickel	0.6	
01/08/02	pH	8.37	6.0-12.0
01/15/02	pH	7.14	
01/22/02	pH	6.92	
01/30/02	pH	7.39	
02/05/02	pH	6.54	
02/06/02	pH	9.3	
02/12/02	pH	7.34	
02/19/02	pH	7.18	
02/26/02	pH	8.54	
03/05/02	pH	6.79	
03/12/02	pH	7.58	
03/19/02	pH	7.82	
03/27/02	pH	7.76	
04/02/02	pH	7.67	
04/09/02	pH	6.74	
04/16/02	pH	7.42	
04/23/02	pH	7.58	
05/02/02	pH	7.32	
05/08/02	pH	6.91	
05/14/02	pH	8.9	
05/15/02	pH	8.03	
05/22/02	pH	8.11	
06/05/02	pH	8.33	
06/12/02	pH	8.32	
06/19/02	pH	8.13	
06/26/02	pH	8.04	
07/08/02	pH	7.03	
07/09/02	pH	7.93	
07/18/02	pH	9.63	
07/23/02	pH	8.85	
08/06/02	pH	9.33	
08/13/02	pH	7.68	
08/14/02	pH	9.2	
08/20/02	pH	7.54	
08/27/02	pH	8.33	
09/05/02	pH	8.59	
09/11/02	pH	10.12	
09/18/02	pH	9.36	
09/25/02	pH	8.98	
10/01/02	pH	6.96	
10/08/02	pH	9.23	
10/15/02	pH	9.86	
10/22/02	pH	9.26	
11/05/02	pH	6	

Crown Group

Sample Date	Parameter	Result	Limit
11/12/02	pH	9.15	
11/19/02	pH	7.34	
11/26/02	pH	9.11	
12/03/02	pH	8.31	
12/10/02	pH	8.75	
12/17/02	pH	8.12	
12/26/02	pH	7.44	
01/07/03	pH	8.02	
01/14/03	pH	8.23	
01/21/03	pH	7.46	
01/28/03	pH	6.11	
02/04/03	pH	8.29	
02/11/03	pH	8.11	
02/18/03	pH	7.62	
02/25/03	pH	8.1	
02/26/03	pH	9.5	
03/03/03	pH	8.12	
03/11/03	pH	7.6	
03/18/03	pH	9.61	
03/25/03	pH	8.87	
04/01/03	pH	8.39	
04/08/03	pH	8.74	
04/15/03	pH	8.34	
04/22/03	pH	8.86	
05/06/03	pH	7.49	
05/13/03	pH	7.61	
05/20/03	pH	8.63	
05/22/03	pH	7.2	
05/28/03	pH	8.38	
06/03/03	pH	8.23	
06/10/03	pH	8.12	
06/17/03	pH	8.68	
06/24/03	pH	9.27	
07/01/03	pH	6.98	
07/08/03	pH	9.28	
07/15/03	pH	8.26	
07/22/03	pH	8.27	
08/05/03	pH	7.39	
08/12/03	pH	8.32	
08/19/03	pH	7.69	
08/22/03	pH	10.9	
08/26/03	pH	8.31	
09/02/03	pH	8.43	
09/10/03	pH	8.51	
09/16/03	pH	7.21	
09/23/03	pH	7.72	
10/07/03	pH	8.81	
10/14/03	pH	8.34	
10/21/03	pH	8.96	
10/28/03	pH	8.44	
11/04/03	pH	8.14	
11/11/03	pH	8.01	
11/18/03	pH	8.53	
11/19/03	pH	8.6	
11/25/03	pH	6.78	

Crown Group

Sample Date	Parameter	Result	Limit
12/02/03	pH	8.94	
12/09/03	pH	7.17	
12/17/03	pH	6.9	
12/23/03	pH	8.68	
02/06/02	Silver	<0.04	0.23
05/14/02	Silver	<0.04	
08/14/02	Silver	< 0.01	
11/01/02	Silver	0.01	
11/05/02	Silver	<0.01	
02/26/03	Silver	<0.01	
05/06/03	Silver	0.06	
05/22/03	Silver	<0.01	
05/23/03	Silver	<0.01	
08/22/03	Silver	0.01	
11/04/03	Silver	<0.01	
11/19/03	Silver	<0.01	
11/20/03	Silver	0.01	
02/06/02	Tot. Suspended Solids	28	300
05/14/02	Tot. Suspended Solids	11	
08/14/02	Tot. Suspended Solids	16	
02/26/03	Tot. Suspended Solids	35	
05/22/03	Tot. Suspended Solids	158	
08/22/03	Tot. Suspended Solids	15	
11/19/03	Tot. Suspended Solids	21	
02/06/02	Total Cyanide	0.0034	0.63
05/14/02	Total Cyanide	0.0006	
08/14/02	Total Cyanide	0.0011	
11/05/02	Total Cyanide	<0.01	
02/26/03	Total Cyanide	0.00068	
05/06/03	Total Cyanide	<0.01	
05/22/03	Total Cyanide	0.0017	
08/22/03	Total Cyanide	0.0009	
11/04/03	Total Cyanide	<0.01	
11/19/03	Total Cyanide	0.0122	
02/06/02	Total Phosphorus	11.6	10
05/14/02	Total Phosphorus	0.8	
08/14/02	Total Phosphorus	0.508	
02/26/03	Total Phosphorus	17	
05/22/03	Total Phosphorus	7	
08/22/03	Total Phosphorus	0.376	
11/19/03	Total Phosphorus	2.24	
01/08/02	Zinc	0.12	2.53
01/15/02	Zinc	0.07	
01/18/02	Zinc	0.66	
01/18/02	Zinc	0.46	
01/22/02	Zinc	0.06	
01/30/02	Zinc	0.39	
02/05/02	Zinc	0.07	
02/06/02	Zinc	0.09	
02/07/02	Zinc	0.11	
02/12/02	Zinc	0.1	
02/19/02	Zinc	0.26	
02/26/02	Zinc	0.26	
03/05/02	Zinc	0.38	
03/12/02	Zinc	0.06	

Crown Group

Sample Date	Parameter	Result	Limit
03/19/02	Zinc	0.17	
03/27/02	Zinc	0.11	
04/02/02	Zinc	1.13	
04/09/02	Zinc	0.13	
04/16/02	Zinc	0.08	
04/23/02	Zinc	0.15	
05/02/02	Zinc	0.1	
05/08/02	Zinc	0.09	
05/14/02	Zinc	0.11	
05/15/02	Zinc	0.14	
05/22/02	Zinc	0.1	
05/22/02	Zinc	0.07	
06/05/02	Zinc	0.07	
06/12/02	Zinc	0.03	
06/19/02	Zinc	0.04	
06/26/02	Zinc	0.31	
07/08/02	Zinc	0.06	
07/09/02	Zinc	0.05	
07/18/02	Zinc	0.06	
07/23/02	Zinc	0.11	
08/06/02	Zinc	0.15	
08/13/02	Zinc	0.04	
08/14/02	Zinc	0.081	
08/20/02	Zinc	0.08	
08/27/02	Zinc	0.07	
09/05/02	Zinc	0.06	
09/11/02	Zinc	0.06	
09/18/02	Zinc	0.03	
09/25/02	Zinc	0.1	
10/01/02	Zinc	0.15	
10/08/02	Zinc	0.11	
10/15/02	Zinc	0.09	
10/22/02	Zinc	0.15	
11/01/02	Zinc	0.34	
11/05/02	Zinc	0.06	
11/12/02	Zinc	0.42	
11/19/02	Zinc	0.06	
11/26/02	Zinc	0.05	
12/03/02	Zinc	0.29	
12/10/02	Zinc	0.02	
12/17/02	Zinc	0.03	
12/26/02	Zinc	0.03	
01/07/03	Zinc	0.08	
01/14/03	Zinc	0.04	
01/21/03	Zinc	0.05	
01/28/03	Zinc	3.37	
02/04/03	Zinc	0.08	
02/11/03	Zinc	0.78	
02/18/03	Zinc	0.1	
02/25/03	Zinc	0.12	
02/26/03	Zinc	1.24	
02/27/03	Zinc	0.99	
03/03/03	Zinc	0.06	
03/11/03	Zinc	0.06	
03/18/03	Zinc	0.07	

Crown Group

Sample Date	Parameter	Result	Limit
03/25/03	Zinc	0.27	
04/01/03	Zinc	0.06	
04/08/03	Zinc	0.1	
04/15/03	Zinc	0.07	
04/22/03	Zinc	0.12	
05/06/03	Zinc	0.09	
05/13/03	Zinc	6.89	
05/22/03	Zinc	4.72	
05/23/03	Zinc	3.92	
05/28/03	Zinc	0.08	
06/03/03	Zinc	0.12	
06/10/03	Zinc	0.13	
06/17/03	Zinc	0.08	
06/24/03	Zinc	0.1	
07/01/03	Zinc	0.11	
07/07/03	Zinc	0.13	
07/08/03	Zinc	0.12	
07/08/03	Zinc	0.08	
07/15/03	Zinc	0.45	
07/21/03	Zinc	0.45	
07/22/03	Zinc	0.08	
07/22/03	Zinc	0.42	
08/05/03	Zinc	0.19	
08/12/03	Zinc	0.12	
08/19/03	Zinc	0.2	
08/22/03	Zinc	0.15	
08/22/03	Zinc	0.14	
08/26/03	Zinc	0.12	
09/02/03	Zinc	0.17	
09/10/03	Zinc	0.13	
09/16/03	Zinc	0.08	
09/23/03	Zinc	0.13	
10/07/03	Zinc	0.11	
10/14/03	Zinc	0.14	
10/21/03	Zinc	0.14	
10/28/03	Zinc	0.13	
11/04/03	Zinc	0.09	
11/11/03	Zinc	0.17	
11/18/03	Zinc	0.31	
11/19/03	Zinc	0.2	
11/20/03	Zinc	0.19	
11/25/03	Zinc	0.27	
12/02/03	Zinc	0.22	
12/09/03	Zinc	0.08	
12/17/03	Zinc	0.06	
12/23/03	Zinc	0.25	

Site Consumption

Company: THE CROWN GROUP, FORT WAYNE IN PLANT IWS Number: 5527
Name: CROWN GROUP Site Number: 1

Begin	End	Water	Sewer
.2/12/2001	01/11/2002	335	352
)1/11/2002	02/13/2002	591	601
)2/13/2002	03/15/2002	496	515
)3/15/2002	04/10/2002	628	648
)4/10/2002	05/09/2002	747	763
)5/09/2002	06/13/2002	768	792
)6/13/2002	07/17/2002	554	573
)7/17/2002	08/16/2002	871	891
)8/16/2002	09/16/2002	961	973
)9/16/2002	10/14/2002	810	830
L0/14/2002	11/11/2002	730	745
L1/11/2002	12/16/2002	906	969
L2/16/2002	01/14/2003	557	680
)1/14/2003	02/10/2003	799	829
)2/10/2003	03/08/2003	803	832
)3/08/2003	04/09/2003	851	877
)4/09/2003	05/08/2003	787	829
)5/08/2003	06/09/2003	1,132	1,160
)6/09/2003	07/08/2003	1,022	1,042
)7/08/2003	08/11/2003	866	879
)8/11/2003	09/10/2003	1,276	1,287
)9/[illegible]0/2003	10/10/2003	1,015	1,040
1[illegible]/2003	11/07/2003	1,059	1,059
11/07/2003	12/12/2003	1,156	1,179
L2/12/2003	01/09/2004	628	644

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **02401**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Edy's Grand Ice Cream 3426 North Wells Street Fort Wayne, IN 46808	Same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

..is permit shall become effective on **September 18, 2003**.

This permit and the authorization to discharge wastewater shall expire on **September 18, 2008**.

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

..nt via Certified mail to:

Name: Pete Hunter

Permit 02401

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Edy's Grand Ice cream** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Self-Monitoring Frequency	Sample Type
pH (units)	6.0-12.0	1/week	grab
Oil and Grease	3000	1/week	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located along the fence line East of the building. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

D. Basis for pollutant limitations:

The Permittee's pollutant limitations shall be the limitations contained in Chapter 51 and/or the Rules and Regulations.

Edy's

Sample Date	Parameter	Result	Limit
01/22/02	Ammonia-Nitrogen	12.6	25
07/16/02	Ammonia-Nitrogen	5.2	
07/30/02	Ammonia-Nitrogen	7.83	
08/28/02	Ammonia-Nitrogen	9	
10/15/02	Ammonia-Nitrogen	4	
01/09/03	Ammonia-Nitrogen	18	
02/06/03	Ammonia-Nitrogen	9	
04/09/03	Ammonia-Nitrogen	38	
07/01/03	Ammonia-Nitrogen	18.8	
10/24/03	Ammonia-Nitrogen	12	
01/22/02	Biochemical Oxygen Demand 5 Day	11667	300
07/16/02	Biochemical Oxygen Demand 5 Day	7109	
07/30/02	Biochemical Oxygen Demand 5 Day	7123	
08/28/02	Biochemical Oxygen Demand 5 Day	11400	
10/15/02	Biochemical Oxygen Demand 5 Day	9958	
01/09/03	Biochemical Oxygen Demand 5 Day	14106	
02/06/03	Biochemical Oxygen Demand 5 Day	16800	
04/09/03	Biochemical Oxygen Demand 5 Day	4108	
07/01/03	Biochemical Oxygen Demand 5 Day	6936	
10/24/03	Biochemical Oxygen Demand 5 Day	11147	
01/22/02	Chemical Oxygen Demand	17000	600
07/16/02	Chemical Oxygen Demand	10250	
07/30/02	Chemical Oxygen Demand	20960	
08/28/02	Chemical Oxygen Demand	14760	
10/15/02	Chemical Oxygen Demand	14030	
01/09/03	Chemical Oxygen Demand	19760	
02/06/03	Chemical Oxygen Demand	21840	
04/09/03	Chemical Oxygen Demand	5640	
07/01/03	Chemical Oxygen Demand	8820	
10/24/03	Chemical Oxygen Demand	18300	
01/08/02	pH	8.05	6.0-12.0
01/15/02	pH	6.15	
01/22/02	pH	6.7	
01/22/02	pH	6.03	
01/29/02	pH	6.38	
02/04/02	pH	6.9	
02/11/02	pH	7.41	
02/18/02	pH	6.39	
02/26/02	pH	6.98	
03/04/02	pH	6.73	
03/11/02	pH	7.23	
03/18/02	pH	6.83	
03/25/02	pH	7.02	
04/02/02	pH	7.28	
04/09/02	pH	6.54	
04/16/02	pH	7.44	
04/23/02	pH	7.58	
04/29/02	pH	7.92	
05/07/02	pH	6.31	
05/14/02	pH	10.56	
05/21/02	pH	6.03	
05/29/02	pH	10.91	
06/04/02	pH	6.08	
06/11/02	pH	6.63	
06/18/02	pH	6.93	

Edy's

Sample Date	Parameter	Result	Limit
06/25/02	pH	6.36	
07/02/02	pH	6.81	
07/16/02	pH	9.3	
07/16/02	pH	6.17	
07/22/02	pH	9.81	
07/30/02	pH	7	
07/30/02	pH	6.91	
08/06/02	pH	10.22	
08/07/02	pH	6.29	
08/13/02	pH	6.23	
08/20/02	pH	6.39	
08/27/02	pH	7.02	
09/04/02	pH	6.73	
09/10/02	pH	6.49	
09/17/02	pH	9.28	
09/24/02	pH	6.86	
10/07/02	pH	6.11	
10/14/02	pH	10.06	
10/15/02	pH	7.5	
10/21/02	pH	4.91	
10/28/02	pH	5.49	
11/05/02	pH	6.38	
11/12/02	pH	8.65	
11/19/02	pH	5.68	
11/26/02	pH	7.31	
12/02/02	pH	6.59	
12/09/02	pH	6.87	
12/16/02	pH	7.07	
12/20/02	pH	9.6	
12/23/02	pH	6.68	
12/30/02	pH	9.78	
01/07/03	pH	6.11	
01/09/03	pH	7.7	
01/14/03	pH	6.64	
01/21/03	pH	7.2	
01/22/03	pH	6.9	
01/28/03	pH	7.38	
02/03/03	pH	8.38	
02/10/03	pH	7.58	
02/17/03	pH	6.89	
02/24/03	pH	7.63	
03/03/03	pH	7.33	
03/10/03	pH	7.23	
03/17/03	pH	8.68	
03/26/03	pH	6.12	
04/01/03	pH	6.41	
04/08/03	pH	7.2	
04/09/03	pH	6.7	
04/15/03	pH	6.93	
04/22/03	pH	6.11	
04/29/03	pH	6.65	
05/05/03	pH	7.45	
05/12/03	pH	8.23	
05/19/03	pH	6.03	
05/27/03	pH	7.46	

Edy's

Sample Date	Parameter	Result	Limit
06/03/03	pH	8.57	
06/10/03	pH	7.01	
06/17/03	pH	6.03	
06/24/03	pH	7.36	
07/01/03	pH	5.8	
07/01/03	pH	6.04	
07/08/03	pH	6.01	
07/15/03	pH	6.68	
07/22/03	pH	9.96	
07/29/03	pH	7.66	
08/05/03	pH	6.17	
08/12/03	pH	6.94	
08/18/03	pH	6.4	
08/19/03	pH	6.78	
08/26/03	pH	8.94	
09/04/03	pH	9.34	
09/09/03	pH	6.81	
09/16/03	pH	6.33	
09/22/03	pH	6.74	
09/30/03	pH	6.69	
10/07/03	pH	6.59	
10/14/03	pH	7.11	
10/21/03	pH	6.38	
10/24/03	pH	6.1	
10/28/03	pH	6.46	
11/04/03	pH	6.02	
11/11/03	pH	6.28	
11/18/03	pH	5.64	
11/25/03	pH	9.04	
12/02/03	pH	7.31	
12/09/03	pH	5.85	
12/16/03	pH	6.01	
12/23/03	pH	6.01	
12/30/03	pH	7.06	
01/22/02	Tot. Suspended Solids	268	300
07/16/02	Tot. Suspended Solids	2080	
07/30/02	Tot. Suspended Solids	5468	
08/28/02	Tot. Suspended Solids	4310	
10/15/02	Tot. Suspended Solids	2198	
01/09/03	Tot. Suspended Solids	8060	
02/06/03	Tot. Suspended Solids	2190	
04/09/03	Tot. Suspended Solids	1190	
07/01/03	Tot. Suspended Solids	1660	
10/24/03	Tot. Suspended Solids	3140	
01/22/02	Total Phosphorus	62	10
07/16/02	Total Phosphorus	45.7	
07/30/02	Total Phosphorus	80.3	
10/15/02	Total Phosphorus	56	
01/09/03	Total Phosphorus	105	
02/06/03	Total Phosphorus	73	
04/09/03	Total Phosphorus	26	
07/01/03	Total Phosphorus	319	
10/24/03	Total Phosphorus	63	

Site Consumption

Company: EDY'S GRAND ICE CREAM IWS Number: 4875
Site Name: Site Number: 1

Begin	End	Water	Sewer	
12/17/2001	01/15/2002	4,551	3,962	x100 cft
01/15/2002	02/15/2002	5,345	4,610	
02/15/2002	03/18/2002	5,237	4,697	
03/18/2002	04/15/2002	5,674	5,005	
04/15/2002	05/16/2002	7,140	6,006	
05/16/2002	06/14/2002	5,527	4,614	
06/14/2002	07/15/2002	7,193	6,512	
07/15/2002	08/15/2002	7,274	5,139	
08/15/2002	09/17/2002	7,098	5,796	
09/17/2002	10/15/2002	5,315	4,416	
10/15/2002	11/12/2002	4,543	3,911	
11/12/2002	12/16/2002	6,059	5,287	
12/16/2002	01/17/2003	4,271	3,904	
01/17/2003	02/12/2003	0	4,183	
02/12/2003	03/11/2003	4,267	3,931	
03/11/2003	04/11/2003	5,167	4,384	
04/11/2003	05/12/2003	4,558	3,649	
05/12/2003	06/13/2003	5,706	4,482	
06/13/2003	07/10/2003	5,150	3,685	
07[illegible]0/2003	08/12/2003	6,001	4,395	
0[illegible]2/2003	09/15/2003	6,068	5,173	
09/15/2003	10/10/2003	0	3,969	
10/10/2003	11/10/2003	4,997	4,997	
11/10/2003	12/12/2003	6,405	5,081	
12/12/2003	01/15/2004	3,372	2,751	

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03101**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Fort Wayne Anodizing, Inc.
2535 Wayne Trace
Fort Wayne, IN 46803

Mailing Address:

same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 413 standards.

'.s permit shall become effective on **January 30, 2004.**

This permit and the authorization to discharge wastewater shall expire on **January 30, 2009.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: Tom Poiry

Permit 03101

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Fort Wayne Anodizing, Inc.** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for 4-Day Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.70	0.69	2/year	composite
Chromium	6.86	3.92	2/year	composite
Copper	2.00	2.65	2/year	composite
Lead	0.59	0.39	2/year	composite
Nickel	3.00	2.55	2/year	composite
Silver	0.30	N/A	Not Required	
Zinc	4.12	2.55	2/year	composite
Cyanide	1.20	0.98	2/year	grab
Total Metals	10.29	6.66		
pH	6.0-12.0		2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

Fort Wayne Anodizing 01

Sample Date	Parameter	Result	Limit
01/09/02	Ammonia-Nitrogen	0.512	25
04/11/02	Ammonia-Nitrogen	0.7	
07/17/02	Ammonia-Nitrogen	0.18	
10/08/02	Ammonia-Nitrogen	0.05	
01/14/03	Ammonia-Nitrogen	1	
04/16/03	Ammonia-Nitrogen	1	
07/16/03	Ammonia-Nitrogen	<3	
10/09/03	Ammonia-Nitrogen	<3	
01/09/02	Biochemical Oxygen Demand 5 Day	7	300
04/11/02	Biochemical Oxygen Demand 5 Day	13	
07/17/02	Biochemical Oxygen Demand 5 Day	22	
10/08/02	Biochemical Oxygen Demand 5 Day	11	
01/14/03	Biochemical Oxygen Demand 5 Day	13	
04/16/03	Biochemical Oxygen Demand 5 Day	9	
07/16/03	Biochemical Oxygen Demand 5 Day	7	
10/09/03	Biochemical Oxygen Demand 5 Day	9	
01/09/02	Cadmium	<0.04	0.69
04/11/02	Cadmium	<0.04	
05/14/02	Cadmium	Not detected	
07/17/02	Cadmium	0.02	
10/08/02	Cadmium	<0.01	
11/21/02	Cadmium	<0.01	
01/14/03	Cadmium	<0.01	
04/16/03	Cadmium	<0.01	
05/13/03	Cadmium	<0.01	
07/16/03	Cadmium	<0.01	
10/09/03	Cadmium	<0.01	
11/20/03	Cadmium	<0.01	
01/09/02	Chemical Oxygen Demand	28	600
04/11/02	Chemical Oxygen Demand	48	
07/17/02	Chemical Oxygen Demand	80	
10/08/02	Chemical Oxygen Demand	24	
01/14/03	Chemical Oxygen Demand	58	
04/16/03	Chemical Oxygen Demand	18	
07/16/03	Chemical Oxygen Demand	32	
10/09/03	Chemical Oxygen Demand	30	
01/09/02	Chromium	0.63	3.92
04/11/02	Chromium	0.21	
05/14/02	Chromium	0.529	
07/17/02	Chromium	0.21	
10/08/02	Chromium	0.01	
11/21/02	Chromium	1.24	
01/14/03	Chromium	0.52	
04/16/03	Chromium	0.17	
05/13/03	Chromium	0.178	
07/16/03	Chromium	1.35	
10/09/03	Chromium	0.17	
11/20/03	Chromium	<0.01	
01/09/02	Copper	0.15	2.00
04/11/02	Copper	0.21	
05/14/02	Copper	0.244	
07/17/02	Copper	0.55	
10/08/02	Copper	0.08	
11/21/02	Copper	0.014	
01/14/03	Copper	0.43	

Fort Wayne Anodizing 01

Sample Date	Parameter	Result	Limit
04/16/03	Copper	0.37	
05/13/03	Copper	0.312	
07/16/03	Copper	0.2	
10/09/03	Copper	0.48	
11/20/03	Copper	0.178	
01/09/02	Lead	<0.04	0.39
04/11/02	Lead	0.14	
05/14/02	Lead	0.051	
07/17/02	Lead	0.26	
10/08/02	Lead	0.03	
11/21/02	Lead	<0.02	
01/14/03	Lead	0.05	
04/16/03	Lead	0.06	
05/13/03	Lead	0.061	
07/16/03	Lead	0.09	
10/09/03	Lead	0.11	
11/20/03	Lead	<0.01	
01/09/02	Mercury	0.000016	0.01
01/14/03	Mercury	0.00012	
01/09/02	Nickel	0.42	3.00
04/11/02	Nickel	0.93	
05/14/02	Nickel	0.327	
07/17/02	Nickel	5.54	
09/06/02	Nickel	0.17	
10/08/02	Nickel	0.07	
11/21/02	Nickel	0.054	
01/14/03	Nickel	0.85	
04/16/03	Nickel	0.61	
05/13/03	Nickel	0.575	
07/16/03	Nickel	0.18	
10/09/03	Nickel	0.42	
11/20/03	Nickel	0.241	
01/02/02	pH	8.2	6.0-12.0
01/09/02	pH	8.9	
01/16/02	pH	8.35	
02/12/02	pH	8.08	
02/25/02	pH	7	
03/04/02	pH	8.14	
03/21/02	pH	7.08	
04/09/02	pH	7.65	
04/11/02	pH	6.6	
04/24/02	pH	7.5	
05/02/02	pH	8.1	
05/14/02	pH	7.9	
07/09/02	pH	8.1	
07/17/02	pH	7.6	
07/23/02	pH	8	
08/08/02	pH	8.24	
08/19/02	pH	8.45	
09/12/02	pH	6.59	
09/23/02	pH	10.5	
10/02/02	pH	7	
10/08/02	pH	7.7	
10/18/02	pH	8	
11/05/02	pH	7.4	

Fort Wayne Anodizing 01

Sample Date	Parameter	Result	Limit
11/21/02	pH	7.32	
12/05/02	pH	7.4	
12/17/02	pH	7.93	
01/08/03	pH	7.1	
01/14/03	pH	9.4	
01/21/03	pH	7	
02/05/03	pH	7.8	
02/20/03	pH	7.15	
03/11/03	pH	7.55	
03/26/03	pH	8.23	
04/08/03	pH	8.25	
04/16/03	pH	6.5	
04/23/03	pH	7.65	
05/02/03	pH	9	
05/13/03	pH	8.91	
06/05/03	pH	7.45	
06/16/03	pH	8.1	
07/08/03	pH	8.4	
07/16/03	pH	7	
07/23/03	pH	8.5	
08/05/03	pH	7.8	
08/19/03	pH	8.55	
09/09/03	pH	7.97	
09/24/03	pH	7.52	
10/09/03	pH	8.2	
10/13/03	pH	7.1	
10/29/03	pH	7.61	
11/03/03	pH	9.1	
11/20/03	pH	9	
12/02/03	pH	7.81	
12/15/03	pH	7.8	
01/09/02	Silver	<0.04	0.3
04/11/02	Silver	<0.04	
07/17/02	Silver	<0.01	
10/08/02	Silver	0.01	
01/14/03	Silver	<0.01	
04/16/03	Silver	<0.01	
07/16/03	Silver	<0.01	
10/09/03	Silver	<0.01	
01/09/02	Tot. Suspended Solids	102	300
04/11/02	Tot. Suspended Solids	386	
07/17/02	Tot. Suspended Solids	342	
10/08/02	Tot. Suspended Solids	45	
01/14/03	Tot. Suspended Solids	262	
04/16/03	Tot. Suspended Solids	238	
07/16/03	Tot. Suspended Solids	127	
10/09/03	Tot. Suspended Solids	372	
01/09/02	Total Cyanide	0.017	0.98
04/11/02	Total Cyanide	0.0072	
05/14/02	Total Cyanide	0.063	
07/17/02	Total Cyanide	0.0022	
11/21/02	Total Cyanide	0.041	
01/14/03	Total Cyanide	0.0019	
04/16/03	Total Cyanide	0.0008	
05/13/03	Total Cyanide	<0.002	

Fort Wayne Anodizing 01

Sample Date	Parameter	Result	Limit
07/16/03	Total Cyanide	0.394	
10/09/03	Total Cyanide	0.006	
11/20/03	Total Cyanide	0.023	
01/09/02	Total Metal (40CFR413)	1.29	6.66
04/11/02	Total Metal (40CFR413)	1.51	
07/17/02	Total Metal (40CFR413)	6.53	
10/08/02	Total Metal (40CFR413)	0.21	
01/14/03	Total Metal (40CFR413)	1.98	
04/16/03	Total Metal (40CFR413)	1.31	
07/16/03	Total Metal (40CFR413)	1.88	
10/09/03	Total Metal (40CFR413)	1.26	
01/09/02	Total Phosphorus	4.7	10
04/11/02	Total Phosphorus	11.8	
07/17/02	Total Phosphorus	1.8	
10/08/02	Total Phosphorus	0.514	
01/14/03	Total Phosphorus	17	
04/16/03	Total Phosphorus	3	
07/16/03	Total Phosphorus	4	
10/09/03	Total Phosphorus	2	
01/09/02	Zinc	0.09	2.55
04/11/02	Zinc	0.16	
05/14/02	Zinc	0.205	
07/17/02	Zinc	0.23	
10/08/02	Zinc	0.05	
11/21/02	Zinc	<0.01	
01/14/03	Zinc	0.18	
04/16/03	Zinc	0.16	
05/13/03	Zinc	0.228	
07/16/03	Zinc	0.15	
10/09/03	Zinc	0.19	
11/20/03	Zinc	0.086	

Site Consumption

[illegible]ny: FW ANODIZING — IWS Number: 2087

[illegible] Name: FW ANODIZING 01 — Site Number: 1

Begin	End	Water	Sewer
.2/04/2001	01/04/2002	1,166	3,372
)1/04/2002	01/30/2002	901	2,501
)1/30/2002	03/04/2002	971	971
)3/04/2002	04/02/2002	932	2,192
)4/02/2002	05/02/2002	1,118	2,605
)5/02/2002	06/05/2002	897	2,376
)6/05/2002	07/02/2002	815	2,149
)7/02/2002	08/05/2002	1,207	2,735
)8/05/2002	08/30/2002	1,006	2,351
)8/30/2002	10/02/2002	1,292	2,917
L0/02/2002	11/01/2002	970	970
L1/01/2002	12/02/2002	715	1,865
L2/02/2002	01/03/2003	969	2,047
)1/03/2003	01/29/2003	1,417	2,544
)1/29/2003	03/04/2003	1,826	3,408
)3/04/2003	04/04/2003	1,561	2,626
)4/04/2003	05/05/2003	1,357	3,141
)5/05/2003	06/06/2003	1,128	2,931
)6/06/2003	07/01/2003	1,128	2,581
)7/01/2003	08/01/2003	1,356	2,682
)8/01/2003	09/01/2003	1,569	3,153
)9/[illegible]1/2003	10/01/2003	994	2,576
1[illegible]/2003	10/30/2003	1,373	1,373
10/30/2003	11/25/2003	852	2,039
11/25/2003	12/30/2003	815	1,967

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03102**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Fort Wayne Anodizing, Inc.
2535 Wayne Trace
Fort Wayne, IN 46803

Mailing Address:

same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 413 standards.

This permit shall become effective on **January 30, 2004.**

..is permit and the authorization to discharge wastewater shall expire on **January 30, 2009.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

.me: Tom Poiry

Permit 03102

I. **LIMITATIONS and MONITORING REQUIREMENTS**

A. **Fort Wayne Anodizing, Inc.** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for 4-Day Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.70	0.69	2/year	composite
Chromium	6.86	3.92	2/year	composite
Copper	2.00	2.65	2/year	composite
Lead	0.59	0.39	2/year	composite
Nickel	3.00	2.55	2/year	composite
Silver	0.30	N/A	Not Required	
Zinc	4.12	2.55	2/year	composite
Cyanide	1.20	0.98	2/year	grab
Total Metals	10.29	6.66		
pH	6.0-12.0		2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15^{th} and December 15^{th} respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours).

Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

Fort Wayne Anodizing 02

Sample Date	Parameter	Result	Limit
01/09/02	Ammonia-Nitrogen	0.393	25
04/11/02	Ammonia-Nitrogen	0.3	
07/17/02	Ammonia-Nitrogen	0.113	
10/08/02	Ammonia-Nitrogen	0.26	
01/14/03	Ammonia-Nitrogen	1	
04/16/03	Ammonia-Nitrogen	1	
07/17/03	Ammonia-Nitrogen	<3	
10/09/03	Ammonia-Nitrogen	<3	
01/09/02	Biochemical Oxygen Demand 5 Day	29	300
04/11/02	Biochemical Oxygen Demand 5 Day	2	
07/17/02	Biochemical Oxygen Demand 5 Day	test failed	
10/08/02	Biochemical Oxygen Demand 5 Day	8	
01/14/03	Biochemical Oxygen Demand 5 Day	16	
04/16/03	Biochemical Oxygen Demand 5 Day	8	
07/17/03	Biochemical Oxygen Demand 5 Day	6	
10/09/03	Biochemical Oxygen Demand 5 Day	8	
01/09/02	Cadmium	<0.04	0.69
04/11/02	Cadmium	<0.04	
05/14/02	Cadmium	Not detected	
07/17/02	Cadmium	<0.01	
10/08/02	Cadmium	<0.01	
11/21/02	Cadmium	<0.01	
01/14/03	Cadmium	<0.01	
04/16/03	Cadmium	<0.01	
05/13/03	Cadmium	<0.01	
07/17/03	Cadmium	<0.01	
10/09/03	Cadmium	<0.01	
11/20/03	Cadmium	<0.01	
01/09/02	Chemical Oxygen Demand	127	600
04/11/02	Chemical Oxygen Demand	50	
07/17/02	Chemical Oxygen Demand	76	
10/08/02	Chemical Oxygen Demand	23	
01/14/03	Chemical Oxygen Demand	75	
04/16/03	Chemical Oxygen Demand	66	
07/17/03	Chemical Oxygen Demand	16	
10/09/03	Chemical Oxygen Demand	33	
01/09/02	Chromium	<0.04	3.92
04/11/02	Chromium	<0.04	
05/14/02	Chromium	0.04	
07/17/02	Chromium	0.02	
10/08/02	Chromium	0.43	
11/21/02	Chromium	0.015	
01/14/03	Chromium	0.02	
04/16/03	Chromium	<0.01	
05/13/03	Chromium	0.012	
07/17/03	Chromium	0.03	
10/09/03	Chromium	0.1	
11/20/03	Chromium	0.161	
01/09/02	Copper	0.08	2.65
04/11/02	Copper	<0.04	
05/14/02	Copper	0.121	
07/17/02	Copper	0.03	
10/08/02	Copper	0.28	
11/21/02	Copper	0.022	
01/14/03	Copper	0.14	

Fort Wayne Anodizing 02

Sample Date	Parameter	Result	Limit
04/16/03	Copper	0.04	
05/13/03	Copper	0.04	
07/17/03	Copper	0.1	
10/09/03	Copper	0.27	
11/20/03	Copper	0.196	
01/09/02	Lead	<0.04	0.39
04/11/02	Lead	<0.04	
05/14/02	Lead	Not detected	
07/17/02	Lead	<0.01	
10/08/02	Lead	0.04	
11/21/02	Lead	<0.02	
01/14/03	Lead	<0.02	
04/16/03	Lead	<0.03	
05/13/03	Lead	<0.02	
07/17/03	Lead	0.03	
10/09/03	Lead	0.06	
11/20/03	Lead	<0.01	
01/09/02	Mercury	<0.000016	0.01
01/14/03	Mercury	<0.000005	
01/09/02	Nickel	<0.04	2.55
04/11/02	Nickel	<0.04	
05/14/02	Nickel	0.095	
07/17/02	Nickel	0.02	
10/08/02	Nickel	0.45	
11/21/02	Nickel	0.03	
01/14/03	Nickel	0.02	
04/16/03	Nickel	0.08	
05/13/03	Nickel	0.032	
07/17/03	Nickel	0.1	
10/09/03	Nickel	0.29	
11/20/03	Nickel	0.559	
01/02/02	pH	8.28	6.0-12.0
01/09/02	pH	9	
01/16/02	pH	7.2	
02/12/02	pH	8.75	
02/25/02	pH	8.79	
03/04/02	pH	8.96	
03/21/02	pH	6.6	
04/09/02	pH	10	
04/11/02	pH	7.8	
04/27/02	pH	9.1	
05/02/02	pH	9.51	
05/14/02	pH	9.5	
07/09/02	pH	9.4	
07/17/02	pH	10	
07/23/02	pH	9.3	
08/08/02	pH	9	
08/19/02	pH	9.1	
09/12/02	pH	9.9	
09/23/02	pH	7.55	
10/02/02	pH	8.4	
10/08/02	pH	6.9	
10/18/02	pH	9.26	
11/05/02	pH	9.8	
11/21/02	pH	9.1	

Fort Wayne Anodizing 02

Sample Date	Parameter	Result	Limit
12/05/02	pH	8.9	
12/17/02	pH	8.36	
01/08/03	pH	7.9	
01/14/03	pH	9.8	
01/21/03	pH	9.1	
02/05/03	pH	9.75	
02/20/03	pH	9.1	
03/11/03	pH	8	
03/26/03	pH	9.5	
04/08/03	pH	9.04	
04/16/03	pH	11.3	
04/23/03	pH	9.11	
05/02/03	pH	8.1	
05/13/03	pH	8.66	
06/05/03	pH	8.22	
06/16/03	pH	7.32	
07/08/03	pH	9.1	
07/17/03	pH	8.4	
07/23/03	pH	9	
08/05/03	pH	9	
08/19/03	pH	9.21	
09/09/03	pH	9.25	
09/24/03	pH	9.1	
10/09/03	pH	9.4	
10/13/03	pH	7.7	
10/29/03	pH	8.77	
11/03/03	pH	8.31	
11/20/03	pH	8.75	
12/02/03	pH	9.1	
12/15/03	pH	8.75	
01/09/02	Silver	<0.04	0.3
04/11/02	Silver	<0.04	
07/17/02	Silver	<0.01	
10/08/02	Silver	<0.01	
01/14/03	Silver	<0.01	
04/16/03	Silver	<0.01	
07/17/03	Silver	<0.01	
10/09/03	Silver	<0.01	
01/09/02	Tot. Suspended Solids	36	300
04/11/02	Tot. Suspended Solids	4	
07/17/02	Tot. Suspended Solids	160	
10/08/02	Tot. Suspended Solids	230	
01/14/03	Tot. Suspended Solids	142	
04/16/03	Tot. Suspended Solids	9	
07/17/03	Tot. Suspended Solids	72	
10/09/03	Tot. Suspended Solids	28	
01/09/02	Total Cyanide	0.0032	0.98
04/11/02	Total Cyanide	0.0025	
05/14/02	Total Cyanide	0.042	
07/17/02	Total Cyanide	0.0047	
11/21/02	Total Cyanide	<0.002	
01/14/03	Total Cyanide	0.011	
04/16/03	Total Cyanide	0.004	
05/13/03	Total Cyanide	0.039	
07/17/03	Total Cyanide	0.009	

Fort Wayne Anodizing 02

Sample Date	Parameter	Result	Limit
10/09/03	Total Cyanide	0.002	
11/20/03	Total Cyanide	0.046	
01/09/02	Total Metal (40CFR413)	0.16	6.66
04/11/02	Total Metal (40CFR413)	0.08	
07/17/02	Total Metal (40CFR413)	0.13	
10/08/02	Total Metal (40CFR413)	1.39	
01/14/03	Total Metal (40CFR413)	0.27	
04/16/03	Total Metal (40CFR413)	0.21	
07/17/03	Total Metal (40CFR413)	0.29	
10/09/03	Total Metal (40CFR413)	0.82	
01/09/02	Total Phosphorus	0.1	10
04/11/02	Total Phosphorus	<0.06	
07/17/02	Total Phosphorus	0.092	
10/08/02	Total Phosphorus	3	
01/14/03	Total Phosphorus	0.546	
04/16/03	Total Phosphorus	< 0.06	
07/17/03	Total Phosphorus	1	
10/09/03	Total Phosphorus	0.046	
01/09/02	Zinc	0.04	2.55
04/11/02	Zinc	<0.04	
05/14/02	Zinc	0.051	
07/17/02	Zinc	0.06	
10/08/02	Zinc	0.23	
11/21/02	Zinc	<0.01	
01/14/03	Zinc	0.09	
04/16/03	Zinc	0.03	
05/13/03	Zinc	0.036	
07/17/03	Zinc	0.06	
10/09/03	Zinc	0.16	
11/20/03	Zinc	0.097	

ompany: FW ANODIZING
ite Name: FW ANODIZING 02

IWS Number: 2087
Site Number: 2

in	End	Water	Sewer
2/04/2001	01/04/2002	5,000	5,000
1/04/2002	01/30/2002	1,064	1,064
1/30/2002	03/04/2002	3,331	2,582
3/04/2002	04/02/2002	3,001	3,001
4/02/2002	05/02/2002	2,759	2,759
5/02/2002	06/05/2002	2,570	2,570
6/05/2002	07/02/2002	1,964	1,964
7/02/2002	08/05/2002	2,333	2,333
8/05/2002	08/30/2002	2,008	2,008
8/30/2002	10/02/2002	2,546	2,546
0/02/2002	11/01/2002	1,940	1,940
1/01/2002	12/02/2002	1,851	1,851
2/02/2002	01/03/2003	1,877	1,877
1/03/2003	01/29/2003	1,794	1,794
1/29/2003	03/04/2003	2,337	2,337
3/04/2003	04/04/2003	1,649	1,649
4/04/2003	05/05/2003	4,811	2,471
5/05/2003	06/06/2003	2,340	2,340
6/06/2003	07/01/2003	2,096	2,096
7/01/2003	08/01/2003	2,028	2,028
8/01/2003	09/01/2003	2,113	2,113
9/01/2003	10/01/2003	1,763	1,763
10/01/2003	10/30/2003	2,304	2,304
10[illegible]/2003	11/25/2003	1,587	1,587
[illegible]/2003	12/30/2003	2,028	2,028

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03301**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Fort Wayne Newspapers
600 West Main Street
Fort Wayne, IN 46802

Mailing Address:

Fort Wayne Newspapers, Inc.
P.O. Box 100
Fort Wayne, IN 46801-0100

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

This permit shall become effective on **August 14, 2003.**

.nis permit and the authorization to discharge wastewater shall expire on **August 14, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

ame: Denzil Cogar

Permit 03301

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Fort Wayne Newspapers** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Self-Monitoring Frequency**	**Sample Type**
pH	6.0-12.0	2/month	grab
Silver	4.0	2/month	composite
TPH (Total Petroleum Hydrocarbons)	100	2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located in the sidewalk along Main Street. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

Fort Wayne Newspapers

Sample Date	Parameter	Result	Limit
01/30/02	Ammonia-Nitrogen	31	25.00
05/22/02	Ammonia-Nitrogen	40.2	
08/27/02	Ammonia-Nitrogen	95.4	
11/06/02	Ammonia-Nitrogen	160	
12/03/02	Ammonia-Nitrogen	48	
02/06/03	Ammonia-Nitrogen	49	
05/28/03	Ammonia-Nitrogen	70	
08/12/03	Ammonia-Nitrogen	40	
11/04/03	Ammonia-Nitrogen	40	
01/30/02	Biochemical Oxygen Demand 5 Day	211	300.00
05/22/02	Biochemical Oxygen Demand 5 Day	284	
08/27/02	Biochemical Oxygen Demand 5 Day	1677	
11/06/02	Biochemical Oxygen Demand 5 Day	4998	
12/03/02	Biochemical Oxygen Demand 5 Day	592	
02/06/03	Biochemical Oxygen Demand 5 Day	682	
05/28/03	Biochemical Oxygen Demand 5 Day	840	
08/12/03	Biochemical Oxygen Demand 5 Day	654	
11/04/03	Biochemical Oxygen Demand 5 Day	337	
01/30/02	Cadmium	<0.04	0.70
05/22/02	Cadmium	<0.04	
08/27/02	Cadmium	<0.01	
11/06/02	Cadmium	<0.01	
02/06/03	Cadmium	<0.01	
05/28/03	Cadmium	<0.01	
08/12/03	Cadmium	<0.01	
11/04/03	Cadmium	<0.01	
01/30/02	Chemical Oxygen Demand	628	600.00
05/22/02	Chemical Oxygen Demand	1076	
08/27/02	Chemical Oxygen Demand	3492	
11/06/02	Chemical Oxygen Demand	12880	
12/03/02	Chemical Oxygen Demand	3400	
02/06/03	Chemical Oxygen Demand	2932	
05/28/03	Chemical Oxygen Demand	2758	
08/12/03	Chemical Oxygen Demand	1500	
11/04/03	Chemical Oxygen Demand	980	
01/30/02	Chromium	<0.04	10.00
05/22/02	Chromium	<0.04	
08/27/02	Chromium	0.04	
11/06/02	Chromium	1.01	
02/06/03	Chromium	0.2	
05/28/03	Chromium	0.08	
08/12/03	Chromium	0.21	
11/04/03	Chromium	0.07	
01/30/02	Copper	0.06	2.00
05/22/02	Copper	<0.04	
08/27/02	Copper	0.32	
11/06/02	Copper	7.8	
12/04/02	Copper	1.41	
12/26/02	Copper	1.55	
02/06/03	Copper	1.68	
05/28/03	Copper	0.24	
08/12/03	Copper	0.08	
11/04/03	Copper	0.03	
01/30/02	Lead	<0.04	0.60
05/22/02	Lead	<0.04	

Fort Wayne Newspapers

Sample Date	Parameter	Result	Limit
08/27/02	Lead	0.08	
11/06/02	Lead	6.47	
12/04/02	Lead	0.06	
12/26/02	Lead	0.02	
02/06/03	Lead	<0.02	
05/28/03	Lead	0.51	
08/12/03	Lead	<0.03	
11/04/03	Lead	<0.03	
01/30/02	Mercury	0.0002	0.01
02/06/03	Mercury	0.000015	
01/30/02	Nickel	<0.04	3.00
05/22/02	Nickel	<0.04	
08/27/02	Nickel	0.02	
11/06/02	Nickel	0.13	
02/06/03	Nickel	<0.01	
05/28/03	Nickel	0.02	
08/12/03	Nickel	<0.01	
11/04/03	Nickel	<0.01	
01/02/02	pH	7.92	6.0-12.0
01/15/02	pH	7.14	
01/28/02	pH	6.94	
01/30/02	pH	6.5	
02/06/02	pH	7.12	
02/18/02	pH	6.91	
03/13/02	pH	7.42	
03/20/02	pH	6.88	
04/10/02	pH	7.35	
04/24/02	pH	8.03	
05/16/02	pH	6.6	
05/22/02	pH	7.7	
05/24/02	pH	6.72	
06/14/02	pH	7.81	
06/20/02	pH	7.16	
07/02/02	pH	7.56	
07/17/02	pH	6.17	
08/06/02	pH	6.78	
08/20/02	pH	7.48	
08/27/02	pH	8.2	
09/11/02	pH	7.24	
09/25/02	pH	7.19	
10/01/02	pH	8.73	
10/15/02	pH	7.22	
11/05/02	pH	7.31	
11/06/02	pH	6.5	
11/19/02	pH	7.49	
12/04/02	pH	8.22	
12/17/02	pH	7.92	
01/16/03	pH	8.35	
01/21/03	pH	7.22	
02/04/03	pH	8.21	
02/06/03	pH	8.8	
02/18/03	pH	7.58	
03/04/03	pH	7.18	
03/18/03	pH	8.4	
04/01/03	pH	7.89	

Fort Wayne Newspapers

Sample Date	Parameter	Result	Limit
04/15/03	pH	7.64	
05/06/03	pH	7.37	
05/20/03	pH	7.49	
05/28/03	pH	8	
06/03/03	pH	6.84	
06/17/03	pH	7.72	
07/08/03	pH	8.83	
07/29/03	pH	7.52	
08/05/03	pH	6.61	
08/12/03	pH	8.3	
08/15/03	pH	7.72	
09/09/03	pH	7.53	
09/23/03	pH	8.36	
10/07/03	pH	7.75	
10/21/03	pH	8.66	
11/04/03	pH	Scratched	
11/11/03	pH	7.33	
11/20/03	pH	8.16	
12/09/03	pH	7.17	
12/23/03	pH	6.68	
01/02/02	Silver	0.59	4.00
01/15/02	Silver	3.73	
01/18/02	Silver	0.75	
01/18/02	Silver	0.53	
01/28/02	Silver	0.27	
01/30/02	Silver	1.78	
02/06/02	Silver	0.25	
02/11/02	Silver	0.6	
02/18/02	Silver	0.14	
03/13/02	Silver	0.79	
03/20/02	Silver	0.17	
04/10/02	Silver	0.57	
04/24/02	Silver	0.25	
05/16/02	Silver	1.12	
05/22/02	Silver	0.45	
05/24/02	Silver	1.25	
06/14/02	Silver	0.75	
06/20/02	Silver	0.5	
07/02/02	Silver	0.39	
07/17/02	Silver	2.22	
08/06/02	Silver	0.85	
08/20/02	Silver	0.44	
08/27/02	Silver	0.6	
08/28/02	Silver	0.72	
09/11/02	Silver	0.2	
09/25/02	Silver	1.14	
10/01/02	Silver	0.87	
10/15/02	Silver	0.91	
11/05/02	Silver	0.75	
11/06/02	Silver	3.56	
11/07/02	Silver	39.9	
11/19/02	Silver	0.12	
12/04/02	Silver	0.57	
12/04/02	Silver	0.81	
12/04/02	Silver	0.57	

Fort Wayne Newspapers

Sample Date	Parameter	Result	Limit
12/17/02	Silver	0.48	
12/27/02	Silver	1.36	
01/16/03	Silver	1.31	
01/21/03	Silver	0.6	
02/04/03	Silver	0.44	
02/06/03	Silver	2.89	
02/07/03	Silver	2.64	
02/18/03	Silver	0.19	
03/04/03	Silver	0.47	
03/18/03	Silver	1.7	
04/01/03	Silver	0.79	
04/15/03	Silver	1.8	
05/06/03	Silver	1.6	
05/20/03	Silver	0.26	
05/28/03	Silver	0.82	
06/03/03	Silver	1.1	
06/17/03	Silver	0.71	
07/08/03	Silver	0.36	
07/29/03	Silver	1.24	
08/05/03	Silver	2.92	
08/12/03	Silver	0.53	
08/12/03	Silver	0.48	
08/15/03	Silver	0.47	
09/09/03	Silver	0.34	
09/23/03	Silver	2.49	
10/07/03	Silver	0.31	
10/21/03	Silver	0.31	
11/04/03	Silver	0.42	
11/05/03	Silver	0.47	
11/11/03	Silver	0.35	
11/20/03	Silver	0.67	
12/09/03	Silver	0.1	
12/23/03	Silver	0.2	
01/30/02	Tot. Suspended Solids	108	300.00
05/22/02	Tot. Suspended Solids	232	
08/27/02	Tot. Suspended Solids	2070	
11/06/02	Tot. Suspended Solids	6940	
12/03/02	Tot. Suspended Solids	585	
02/06/03	Tot. Suspended Solids	860	
05/28/03	Tot. Suspended Solids	1615	
08/12/03	Tot. Suspended Solids	86	
11/04/03	Tot. Suspended Solids	253	
02/06/02	Total Petroleum Hydrocarbon	5	100.00
02/18/02	Total Petroleum Hydrocarbon	<5	
04/10/02	Total Petroleum Hydrocarbon	35	
04/24/02	Total Petroleum Hydrocarbon	60	
05/16/02	Total Petroleum Hydrocarbon	60	
05/24/02	Total Petroleum Hydrocarbon	31	
06/14/02	Total Petroleum Hydrocarbon	61	
06/20/02	Total Petroleum Hydrocarbon	<5	
08/06/02	Total Petroleum Hydrocarbon	26	
08/20/02	Total Petroleum Hydrocarbon	24	
09/11/02	Total Petroleum Hydrocarbon	39	
09/25/02	Total Petroleum Hydrocarbon	90	
10/01/02	Total Petroleum Hydrocarbon	88	

Fort Wayne Newspapers

Sample Date	Parameter	Result	Limit
10/15/02	Total Petroleum Hydrocarbon	8	
11/05/02	Total Petroleum Hydrocarbon	21	
11/19/02	Total Petroleum Hydrocarbon	9	
12/04/02	Total Petroleum Hydrocarbon	<5	
12/17/02	Total Petroleum Hydrocarbon	<5	
01/16/03	Total Petroleum Hydrocarbon	21	
01/21/03	Total Petroleum Hydrocarbon	15	
02/04/03	Total Petroleum Hydrocarbon	13	
02/06/03	Total Petroleum Hydrocarbon	54	
02/18/03	Total Petroleum Hydrocarbon	<5.0	
03/04/03	Total Petroleum Hydrocarbon	12	
03/18/03	Total Petroleum Hydrocarbon	35	
04/01/03	Total Petroleum Hydrocarbon	70	
04/15/03	Total Petroleum Hydrocarbon	102	
05/06/03	Total Petroleum Hydrocarbon	55	
05/20/03	Total Petroleum Hydrocarbon	21	
06/03/03	Total Petroleum Hydrocarbon	40	
06/17/03	Total Petroleum Hydrocarbon	69	
07/08/03	Total Petroleum Hydrocarbon	26	
07/29/03	Total Petroleum Hydrocarbon	7	
08/05/03	Total Petroleum Hydrocarbon	66	
08/12/03	Total Petroleum Hydrocarbon	<44	
08/15/03	Total Petroleum Hydrocarbon	11	
09/09/03	Total Petroleum Hydrocarbon	34	
09/23/03	Total Petroleum Hydrocarbon	23	
10/07/03	Total Petroleum Hydrocarbon	67	
10/21/03	Total Petroleum Hydrocarbon	36	
11/04/03	Total Petroleum Hydrocarbon	void	
11/11/03	Total Petroleum Hydrocarbon	<5.0	
11/20/03	Total Petroleum Hydrocarbon	28	
12/09/03	Total Petroleum Hydrocarbon	15	
12/23/03	Total Petroleum Hydrocarbon	<5.0	
01/30/02	Total Phosphorus	3.5	10.00
05/22/02	Total Phosphorus	4.5	
07/02/02	Total Phosphorus	16	
07/17/02	Total Phosphorus	115	
08/27/02	Total Phosphorus	44	
11/06/02	Total Phosphorus	134	
12/03/02	Total Phosphorus	80	
02/06/03	Total Phosphorus	9	
05/28/03	Total Phosphorus	28	
08/12/03	Total Phosphorus	13	
11/04/03	Total Phosphorus	4	
01/30/02	Zinc	0.08	6.00
05/22/02	Zinc	0.13	
08/27/02	Zinc	0.99	
11/06/02	Zinc	4.2	
02/06/03	Zinc	0.15	
05/28/03	Zinc	0.68	
08/12/03	Zinc	0.4	
11/04/03	Zinc	0.18	

Site Consumption

ompany: FW NEWSPAPERS INC

ite Name:

IWS Number: 4782

Site Number: 1

Begin	End	Water	Sewer
2/05/2001	01/04/2002	250	238
1/04/2002	02/04/2002	229	229
2/04/2002	03/01/2002	338	338
3/01/2002	04/03/2002	363	351
4/03/2002	05/03/2002	471	372
5/03/2002	06/04/2002	568	409
6/04/2002	07/05/2002	642	356
7/05/2002	07/31/2002	695	348
7/31/2002	08/31/2002	868	429
8/31/2002	10/03/2002	618	353
0/03/2002	10/30/2002	435	366
0/30/2002	12/03/2002	477	463
2/03/2002	01/03/2003	392	392
1/03/2003	02/01/2003	321	321
2/01/2003	02/27/2003	283	283
2/27/2003	03/27/2003	281	281
3/27/2003	04/29/2003	380	276
4/29/2003	05/29/2003	501	337
5/29/2003	06/30/2003	543	292
6/[illegible]/2003	07/30/2003	688	312
[illegible]/2003	08/29/2003	753	351
8/29/2003	09/30/2003	517	283
9/30/2003	10/30/2003	475	475
.0/30/2003	12/02/2003	476	361
.2/02/2003	01/02/2004	284	284

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03501**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Franke Plating Works, Inc.
2109 East Washington Blvd.
Fort Wayne, IN 46803

Mailing Address:

Same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 413 standards.

This permit shall become effective on **October 31, 2003.**

ɪɪis permit and the authorization to discharge wastewater shall expire on **October 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

ame: Warren Franke

Permit 03501

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Franke Plating Works, Inc.** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for 4-Day Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.70	0.50	1/week	composite
Chromium	4.97	2.84	1/week	composite
Copper	2.00	1.92	1/week	composite
Lead	0.43	0.28	2/year	composite
Nickel	2.91	1.85	1/week	composite
Silver	0.30	0.50	2/year	composite
Zinc	2.98	1.85	1/week	composite
Cyanide	1.20	0.71	1/week	grab
pH	6.0-12.0		1/week	grab
Total Metals	7.46	4.83	N/A	N/A

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

Franke Plating

Sample Date	Parameter	Result	Limit
01/09/02	Ammonia-Nitrogen	9.3	25
04/18/02	Ammonia-Nitrogen	36.5	
07/16/02	Ammonia-Nitrogen	3.4	
10/09/02	Ammonia-Nitrogen	3	
02/05/03	Ammonia-Nitrogen	6	
04/15/03	Ammonia-Nitrogen	2	
07/15/03	Ammonia-Nitrogen	<3	
10/21/03	Ammonia-Nitrogen	<3	
01/09/02	Biochemical Oxygen Demand 5 Day	20	300
04/18/02	Biochemical Oxygen Demand 5 Day	25	
07/16/02	Biochemical Oxygen Demand 5 Day	12	
10/09/02	Biochemical Oxygen Demand 5 Day	5	
02/05/03	Biochemical Oxygen Demand 5 Day	33	
04/15/03	Biochemical Oxygen Demand 5 Day	12	
07/15/03	Biochemical Oxygen Demand 5 Day	7	
10/21/03	Biochemical Oxygen Demand 5 Day	8	
01/02/02	Cadmium	0.13	0.7
01/09/02	Cadmium	0.24	
01/10/02	Cadmium	0.23	
01/16/02	Cadmium	0.13	
02/06/02	Cadmium	0.16	
02/20/02	Cadmium	<0.01	
04/10/02	Cadmium	0.15	
04/17/02	Cadmium	0.41	
04/18/02	Cadmium	0.15	
04/18/02	Cadmium	0.14	
04/24/02	Cadmium	<0.01	
04/29/02	Cadmium	0.04	
05/02/02	Cadmium	0.57	
05/16/02	Cadmium	0.24	
06/13/02	Cadmium	0.1	
06/27/02	Cadmium	0.02	
07/10/02	Cadmium	0.06	
07/16/02	Cadmium	0.06	
07/17/02	Cadmium	0.05	
07/24/02	Cadmium	0.07	
08/01/02	Cadmium	0.15	
08/07/02	Cadmium	0.03	
08/15/02	Cadmium	0.04	
08/22/02	Cadmium	0.03	
08/29/02	Cadmium	0.07	
09/06/02	Cadmium	0.03	
09/10/02	Cadmium	0.05	
09/17/02	Cadmium	0.03	
09/25/02	Cadmium	0.01	
10/01/02	Cadmium	0.04	
10/08/02	Cadmium	0.05	
10/09/02	Cadmium	0.06	
10/10/02	Cadmium	0.05	
10/15/02	Cadmium	0.05	
10/22/02	Cadmium	0.03	
10/29/02	Cadmium	0.07	
11/04/02	Cadmium	0.01	
11/08/02	Cadmium	0.4	
11/08/02	Cadmium	0.39	

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Sample Date	Parameter	Result	Limit
11/09/02	Cadmium	0.2	
11/09/02	Cadmium	0.23	
11/11/02	Cadmium	0.03	
11/15/02	Cadmium	0.04	
11/18/02	Cadmium	0.17	
11/25/02	Cadmium	0.06	
12/02/02	Cadmium	0.01	
12/09/02	Cadmium	0.12	
12/16/02	Cadmium	0.28	
12/26/02	Cadmium	<0.01	
12/30/02	Cadmium	0.48	
01/06/03	Cadmium	0.08	
01/13/03	Cadmium	0.58	
01/20/03	Cadmium	0.26	
01/27/03	Cadmium	0.07	
02/03/03	Cadmium	0.16	
02/05/03	Cadmium	0.07	
02/06/03	Cadmium	0.06	
02/10/03	Cadmium	0.09	
02/17/03	Cadmium	0.08	
02/24/03	Cadmium	0.06	
03/03/03	Cadmium	0.29	
03/10/03	Cadmium	0.03	
03/17/03	Cadmium	0.05	
03/24/03	Cadmium	0.46	
03/31/03	Cadmium	0.05	
04/07/03	Cadmium	0.04	
04/14/03	Cadmium	0.02	
04/15/03	Cadmium	0.05	
04/16/03	Cadmium	0.04	
04/21/03	Cadmium	0.08	
04/28/03	Cadmium	0.07	
05/05/03	Cadmium	0.01	
05/12/03	Cadmium	<0.01	
05/20/03	Cadmium	0.02	
05/27/03	Cadmium	0.03	
06/02/03	Cadmium	0.06	
06/09/03	Cadmium	0.01	
06/16/03	Cadmium	0.02	
06/23/03	Cadmium	0.06	
06/30/03	Cadmium	0.36	
07/07/03	Cadmium	0.02	
07/14/03	Cadmium	0.1	
07/15/03	Cadmium	0.02	
07/21/03	Cadmium	0.03	
07/24/03	Cadmium	0.03	
07/28/03	Cadmium	0.01	
08/04/03	Cadmium	0.02	
08/11/03	Cadmium	<0.01	
08/19/03	Cadmium	0.01	
08/25/03	Cadmium	0.59	
09/02/03	Cadmium	0.12	
09/08/03	Cadmium	0.1	
09/15/03	Cadmium	0.39	
09/22/03	Cadmium	0.07	

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Sample Date	Parameter	Result	Limit
09/29/03	Cadmium	<0.01	
10/06/03	Cadmium	0.04	
10/13/03	Cadmium	0.32	
10/16/03	Cadmium	1.02	
10/20/03	Cadmium	0.05	
10/21/03	Cadmium	0.04	
10/22/03	Cadmium	0.04	
10/27/03	Cadmium	0.02	
11/03/03	Cadmium	0.03	
11/10/03	Cadmium	0.03	
11/17/03	Cadmium	0.08	
11/25/03	Cadmium	0.02	
12/01/03	Cadmium	0.07	
12/08/03	Cadmium	0.04	
12/15/03	Cadmium	0.05	
12/16/03	Cadmium	0.04	
12/22/03	Cadmium	0.09	
12/29/03	Cadmium	0.03	
01/09/02	Chemical Oxygen Demand	89	600
04/18/02	Chemical Oxygen Demand	114	
07/16/02	Chemical Oxygen Demand	35	
10/09/02	Chemical Oxygen Demand	< 14	
02/05/03	Chemical Oxygen Demand	86	
04/15/03	Chemical Oxygen Demand	23	
07/15/03	Chemical Oxygen Demand	10	
10/21/03	Chemical Oxygen Demand	26	
01/02/02	Chromium	0.52	4.97
01/09/02	Chromium	0.1	
01/10/02	Chromium	0.12	
01/16/02	Chromium	0.06	
02/06/02	Chromium	0.07	
02/20/02	Chromium	1.91	
04/10/02	Chromium	0.35	
04/17/02	Chromium	6.69	
04/18/02	Chromium	0.17	
04/18/02	Chromium	0.15	
04/24/02	Chromium	0.01	
04/29/02	Chromium	0.3	
05/02/02	Chromium	0.45	
05/16/02	Chromium	0.09	
06/13/02	Chromium	0.08	
06/18/02	Chromium	0.15	
06/27/02	Chromium	0.05	
07/10/02	Chromium	0.29	
07/16/02	Chromium	0.35	
07/17/02	Chromium	0.31	
07/24/02	Chromium	0.44	
08/01/02	Chromium	0.06	
08/07/02	Chromium	0.04	
08/15/02	Chromium	0.08	
08/22/02	Chromium	0.05	
08/29/02	Chromium	0.09	
09/06/02	Chromium	0.03	
09/10/02	Chromium	0.54	
09/17/02	Chromium	0.1	

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Sample Date	Parameter	Result	Limit
09/25/02	Chromium	<0.01	
10/01/02	Chromium	0.05	
10/08/02	Chromium	0.08	
10/09/02	Chromium	0.07	
10/10/02	Chromium	0.06	
10/15/02	Chromium	0.1	
10/22/02	Chromium	0.09	
10/29/02	Chromium	0.05	
11/04/02	Chromium	0.02	
11/08/02	Chromium	0.1	
11/08/02	Chromium	0.09	
11/09/02	Chromium	1.43	
11/09/02	Chromium	1.41	
11/11/02	Chromium	0.13	
11/15/02	Chromium	0.65	
11/18/02	Chromium	0.31	
11/25/02	Chromium	0.19	
12/02/02	Chromium	0.07	
12/09/02	Chromium	0.08	
12/16/02	Chromium	0.39	
12/26/02	Chromium	0.01	
12/30/02	Chromium	1.41	
01/06/03	Chromium	0.07	
01/13/03	Chromium	0.53	
01/20/03	Chromium	0.05	
01/27/03	Chromium	0.02	
02/03/03	Chromium	0.86	
02/05/03	Chromium	0.38	
02/06/03	Chromium	0.34	
02/10/03	Chromium	0.12	
02/17/03	Chromium	1.4	
02/24/03	Chromium	0.42	
03/03/03	Chromium	0.9	
03/10/03	Chromium	0.05	
03/17/03	Chromium	0.04	
03/24/03	Chromium	0.21	
03/31/03	Chromium	0.03	
04/07/03	Chromium	0.28	
04/14/03	Chromium	0.14	
04/15/03	Chromium	0.07	
04/16/03	Chromium	0.07	
04/21/03	Chromium	0.07	
04/28/03	Chromium	0.43	
05/05/03	Chromium	0.14	
05/12/03	Chromium	0.04	
05/20/03	Chromium	0.03	
05/27/03	Chromium	0.03	
06/02/03	Chromium	0.05	
06/09/03	Chromium	0.1	
06/16/03	Chromium	0.04	
06/23/03	Chromium	0.04	
06/30/03	Chromium	0.11	
07/07/03	Chromium	0.02	
07/14/03	Chromium	0.04	
07/15/03	Chromium	<0.01	

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Sample Date	Parameter	Result	Limit
07/21/03	Chromium	0.06	
07/24/03	Chromium	0.01	
07/28/03	Chromium	0.02	
08/04/03	Chromium	0.1	
08/11/03	Chromium	0.01	
08/19/03	Chromium	0.02	
08/25/03	Chromium	0.21	
09/02/03	Chromium	0.32	
09/08/03	Chromium	0.14	
09/15/03	Chromium	0.35	
09/22/03	Chromium	0.15	
09/29/03	Chromium	0.03	
10/06/03	Chromium	0.08	
10/13/03	Chromium	0.5	
10/16/03	Chromium	0.14	
10/20/03	Chromium	0.62	
10/21/03	Chromium	0.11	
10/22/03	Chromium	0.11	
10/27/03	Chromium	0.04	
11/03/03	Chromium	0.08	
11/10/03	Chromium	0.12	
11/17/03	Chromium	0.19	
11/25/03	Chromium	0.03	
12/01/03	Chromium	0.1	
12/08/03	Chromium	0.1	
12/15/03	Chromium	0.09	
12/22/03	Chromium	0.41	
12/29/03	Chromium	0.38	
01/09/02	Copper	1.91	2
01/10/02	Copper	1.77	
04/18/02	Copper	0.6	
04/18/02	Copper	0.53	
05/02/02	Copper	1.01	
07/16/02	Copper	0.29	
07/17/02	Copper	0.28	
07/24/02	Copper	0.2	
07/24/02	Copper	0.16	
08/01/02	Copper	0.37	
08/07/02	Copper	0.07	
08/15/02	Copper	0.11	
08/22/02	Copper	0.1	
08/29/02	Copper	0.2	
09/06/02	Copper	0.18	
09/10/02	Copper	0.08	
09/17/02	Copper	0.07	
09/25/02	Copper	0.03	
10/01/02	Copper	0.38	
10/08/02	Copper	0.13	
10/09/02	Copper	0.14	
10/10/02	Copper	0.12	
10/15/02	Copper	0.1	
10/22/02	Copper	0.15	
10/29/02	Copper	0.21	
11/04/02	Copper	0.04	
11/08/02	Copper	1.09	

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Sample Date	Parameter	Result	Limit
11/08/02	Copper	0.9	
11/09/02	Copper	1.04	
11/09/02	Copper	0.89	
11/11/02	Copper	0.14	
11/15/02	Copper	0.45	
11/18/02	Copper	0.56	
11/25/02	Copper	0.58	
12/02/02	Copper	0.07	
12/09/02	Copper	0.21	
12/16/02	Copper	0.58	
12/26/02	Copper	0.02	
12/30/02	Copper	0.19	
01/06/03	Copper	0.35	
01/13/03	Copper	3.33	
01/20/03	Copper	0.25	
01/27/03	Copper	0.22	
02/03/03	Copper	0.53	
02/05/03	Copper	0.13	
02/06/03	Copper	0.1	
02/10/03	Copper	0.28	
02/17/03	Copper	0.32	
02/24/03	Copper	0.25	
03/03/03	Copper	0.68	
03/10/03	Copper	0.07	
03/17/03	Copper	0.14	
03/24/03	Copper	6.29	
03/31/03	Copper	0.09	
04/01/03	Copper	0.08	
04/07/03	Copper	0.14	
04/14/03	Copper	0.06	
04/15/03	Copper	0.12	
04/16/03	Copper	0.1	
04/21/03	Copper	0.14	
04/28/03	Copper	0.22	
05/05/03	Copper	0.08	
05/12/03	Copper	0.4	
05/20/03	Copper	0.34	
05/27/03	Copper	0.2	
06/02/03	Copper	0.18	
06/03/03	Copper	0.09	
06/09/03	Copper	0.11	
06/16/03	Copper	0.15	
06/23/03	Copper	0.17	
06/30/03	Copper	0.96	
07/07/03	Copper	0.04	
07/14/03	Copper	0.42	
07/15/03	Copper	0.16	
07/21/03	Copper	0.09	
07/24/03	Copper	0.15	
07/28/03	Copper	0.05	
08/04/03	Copper	0.14	
08/11/03	Copper	0.05	
08/19/03	Copper	0.06	
08/25/03	Copper	0.13	
09/02/03	Copper	0.16	

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Sample Date	Parameter	Result	Limit
09/08/03	Copper	0.1	
09/15/03	Copper	0.13	
09/22/03	Copper	0.04	
09/29/03	Copper	0.03	
10/06/03	Copper	0.1	
10/13/03	Copper	0.22	
10/16/03	Copper	1.02	
10/20/03	Copper	0.09	
10/21/03	Copper	0.04	
10/22/03	Copper	0.05	
10/27/03	Copper	0.04	
11/03/03	Copper	0.06	
11/10/03	Copper	0.12	
11/17/03	Copper	0.07	
11/25/03	Copper	0.09	
12/01/03	Copper	0.1	
12/08/03	Copper	0.18	
12/15/03	Copper	0.1	
12/22/03	Copper	0.27	
12/29/03	Copper	0.26	
01/09/02	Lead	<0.04	0.43
01/10/02	Lead	0.07	
04/18/02	Lead	<0.04	
04/18/02	Lead	<0.02	
05/02/02	Lead	0.02	
07/16/02	Lead	<0.01	
07/17/02	Lead	<0.06	
10/09/02	Lead	<0.02	
10/10/02	Lead	<0.06	
11/04/02	Lead	<0.06	
11/08/02	Lead	<0.02	
11/08/02	Lead	<0.06	
11/09/02	Lead	<0.02	
11/09/02	Lead	<0.06	
11/15/02	Lead	<0.02	
02/05/03	Lead	<0.02	
02/06/03	Lead	<0.06	
04/15/03	Lead	<0.03	
04/16/03	Lead	<0.06	
05/05/03	Lead	<0.06	
07/15/03	Lead	<0.03	
07/24/03	Lead	<0.02	
10/21/03	Lead	<0.03	
10/22/03	Lead	<0.01	
11/03/03	Lead	<0.06	
01/09/02	Mercury	0.00013	0.01
02/05/03	Mercury	0.000014	
01/02/02	Nickel	0.61	2.91
01/09/02	Nickel	0.98	
01/10/02	Nickel	0.84	
01/16/02	Nickel	0.27	
02/06/02	Nickel	0.42	
02/20/02	Nickel	0.79	
04/10/02	Nickel	0.75	
04/17/02	Nickel	2.7	

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Sample Date	Parameter	Result	Limit
04/18/02	Nickel	0.28	
04/18/02	Nickel	0.26	
04/24/02	Nickel	0.03	
04/29/02	Nickel	0.17	
05/02/02	Nickel	0.43	
05/16/02	Nickel	0.58	
06/13/02	Nickel	0.9	
06/27/02	Nickel	0.36	
07/10/02	Nickel	0.18	
07/16/02	Nickel	0.2	
07/17/02	Nickel	0.22	
07/24/02	Nickel	0.21	
08/01/02	Nickel	0.39	
08/07/02	Nickel	0.11	
08/15/02	Nickel	0.1	
08/22/02	Nickel	0.1	
08/29/02	Nickel	0.28	
09/06/02	Nickel	0.27	
09/10/02	Nickel	0.14	
09/17/02	Nickel	0.06	
09/25/02	Nickel	0.04	
10/01/02	Nickel	0.29	
10/08/02	Nickel	0.16	
10/09/02	Nickel	0.17	
10/10/02	Nickel	0.15	
10/15/02	Nickel	0.12	
10/22/02	Nickel	0.25	
10/29/02	Nickel	0.35	
11/04/02	Nickel	0.05	
11/08/02	Nickel	0.83	
11/08/02	Nickel	0.81	
11/09/02	Nickel	1.15	
11/09/02	Nickel	1.2	
11/11/02	Nickel	0.14	
11/15/02	Nickel	0.25	
11/18/02	Nickel	0.47	
11/25/02	Nickel	0.22	
12/02/02	Nickel	0.05	
12/09/02	Nickel	0.2	
12/16/02	Nickel	0.23	
12/26/02	Nickel	0.01	
12/30/02	Nickel	0..13	
01/06/03	Nickel	0.21	
01/13/03	Nickel	1.96	
01/20/03	Nickel	0.11	
01/27/03	Nickel	0.1	
02/03/03	Nickel	0.28	
02/05/03	Nickel	0.13	
02/06/03	Nickel	0.11	
02/10/03	Nickel	0.12	
02/17/03	Nickel	0.23	
02/24/03	Nickel	0.13	
03/03/03	Nickel	0.42	
03/10/03	Nickel	0.07	
03/17/03	Nickel	0.14	

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Sample Date	Parameter	Result	Limit
03/24/03	Nickel	1.02	
03/31/03	Nickel	0.1	
04/07/03	Nickel	0.11	
04/14/03	Nickel	0.05	
04/15/03	Nickel	0.12	
04/16/03	Nickel	0.11	
04/21/03	Nickel	0.1	
04/28/03	Nickel	0.11	
05/05/03	Nickel	0.05	
05/12/03	Nickel	0.1	
05/20/03	Nickel	0.14	
05/27/03	Nickel	0.09	
06/02/03	Nickel	0.15	
06/09/03	Nickel	0.06	
06/16/03	Nickel	0.06	
06/23/03	Nickel	0.41	
06/30/03	Nickel	1.6	
07/07/03	Nickel	0.12	
07/14/03	Nickel	0.59	
07/15/03	Nickel	0.2	
07/21/03	Nickel	0.12	
07/24/03	Nickel	0.2	
07/28/03	Nickel	0.07	
08/04/03	Nickel	0.05	
08/11/03	Nickel	0.04	
08/19/03	Nickel	0.08	
08/25/03	Nickel	0.17	
09/02/03	Nickel	0.38	
09/08/03	Nickel	0.16	
09/15/03	Nickel	0.19	
09/22/03	Nickel	0.33	
09/29/03	Nickel	0.04	
10/06/03	Nickel	0.44	
10/13/03	Nickel	0.46	
10/16/03	Nickel	1.86	
10/20/03	Nickel	0.12	
10/21/03	Nickel	0.12	
10/22/03	Nickel	0.12	
10/27/03	Nickel	0.09	
11/03/03	Nickel	0.08	
11/10/03	Nickel	0.08	
11/17/03	Nickel	0.17	
11/25/03	Nickel	0.06	
12/01/03	Nickel	0.11	
12/08/03	Nickel	0.1	
12/15/03	Nickel	0.08	
12/22/03	Nickel	0.25	
12/29/03	Nickel	0.19	
01/02/02	pH	8.13	6.0-12.0
01/09/02	pH	9.1	
01/16/02	pH	7.23	
02/06/02	pH	6.93	
02/20/02	pH	7.04	
04/10/02	pH	8.86	
04/17/02	pH	7.19	

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Sample Date	Parameter	Result	Limit
04/18/02	pH	6.9	
04/24/02	pH	7.89	
04/29/02	pH	7.81	
05/02/02	pH	7.12	
05/16/02	pH	6.29	
06/13/02	pH	8.22	
06/27/02	pH	7.56	
07/10/02	pH	7.29	
07/16/02	pH	6.8	
07/24/02	pH	6.9	
08/01/02	pH	7.13	
08/07/02	pH	7.35	
08/15/02	pH	7.78	
08/22/02	pH	7.54	
08/29/02	pH	8.41	
09/06/02	pH	7.66	
09/10/02	pH	7.33	
09/17/02	pH	7.35	
09/25/02	pH	7.33	
10/01/02	pH	6.89	
10/08/02	pH	7.37	
10/09/02	pH	7.7	
10/15/02	pH	7.85	
10/22/02	pH	7.63	
10/29/02	pH	8.06	
11/04/02	pH	7.79	
11/11/02	pH	8.26	
11/18/02	pH	7.78	
11/25/02	pH	7.46	
12/02/02	pH	7.14	
12/09/02	pH	8.11	
12/16/02	pH	7.04	
12/26/02	pH	7.24	
12/30/02	pH	7.2	
01/06/03	pH	7.35	
01/13/03	pH	8.86	
01/20/03	pH	7.35	
01/27/03	pH	8.04	
02/03/03	pH	7.29	
02/05/03	pH	9.7	
02/10/03	pH	7.63	
02/17/03	pH	7.92	
02/24/03	pH	7.18	
03/03/03	pH	7.27	
03/10/03	pH	7.11	
03/17/03	pH	6.89	
03/24/03	pH	7.11	
03/31/03	pH	7.61	
04/07/03	pH	8.6	
04/14/03	pH	8.24	
04/15/03	pH	7.6	
04/21/03	pH	9.46	
04/28/03	pH	7.65	
05/05/03	pH	8.35	
05/12/03	pH	8.02	

Franke Plating

Sample Date	Parameter	Result	Limit
05/20/03	pH	8.96	
05/27/03	pH	7.77	
06/02/03	pH	7.86	
06/09/03	pH	8.48	
06/16/03	pH	8.16	
06/23/03	pH	7.14	
06/30/03	pH	7.96	
07/07/03	pH	7.62	
07/14/03	pH	6.83	
07/15/03	pH	8.8	
07/21/03	pH	8.79	
07/28/03	pH	7.96	
08/04/03	pH	9.06	
08/11/03	pH	8.52	
08/19/03	pH	8.92	
08/25/03	pH	9.36	
09/02/03	pH	8.74	
09/08/03	pH	8.64	
09/15/03	pH	9.02	
09/22/03	pH	9.43	
09/29/03	pH	8.49	
10/06/03	pH	9.71	
10/13/03	pH	6.49	
10/16/03	pH	7.58	
10/20/03	pH	8.63	
10/21/03	pH	9.1	
10/22/03	pH	7	
10/27/03	pH	7.75	
11/03/03	pH	9.54	
11/10/03	pH	8.42	
11/17/03	pH	7.63	
11/25/03	pH	8.39	
12/01/03	pH	8.72	
12/08/03	pH	9.08	
12/15/03	pH	8.48	
12/22/03	pH	9.78	
12/29/03	pH	9.17	
01/09/02	Silver	0.04	0.3
01/10/02	Silver	0.05	
04/18/02	Silver	<0.04	
04/18/02	Silver	<0.01	
05/02/02	Silver	<0.01	
07/16/02	Silver	<0.01	
07/17/02	Silver	0.02	
10/09/02	Silver	<0.01	
11/04/02	Silver	<0.01	
11/08/02	Silver	0.04	
11/08/02	Silver	0.04	
11/09/02	Silver	0.04	
11/09/02	Silver	0.03	
11/15/02	Silver	0.01	
02/05/03	Silver	<0.01	
02/06/03	Silver	0.02	
04/15/03	Silver	<0.01	
04/16/03	Silver	<0.01	

Franke Plating

Sample Date	Parameter	Result	Limit
05/05/03	Silver	<0.01	
07/15/03	Silver	<0.01	
07/24/03	Silver	<0.01	
10/21/03	Silver	<0.01	
10/22/03	Silver	<0.01	
11/03/03	Silver	0.02	
01/09/02	Tot. Suspended Solids	8	300
04/18/02	Tot. Suspended Solids	21	
07/16/02	Tot. Suspended Solids	5	
10/09/02	Tot. Suspended Solids	6	
02/05/03	Tot. Suspended Solids	11	
04/15/03	Tot. Suspended Solids	3	
07/15/03	Tot. Suspended Solids	7	
10/21/03	Tot. Suspended Solids	13	
01/02/02	Total Cyanide	0.06	1.2
01/09/02	Total Cyanide	<0.0001	
01/10/02	Total Cyanide	0.02	
01/16/02	Total Cyanide	<0.01	
02/06/02	Total Cyanide	0.1	
02/20/02	Total Cyanide	0.14	
04/10/02	Total Cyanide	0.08	
04/17/02	Total Cyanide	0.11	
04/18/02	Total Cyanide	0.011	
04/18/02	Total Cyanide	<0.01	
04/24/02	Total Cyanide	<0.01	
04/29/02	Total Cyanide	<0.01	
05/02/02	Total Cyanide	0.13	
05/16/02	Total Cyanide	0.03	
06/13/02	Total Cyanide	32.4	
06/27/02	Total Cyanide	0.03	
07/10/02	Total Cyanide	0.04	
07/16/02	Total Cyanide	0.0093	
07/24/02	Total Cyanide	<0.01	
08/01/02	Total Cyanide	<0.01	
08/07/02	Total Cyanide	<0.01	
08/15/02	Total Cyanide	0.033	
08/15/02	Total Cyanide	0.03	
08/15/02	Total Cyanide	0.06	
08/22/02	Total Cyanide	<0.01	
08/29/02	Total Cyanide	<0.01	
09/06/02	Total Cyanide	0.08	
09/10/02	Total Cyanide	0.03	
09/17/02	Total Cyanide	0.02	
09/25/02	Total Cyanide	<0.01	
10/01/02	Total Cyanide	0.04	
10/08/02	Total Cyanide	0.02	
10/09/02	Total Cyanide	0.00847	
10/10/02	Total Cyanide	0.02	
10/15/02	Total Cyanide	0.04	
10/22/02	Total Cyanide	0.04	
10/29/02	Total Cyanide	0.05	
11/04/02	Total Cyanide	<0.01	
11/11/02	Total Cyanide	0.05	
11/18/02	Total Cyanide	0.1	
11/25/02	Total Cyanide	0.02	

Franke Plating

Sample Date	Parameter	Result	Limit
12/02/02	Total Cyanide	<0.01	
12/09/02	Total Cyanide	0.02	
12/16/02	Total Cyanide	0.02	
12/26/02	Total Cyanide	<0.01	
12/30/02	Total Cyanide	0.03	
01/06/03	Total Cyanide	0.02	
01/13/03	Total Cyanide	0.09	
01/20/03	Total Cyanide	<0.01	
01/27/03	Total Cyanide	<0.01	
02/03/03	Total Cyanide	0.02	
02/05/03	Total Cyanide	0.00038	
02/06/03	Total Cyanide	0.02	
02/10/03	Total Cyanide	0.02	
02/17/03	Total Cyanide	0.05	
02/24/03	Total Cyanide	<0.01	
03/03/03	Total Cyanide	0.03	
03/10/03	Total Cyanide	<0.01	
03/17/03	Total Cyanide	0.08	
03/24/03	Total Cyanide	0.1	
03/31/03	Total Cyanide	0.02	
04/07/03	Total Cyanide	0.02	
04/14/03	Total Cyanide	<0.01	
04/15/03	Total Cyanide	0.011	
04/16/03	Total Cyanide	0.1	
04/21/03	Total Cyanide	0.05	
04/28/03	Total Cyanide	0.05	
05/05/03	Total Cyanide	0.01	
05/12/03	Total Cyanide	<0.01	
05/20/03	Total Cyanide	0.05	
05/27/03	Total Cyanide	0.04	
06/02/03	Total Cyanide	0.02	
06/09/03	Total Cyanide	<0.01	
06/16/03	Total Cyanide	<0.01	
06/23/03	Total Cyanide	0.05	
06/30/03	Total Cyanide	0.31	
07/07/03	Total Cyanide	0.02	
07/14/03	Total Cyanide	<0.01	
07/15/03	Total Cyanide	0.029	
07/21/03	Total Cyanide	0.04	
07/24/03	Total Cyanide	0.02	
07/28/03	Total Cyanide	0.03	
08/04/03	Total Cyanide	0.02	
08/11/03	Total Cyanide	0.04	
08/19/03	Total Cyanide	<0.01	
08/25/03	Total Cyanide	0.03	
09/02/03	Total Cyanide	0.02	
09/08/03	Total Cyanide	<0.01	
09/15/03	Total Cyanide	0.12	
09/22/03	Total Cyanide	0.02	
09/29/03	Total Cyanide	<0.01	
10/06/03	Total Cyanide	0.02	
10/13/03	Total Cyanide	0.04	
10/16/03	Total Cyanide	1.48	
10/20/03	Total Cyanide	<0.01	
10/21/03	Total Cyanide	0.002	

Franke Plating

Sample Date	Parameter	Result	Limit
10/22/03	Total Cyanide	<0.01	
10/27/03	Total Cyanide	<0.01	
11/03/03	Total Cyanide	<0.01	
11/10/03	Total Cyanide	<0.01	
11/17/03	Total Cyanide	<0.01	
11/25/03	Total Cyanide	<0.01	
12/01/03	Total Cyanide	0.02	
12/08/03	Total Cyanide	0.03	
12/15/03	Total Cyanide	0.02	
12/16/03	Total Cyanide	0.00046	
12/22/03	Total Cyanide	0.15	
12/29/03	Total Cyanide	0.03	
01/02/02	Total Metal (40CFR413)	1.63	7.46
01/09/02	Total Metal (40CFR413)	3.4	
01/10/02	Total Metal (40CFR413)	3.09	
01/16/02	Total Metal (40CFR413)	1.04	
02/06/02	Total Metal (40CFR413)	2.12	
02/20/02	Total Metal (40CFR413)	5.23	
04/10/02	Total Metal (40CFR413)	5.21	
04/17/02	Total Metal (40CFR413)	29	
04/18/02	Total Metal (40CFR413)	3.93	
04/18/02	Total Metal (40CFR413)	3.51	
04/24/02	Total Metal (40CFR413)	0.1	
04/29/02	Total Metal (40CFR413)	0.75	
05/02/02	Total Metal (40CFR413)	5.24	
05/16/02	Total Metal (40CFR413)	0.92	
06/13/02	Total Metal (40CFR413)	2.75	
06/19/02	Total Metal (40CFR413)	0.81	
06/27/02	Total Metal (40CFR413)	0.66	
07/10/02	Total Metal (40CFR413)	0.85	
07/16/02	Total Metal (40CFR413)	1.08	
07/17/02	Total Metal (40CFR413)	1.05	
07/24/02	Total Metal (40CFR413)	1.55	
07/24/02	Total Metal (40CFR413)	0.51	
08/01/02	Total Metal (40CFR413)	1.38	
08/07/02	Total Metal (40CFR413)	0.45	
08/15/02	Total Metal (40CFR413)	0.45	
08/22/02	Total Metal (40CFR413)	0.37	
08/29/02	Total Metal (40CFR413)	0.93	
09/06/02	Total Metal (40CFR413)	0.68	
09/10/02	Total Metal (40CFR413)	1.07	
09/17/02	Total Metal (40CFR413)	0.39	
09/25/02	Total Metal (40CFR413)	0.305	
10/01/02	Total Metal (40CFR413)	1.12	
10/08/02	Total Metal (40CFR413)	0.59	
10/09/02	Total Metal (40CFR413)	1.03	
10/10/02	Total Metal (40CFR413)	0.89	
10/15/02	Total Metal (40CFR413)	0.53	
10/22/02	Total Metal (40CFR413)	0.75	
10/29/02	Total Metal (40CFR413)	0.96	
11/04/02	Total Metal (40CFR413)	0.17	
11/08/02	Total Metal (40CFR413)	3.28	
11/08/02	Total Metal (40CFR413)	3.03	
11/09/02	Total Metal (40CFR413)	4.51	
11/09/02	Total Metal (40CFR413)	4.52	

Franke Plating

Sample Date	Parameter	Result	Limit
11/11/02	Total Metal (40CFR413)	0.74	
11/15/02	Total Metal (40CFR413)	1.48	
11/18/02	Total Metal (40CFR413)	2.85	
11/25/02	Total Metal (40CFR413)	1.35	
01/06/03	Total Metal (40CFR413)	1.55	
01/13/03	Total Metal (40CFR413)	6.44	
01/20/03	Total Metal (40CFR413)	0.65	
01/27/03	Total Metal (40CFR413)	0.44	
02/05/03	Total Metal (40CFR413)	1.74	
03/03/03	Total Metal (40CFR413)	6.45	
03/10/03	Total Metal (40CFR413)	0.38	
03/17/03	Total Metal (40CFR413)	0.74	
03/24/03	Total Metal (40CFR413)	8.65	
03/31/03	Total Metal (40CFR413)	0.46	
04/07/03	Total Metal (40CFR413)	0.72	
04/14/03	Total Metal (40CFR413)	0.48	
04/15/03	Total Metal (40CFR413)	0.7	
04/16/03	Total Metal (40CFR413)	0.62	
04/21/03	Total Metal (40CFR413)	0.51	
04/28/03	Total Metal (40CFR413)	0.97	
06/30/03	Total Metal (40CFR413)	3.55	
07/07/03	Total Metal (40CFR413)	0.29	
07/14/03	Total Metal (40CFR413)	1.77	
07/15/03	Total Metal (40CFR413)	0.495	
07/21/03	Total Metal (40CFR413)	0.4	
07/24/03	Total Metal (40CFR413)	0.53	
07/28/03	Total Metal (40CFR413)	0.24	
08/04/03	Total Metal (40CFR413)	0.58	
08/11/03	Total Metal (40CFR413)	0.14	
08/19/03	Total Metal (40CFR413)	0.26	
08/25/03	Total Metal (40CFR413)	3.08	
10/06/03	Total Metal (40CFR413)	1.41	
10/13/03	Total Metal (40CFR413)	7.39	
10/16/03	Total Metal (40CFR413)	4.83	
10/20/03	Total Metal (40CFR413)	1.19	
10/21/03	Total Metal (40CFR413)	0.73	
10/22/03	Total Metal (40CFR413)	0.7	
10/27/03	Total Metal (40CFR413)	0.39	
12/01/03	Total Metal (40CFR413)	0.8	
12/08/03	Total Metal (40CFR413)	1.08	
12/15/03	Total Metal (40CFR413)	0.68	
12/22/03	Total Metal (40CFR413)	2.17	
12/29/03	Total Metal (40CFR413)	1.45	
01/09/02	Total Phosphorus	4.5	10
04/18/02	Total Phosphorus	5.7	
07/16/02	Total Phosphorus	1.8	
10/09/02	Total Phosphorus	0.456	
02/05/03	Total Phosphorus	0.904	
04/15/03	Total Phosphorus	0.759	
07/15/03	Total Phosphorus	3	
10/21/03	Total Phosphorus	0.923	
01/02/02	Zinc	0.37	2.98
01/09/02	Zinc	0.41	
01/10/02	Zinc	0.36	
01/16/02	Zinc	0.58	

Franke Plating

Sample Date	Parameter	Result	Limit
02/06/02	Zinc	1.47	
02/20/02	Zinc	2.52	
04/10/02	Zinc	3.96	
04/17/02	Zinc	25.8	
04/18/02	Zinc	2.88	
04/18/02	Zinc	2.57	
04/24/02	Zinc	0.05	
04/29/02	Zinc	0.24	
05/02/02	Zinc	3.35	
05/16/02	Zinc	0.93	
06/13/02	Zinc	1.67	
06/18/02	Zinc	0.84	
06/19/02	Zinc	0.81	
06/27/02	Zinc	0.23	
07/10/02	Zinc	0.32	
07/16/02	Zinc	0.24	
07/17/02	Zinc	0.24	
07/23/02	Zinc	0.35	
07/24/02	Zinc	0.7	
07/24/02	Zinc	0.35	
08/01/02	Zinc	0.56	
08/07/02	Zinc	0.23	
08/15/02	Zinc	0.16	
08/22/02	Zinc	0.12	
08/29/02	Zinc	0.36	
09/06/02	Zinc	0.2	
09/10/02	Zinc	0.31	
09/17/02	Zinc	0.16	
09/25/02	Zinc	0.23	
10/01/02	Zinc	0.4	
10/08/02	Zinc	0.22	
10/09/02	Zinc	0.65	
10/10/02	Zinc	0.56	
10/15/02	Zinc	0.21	
10/22/02	Zinc	0.26	
10/29/02	Zinc	0.35	
11/04/02	Zinc	0.06	
11/08/02	Zinc	1.26	
11/08/02	Zinc	1.23	
11/09/02	Zinc	0.89	
11/09/02	Zinc	1.02	
11/11/02	Zinc	0.33	
11/15/02	Zinc	0.13	
11/18/02	Zinc	1.51	
11/25/02	Zinc	0.36	
12/02/02	Zinc	0.05	
12/09/02	Zinc	0.55	
12/16/02	Zinc	0.24	
12/26/02	Zinc	0.02	
12/30/02	Zinc	0.31	
01/06/03	Zinc	0.92	
01/13/03	Zinc	0.62	
01/20/03	Zinc	0.24	
01/27/03	Zinc	0.1	
02/03/03	Zinc	0.28	

Franke Plating

Sample Date	Parameter	Result	Limit
02/05/03	Zinc	1.1	
02/06/03	Zinc	0.99	
02/10/03	Zinc	0.53	
02/17/03	Zinc	0.82	
02/24/03	Zinc	0.59	
03/03/03	Zinc	4.45	
03/10/03	Zinc	0.19	
03/17/03	Zinc	0.42	
03/24/03	Zinc	1.13	
03/31/03	Zinc	0.24	
04/07/03	Zinc	0.19	
04/14/03	Zinc	0.23	
04/15/03	Zinc	0.39	
04/16/03	Zinc	0.34	
04/21/03	Zinc	0.2	
04/28/03	Zinc	0.21	
05/05/03	Zinc	0.25	
05/12/03	Zinc	0.09	
05/20/03	Zinc	0.31	
05/27/03	Zinc	0.2	
06/02/03	Zinc	0.41	
06/03/03	Zinc	0.08	
06/09/03	Zinc	0.72	
06/16/03	Zinc	0.17	
06/23/03	Zinc	0.34	
06/30/03	Zinc	0.52	
07/07/03	Zinc	0.09	
07/14/03	Zinc	0.62	
07/15/03	Zinc	0.13	
07/21/03	Zinc	0.1	
07/24/03	Zinc	0.14	
07/28/03	Zinc	0.09	
08/04/03	Zinc	0.27	
08/11/03	Zinc	0.04	
08/19/03	Zinc	0.09	
08/25/03	Zinc	1.98	
09/02/03	Zinc	1.02	
09/08/03	Zinc	0.98	
09/15/03	Zinc	1.57	
09/22/03	Zinc	0.73	
09/29/03	Zinc	0.18	
10/06/03	Zinc	0.79	
10/13/03	Zinc	6.21	
10/16/03	Zinc	1.81	
10/20/03	Zinc	0.36	
10/21/03	Zinc	0.46	
10/22/03	Zinc	0.42	
10/27/03	Zinc	0.22	
11/03/03	Zinc	0.43	
11/10/03	Zinc	0.45	
11/17/03	Zinc	2.1	
11/25/03	Zinc	0.15	
12/01/03	Zinc	0.42	
12/08/03	Zinc	0.66	
12/15/03	Zinc	0.36	

Franke Plating

Sample Date	Parameter	Result	Limit
12/16/03	Zinc	0.21	
12/22/03	Zinc	1.15	
12/29/03	Zinc	0.59	

Site Consumption

ny: FRANKE PLATING INC

Name:

IWS Number: 5167

Site Number: 1

Begin	End	Water	Sewer
.2/04/2001	01/04/2002	1,155	1,051
)1/04/2002	01/30/2002	1,027	906
)1/30/2002	03/04/2002	1,247	1,123
)3/04/2002	04/02/2002	1,311	1,187
)4/02/2002	05/02/2002	1,428	1,357
)5/02/2002	06/05/2002	1,499	1,457
)6/05/2002	07/02/2002	2,001	1,955
)7/02/2002	08/05/2002	3,103	3,063
)8/05/2002	08/30/2002	2,766	2,718
)8/30/2002	10/02/2002	2,970	2,995
L0/02/2002	11/01/2002	1,911	2,070
L1/01/2002	12/02/2002	1,588	1,609
L2/02/2002	01/03/2003	1,921	1,786
)1/03/2003	01/29/2003	1,533	1,455
)1/29/2003	03/04/2003	1,905	1,809
)3/04/2003	04/04/2003	1,514	1,474
)4/04/2003	05/05/2003	1,925	2,121
)5/05/2003	06/05/2003	1,535	1,487
)6/05/2003	07/01/2003	1,611	1,597
)7/01/2003	08/01/2003	2,532	2,518
)8/01/2003	09/01/2003	2,599	2,547
)9/[illegible]/2003	10/01/2003	2,579	2,514
[illegible]/2003	10/30/2003	2,278	2,165
L0/30/2003	11/25/2003	1,461	1,244
L1/25/2003	12/30/2003	1,993	1,830

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **05701**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Fujicolor Processing, Inc. 3420 North Wells Street Fort Wayne, IN 46808	P.O. Box 1234 Fort Wayne, IN 46896

Permit Classification: **Non-Major Industrial User**

Subject to 40 CFR 403 standards.

'.s permit shall become effective on **October 31, 2003.**

This permit and the authorization to discharge wastewater shall expire on **October 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ___________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

A. **Fujicolor Processing, Inc.** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Self-Monitoring Frequency	Sample Type
pH	6.0-12.0	1/month	grab
Silver	4.0	1/month	composite

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located in the parking lot on the south side of the main building. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

Fujicolor Processing

Sample Date	Parameter	Result	Limit
01/22/02	Ammonia-Nitrogen	216	25
02/26/02	Ammonia-Nitrogen	33	
07/16/02	Ammonia-Nitrogen	24.6	
07/30/02	Ammonia-Nitrogen	23.3	
10/15/02	Ammonia-Nitrogen	19	
01/09/03	Ammonia-Nitrogen	35	
04/09/03	Ammonia-Nitrogen	185	
05/22/03	Ammonia-Nitrogen	46	
07/01/03	Ammonia-Nitrogen	66.3	
10/24/03	Ammonia-Nitrogen	84	
12/02/03	Ammonia-Nitrogen	38	
01/22/02	Biochemical Oxygen Demand 5 Day	451	300
02/26/02	Biochemical Oxygen Demand 5 Day	97	
07/16/02	Biochemical Oxygen Demand 5 Day	65	
07/30/02	Biochemical Oxygen Demand 5 Day	59	
10/15/02	Biochemical Oxygen Demand 5 Day	67	
01/09/03	Biochemical Oxygen Demand 5 Day	123	
04/09/03	Biochemical Oxygen Demand 5 Day	457	
05/22/03	Biochemical Oxygen Demand 5 Day	162	
07/01/03	Biochemical Oxygen Demand 5 Day	152	
10/24/03	Biochemical Oxygen Demand 5 Day	550	
01/22/02	Cadmium	<0.04	0.7
07/16/02	Cadmium	<0.04	
07/30/02	Cadmium	<0.01	
10/15/02	Cadmium	<0.01	
01/09/03	Cadmium	<0.01	
04/09/03	Cadmium	<0.01	
07/01/03	Cadmium	<0.01	
10/24/03	Cadmium	<0.01	
01/22/02	Chemical Oxygen Demand	1220	600
02/26/02	Chemical Oxygen Demand	414	
07/16/02	Chemical Oxygen Demand	370	
07/30/02	Chemical Oxygen Demand	276	
10/15/02	Chemical Oxygen Demand	357	
01/09/03	Chemical Oxygen Demand	535	
04/09/03	Chemical Oxygen Demand	1291	
05/22/03	Chemical Oxygen Demand	586	
07/01/03	Chemical Oxygen Demand	615	
10/24/03	Chemical Oxygen Demand	2100	
12/02/03	Chemical Oxygen Demand	880	
01/22/02	Chromium	<0.04	10
07/16/02	Chromium	<0.04	
07/30/02	Chromium	<0.01	
10/15/02	Chromium	<0.01	
01/09/03	Chromium	<0.01	
04/09/03	Chromium	0.02	
07/01/03	Chromium	<0.01	
10/24/03	Chromium	0.01	
01/22/02	Copper	0.04	2
07/16/02	Copper	<0.04	
07/30/02	Copper	0.03	
10/15/02	Copper	0.01	
01/09/03	Copper	0.03	
04/09/03	Copper	0.03	
07/01/03	Copper	0.02	

Fujicolor Processing

Sample Date	Parameter	Result	Limit
10/24/03	Copper	0.03	
01/22/02	Lead	<0.04	0.6
07/16/02	Lead	<0.04	
07/30/02	Lead	<0.01	
10/15/02	Lead	<0.02	
01/09/03	Lead	<0.02	
04/09/03	Lead	<0.03	
07/01/03	Lead	<0.03	
10/24/03	Lead	0.04	
01/22/02	Mercury	0.0004	0.01
01/09/03	Mercury	0.000094	
01/22/02	Nickel	<0.04	3
07/16/02	Nickel	<0.04	
07/30/02	Nickel	<0.01	
10/15/02	Nickel	<0.01	
01/09/03	Nickel	<0.01	
04/09/03	Nickel	0.03	
07/01/03	Nickel	<0.01	
10/24/03	Nickel	0.04	
01/04/02	pH	9.28	6.0-12.0
01/11/02	pH	9.19	
01/18/02	pH	8.12	
01/22/02	pH	7.9	
01/25/02	pH	7.77	
02/01/02	pH	6.67	
02/08/02	pH	7.83	
02/15/02	pH	8.55	
02/22/02	pH	7.39	
03/01/02	pH	7.49	
03/14/02	pH	9.2	
04/12/02	pH	9.08	
04/14/02	pH	9.86	
04/18/02	pH	Passed	
04/19/02	pH	9.58	
04/26/02	pH	9.79	
05/03/02	pH	8.51	
05/10/02	pH	9.15	
05/17/02	pH	9.26	
05/24/02	pH	8.1	
05/31/02	pH	9.24	
06/07/02	pH	8.59	
06/14/02	pH	8.87	
06/24/02	pH	6.89	
06/28/02	pH	8.53	
07/03/02	pH	9.06	
07/12/02	pH	8.47	
07/16/02	pH	9.1	
07/26/02	pH	9.17	
07/30/02	pH	7.6	
08/02/02	pH	8.8	
08/08/02	pH	9.3	
08/16/02	pH	7.8	
08/27/02	pH	8.5	
08/27/02	pH	7	
08/30/02	pH	7.3	

Fujicolor Processing

Sample Date	Parameter	Result	Limit
09/06/02	pH	7.2	
09/20/02	pH	8.7	
10/14/02	pH	9.46	
10/15/02	pH	9.1	
10/18/02	pH	9.04	
10/22/02	pH	9.11	
11/08/02	pH	9.26	
11/22/02	pH	8.47	
12/06/02	pH	9.47	
12/18/02	pH	8.96	
01/03/03	pH	9.67	
01/09/03	pH	9.7	
01/16/03	pH	8.83	
02/07/03	pH	9.31	
02/21/03	pH	9.39	
03/07/03	pH	9.04	
03/21/03	pH	8.84	
04/04/03	pH	9.28	
04/09/03	pH	8.1	
04/17/03	pH	8.87	
05/02/03	pH	7.92	
05/16/03	pH	9.24	
06/06/03	pH	7.74	
06/20/03	pH	8.64	
07/01/03	pH	8.8	
07/03/03	pH	7.11	
07/18/03	pH	9.95	
08/08/03	pH	7.88	
08/22/03	pH	8.82	
09/19/03	pH	7.75	
10/24/03	pH	9.4	
10/24/03	pH	8.34	
01/03/02	Silver	0.63	4
01/04/02	Silver	0.301	
01/04/02	Silver	0.409	
01/11/02	Silver	0.171	
01/18/02	Silver	0.191	
01/22/02	Silver	0.65	
01/23/02	Silver	0.321	
01/25/02	Silver	0.181	
02/01/02	Silver	<0.01	
02/08/02	Silver	0.253	
02/15/02	Silver	0.74	
02/15/02	Silver	0.63	
02/15/02	Silver	0.546	
02/22/02	Silver	0.663	
02/27/02	Silver	1.49	
03/01/02	Silver	1.02	
03/14/02	Silver	0.15	
03/15/02	Silver	0.21	
03/22/02	Silver	1.15	
03/29/02	Silver	0.2	
04/12/02	Silver	0.45	
04/14/02	Silver	<0.01	
04/18/02	Silver	1.11	

Fujicolor Processing

Sample Date	Parameter	Result	Limit
04/19/02	Silver	1.29	
04/26/02	Silver	0.09	
05/03/02	Silver	0.04	
05/10/02	Silver	0.531	
05/17/02	Silver	0.354	
05/24/02	Silver	0.322	
05/31/02	Silver	0.223	
06/07/02	Silver	0.276	
06/14/02	Silver	0.159	
06/24/02	Silver	0.07	
06/28/02	Silver	0.2	
07/03/02	Silver	0.202	
07/12/02	Silver	0.213	
07/16/02	Silver	1.35	
07/19/02	Silver	0.693	
07/26/02	Silver	<0.025	
07/30/02	Silver	0.84	
07/31/02	Silver	0.432	
08/01/02	Silver	0.432	
08/02/02	Silver	0.412	
08/08/02	Silver	0.61	
08/16/02	Silver	0.119	
08/27/02	Silver	0.278	
08/27/02	Silver	3.04	
08/30/02	Silver	0.255	
09/06/02	Silver	0.834	
09/20/02	Silver	0.086	
10/04/02	Silver	0.05	
10/15/02	Silver	0.22	
10/16/02	Silver	0.19	
10/18/02	Silver	0.289	
11/08/02	Silver	12.1	
11/22/02	Silver	1.33	
12/06/02	Silver	0.369	
12/18/02	Silver	2.97	
01/03/03	Silver	0.47	
01/09/03	Silver	0.31	
01/10/03	Silver	0.33	
01/16/03	Silver	0.69	
01/22/03	Silver	10.3	
01/28/03	Silver	9.44	
02/07/03	Silver	1.04	
02/21/03	Silver	0.627	
03/05/03	Silver	0.65	
03/06/03	Silver	0.61	
03/07/03	Silver	0.38	
03/21/03	Silver	0.51	
04/04/03	Silver	1.34	
04/09/03	Silver	2.95	
04/11/03	Silver	2.56	
04/17/03	Silver	0.55	
05/02/03	Silver	0.802	
05/16/03	Silver	0.897	
05/23/03	Silver	2.17	
06/06/03	Silver	0.208	

Fujicolor Processing

Sample Date	Parameter	Result	Limit
06/20/03	Silver	0.782	
07/01/03	Silver	0.05	
07/02/03	Silver	0.418	
07/03/03	Silver	1.98	
07/18/03	Silver	0.613	
08/08/03	Silver	0.342	
08/22/03	Silver	0.743	
09/19/03	Silver	0.501	
10/24/03	Silver	3.17	
10/24/03	Silver	1.33	
10/24/03	Silver	2.4	
01/22/02	Tot. Suspended Solids	7	300
02/26/02	Tot. Suspended Solids	31	
07/16/02	Tot. Suspended Solids	13	
07/30/02	Tot. Suspended Solids	12	
10/15/02	Tot. Suspended Solids	4	
01/09/03	Tot. Suspended Solids	14	
04/09/03	Tot. Suspended Solids	32	
05/22/03	Tot. Suspended Solids	65	
07/01/03	Tot. Suspended Solids	15	
10/24/03	Tot. Suspended Solids	212	
01/22/02	Total Phosphorus	3	10
02/26/02	Total Phosphorus	1.7	
07/16/02	Total Phosphorus	1.1	
07/30/02	Total Phosphorus	1.8	
10/15/02	Total Phosphorus	2	
01/09/03	Total Phosphorus	3	
04/09/03	Total Phosphorus	1.3	
05/22/03	Total Phosphorus	4	
07/01/03	Total Phosphorus	4	
10/24/03	Total Phosphorus	5	
01/22/02	Zinc	0.07	6
07/16/02	Zinc	<0.04	
07/30/02	Zinc	0.03	
10/15/02	Zinc	0.02	
01/09/03	Zinc	0.04	
04/09/03	Zinc	0.06	
07/01/03	Zinc	0.03	
10/24/03	Zinc	0.24	

Site Consumption

ny: FUJICOLOR PROCESSING, INC — IWS Number: 4024
Name: FUJI — Site Number: 1

Begin	End	Water	Sewer
2/17/2001	01/15/2002	884	884
1/15/2002	02/15/2002	725	725
2/15/2002	03/18/2002	924	924
3/18/2002	04/15/2002	1,019	1,019
4/15/2002	05/16/2002	1,496	1,496
5/16/2002	06/14/2002	1,640	1,640
6/14/2002	07/15/2002	1,572	1,572
7/15/2002	08/15/2002	1,642	1,642
8/15/2002	09/17/2002	1,685	1,685
9/17/2002	10/15/2002	1,151	1,151
.0/15/2002	11/12/2002	760	760
.1/12/2002	12/16/2002	1,266	1,266
.2/16/2002	01/17/2003	662	662
1/17/2003	02/12/2003	496	496
2/12/2003	03/11/2003	432	432
3/11/2003	04/11/2003	455	455
4/11/2003	05/12/2003	604	604
5/12/2003	06/13/2003	697	697
6/13/2003	07/10/2003	681	681
7/10/2003	08/12/2003	886	886
8/12/2003	09/15/2003	802	802
9/[illegible]/2003	10/10/2003	577	577
[redacted]		[redacted]	[redacted]

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03803**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

General Electric Company
1701 College Street
Fort Wayne, IN 46802

Mailing Address:

General Electric Company
P.O. Box 1701
Fort Wayne, IN 46801
Phone: (219) 439-2816

Permit Classification: **Non-Major Industrial User (SIU)**

Subject to 40 CFR 433.15 standards.

..is permit shall become effective on **September 25, 1998.**

This permit and the authorization to discharge wastewater shall expire on **September 25, 2003.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ________________________________

Jim Cornell, Manager of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

.nt via Certified mail to:

Name: Holly Buschman
Title: EHS Leader

Permit 03803

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Maximum for Monthly Avg. mg/l**	**Self-Monitoring Frequency**	**Sample Type**
Cadmium	0.55	0.21	2/year	composite
Chromium	2.19	1.35	2/year	composite
Copper	2.00	1.64	2/year	composite
Lead	0.55	0.34	2/year	composite
Nickel	3.00	1.88	2/month	composite
Silver	0.30	0.19	2/year	composite
Zinc	2.06	1.17	2/month	composite
Cyanide	0.95	0.51	2/year	grab
T.T.O.	1.68	N/A	2/year	
pH	6.0-12.0	N/A	2/month	grab

REQUIRED REPORTS

?ORT	DUE DATE
Discharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**July 25, 2003**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

General Electric College Street

Sample Date	Parameter	Result	Limit
01/16/02	Ammonia-Nitrogen	8.5	25
01/16/02	Ammonia-Nitrogen	8.5	
04/17/02	Ammonia-Nitrogen	8	
04/17/02	Ammonia-Nitrogen	8	
04/17/02	Ammonia-Nitrogen	8	
08/06/02	Ammonia-Nitrogen	5.8	
08/06/02	Ammonia-Nitrogen	5.8	
08/06/02	Ammonia-Nitrogen	5.8	
10/02/02	Ammonia-Nitrogen	1	
10/02/02	Ammonia-Nitrogen	1	
02/04/03	Ammonia-Nitrogen	15	
02/04/03	Ammonia-Nitrogen	15	
02/04/03	Ammonia-Nitrogen .	15	
04/24/03	Ammonia-Nitrogen	26	
04/24/03	Ammonia-Nitrogen	26	
04/24/03	Ammonia-Nitrogen	26	
07/23/03	Ammonia-Nitrogen	5	
07/24/03	Ammonia-Nitrogen	5	
07/24/03	Ammonia-Nitrogen	5	
01/16/02	Biochemical Oxygen Demand 5 Day	44	300
01/16/02	Biochemical Oxygen Demand 5 Day	44	
04/17/02	Biochemical Oxygen Demand 5 Day	25	
04/17/02	Biochemical Oxygen Demand 5 Day	40	
04/17/02	Biochemical Oxygen Demand 5 Day	89	
08/06/02	Biochemical Oxygen Demand 5 Day	36	
08/06/02	Biochemical Oxygen Demand 5 Day	36	
08/06/02	Biochemical Oxygen Demand 5 Day	36	
10/02/02	Biochemical Oxygen Demand 5 Day	34	
10/02/02	Biochemical Oxygen Demand 5 Day	34	
02/04/03	Biochemical Oxygen Demand 5 Day	227	
02/04/03	Biochemical Oxygen Demand 5 Day	227	
02/04/03	Biochemical Oxygen Demand 5 Day	227	
04/24/03	Biochemical Oxygen Demand 5 Day	304	
04/24/03	Biochemical Oxygen Demand 5 Day	304	
04/24/03	Biochemical Oxygen Demand 5 Day	304	
07/23/03	Biochemical Oxygen Demand 5 Day	56	
07/24/03	Biochemical Oxygen Demand 5 Day	56	
07/24/03	Biochemical Oxygen Demand 5 Day	56	
01/16/02	Cadmium	<0.04	0.55
01/16/02	Cadmium	<0.04	
04/17/02	Cadmium	<0.04	
04/17/02	Cadmium	<0.04	
04/17/02	Cadmium	<0.04	
05/09/02	Cadmium	<0.030	
08/06/02	Cadmium	< 0.01	
08/06/02	Cadmium	< 0.01	
08/06/02	Cadmium	< 0.01	
10/02/02	Cadmium	<0.01	
10/02/02	Cadmium	<0.01	
11/07/02	Cadmium	<0.030	
02/04/03	Cadmium	<0.01	
02/04/03	Cadmium	<0.01	
02/04/03	Cadmium	<0.01	
04/24/03	Cadmium	<0.01	
04/24/03	Cadmium	<0.01	

General Electric College Street

Sample Date	Parameter	Result	Limit
04/24/03	Cadmium	<0.01	
05/23/03	Cadmium	<0.001	
07/23/03	Cadmium	<0.01	
07/24/03	Cadmium	<0.01	
07/24/03	Cadmium	<0.01	
01/16/02	Chemical Oxygen Demand	100	600
01/16/02	Chemical Oxygen Demand	128	
04/17/02	Chemical Oxygen Demand	103	
04/17/02	Chemical Oxygen Demand	103	
04/17/02	Chemical Oxygen Demand	103	
08/06/02	Chemical Oxygen Demand	135	
08/06/02	Chemical Oxygen Demand	135	
08/06/02	Chemical Oxygen Demand	135	
10/02/02	Chemical Oxygen Demand	46	
10/02/02	Chemical Oxygen Demand	113	
02/04/03	Chemical Oxygen Demand	248	
02/04/03	Chemical Oxygen Demand	248	
02/04/03	Chemical Oxygen Demand	248	
04/24/03	Chemical Oxygen Demand	490	
04/24/03	Chemical Oxygen Demand	490	
04/24/03	Chemical Oxygen Demand	490	
07/23/03	Chemical Oxygen Demand	181	
07/24/03	Chemical Oxygen Demand	181	
07/24/03	Chemical Oxygen Demand	181	
01/10/02	Chromium	<0.05	2.19
01/16/02	Chromium	<0.04	
01/16/02	Chromium	<0.04	
01/24/02	Chromium	<0.0020	
02/08/02	Chromium	<0.002	
02/20/02	Chromium	<0.002	
04/04/02	Chromium	<0.002	
04/17/02	Chromium	<0.04	
04/17/02	Chromium	<0.04	
04/17/02	Chromium	<0.04	
04/18/02	Chromium	<0.002	
05/09/02	Chromium	<0.040	
08/06/02	Chromium	< 0.01	
08/06/02	Chromium	< 0.01	
08/06/02	Chromium	< 0.01	
10/02/02	Chromium	<0.01	
10/02/02	Chromium	<0.01	
11/07/02	Chromium	<0.040	
02/04/03	Chromium	<0.01	
02/04/03	Chromium	<0.01	
02/04/03	Chromium	0.01	
04/24/03	Chromium	<0.01	
04/24/03	Chromium	<0.01	
04/24/03	Chromium	0.01	
05/23/03	Chromium	<0.005	
07/23/03	Chromium	<0.01	
07/24/03	Chromium	<0.01	
07/24/03	Chromium	<0.01	
01/16/02	Copper	0.04	2
01/16/02	Copper	0.1	
04/17/02	Copper	<0.04	

General Electric College Street

Sample Date	Parameter	Result	Limit
04/17/02	Copper	<0.04	
04/17/02	Copper	<0.04	
05/09/02	Copper	<0.020	
08/06/02	Copper	0.08	
08/06/02	Copper	0.04	
08/06/02	Copper	0.08	
10/02/02	Copper	0.07	
10/02/02	Copper	0.09	
11/07/02	Copper	0.021	
02/04/03	Copper	0.07	
02/04/03	Copper	0.15	
02/04/03	Copper	0.38	
04/24/03	Copper	0.06	
04/24/03	Copper	0.07	
04/24/03	Copper	0.24	
05/23/03	Copper	0.0605	
07/23/03	Copper	0.02	
07/24/03	Copper	0.03	
07/24/03	Copper	0.02	
01/10/02	Lead	0.006	
01/16/02	Lead	<0.04	0.55
01/16/02	Lead	<0.04	
01/24/02	Lead	0.002	
02/08/02	Lead	<0.001	
02/20/02	Lead	0.005	
04/04/02	Lead	0.0012	
04/17/02	Lead	<0.04	
04/17/02	Lead	<0.04	
04/17/02	Lead	<0.04	
04/18/02	Lead	<0.0010	
05/09/02	Lead	<0.080	
08/06/02	Lead	< 0.01	
08/06/02	Lead	< 0.01	
08/06/02	Lead	0.02	
10/02/02	Lead	<0.02	
10/02/02	Lead	<0.02	
11/07/02	Lead	0.0015	
02/04/03	Lead	0.04	
02/04/03	Lead	0.04	
02/04/03	Lead	0.14	
04/24/03	Lead	<0.03	
04/24/03	Lead	<0.03	
04/24/03	Lead	0.1	
05/23/03	Lead	0.0228	
07/23/03	Lead	<0.03	
07/24/03	Lead	<0.03	
07/24/03	Lead	<0.03	
01/16/02	Mercury	<0.000016	0.01
01/16/02	Mercury	0.00018	
02/04/03	Mercury	0.000064	
02/04/03	Mercury	0.000056	
02/04/03	Mercury	0.00052	
01/10/02	Nickel	<0.005	3
01/16/02	Nickel	<0.04	
01/16/02	Nickel	<0.04	

General Electric College Street

Sample Date	Parameter	Result	Limit
01/24/02	Nickel	<0.005	
02/07/02	Nickel	0.005	
02/20/02	Nickel	<0.005	
03/07/02	Nickel	0.005	
03/22/02	Nickel	0.008	
04/04/02	Nickel	<0.005	
04/17/02	Nickel	<0.04	
04/17/02	Nickel	<0.04	
04/17/02	Nickel	<0.04	
04/18/02	Nickel	<0.005	
05/09/02	Nickel	<0.010	
05/23/02	Nickel	<0.005	
06/06/02	Nickel	<0.005	
06/20/02	Nickel	<0.005	
07/10/02	Nickel	<0.005	
07/18/02	Nickel	<0.005	
08/06/02	Nickel	< 0.01	
08/06/02	Nickel	< 0.01	
08/06/02	Nickel	< 0.01	
08/08/02	Nickel	<0.005	
08/22/02	Nickel	<0.005	
09/05/02	Nickel	<0.005	
09/23/02	Nickel	<0.005	
10/02/02	Nickel	<0.01	
10/02/02	Nickel	0.04	
10/09/02	Nickel	<0.005	
10/24/02	Nickel	<0.005	
11/07/02	Nickel	<0.010	
11/21/02	Nickel	<0.0050	
12/05/02	Nickel	<0.0050	
12/19/02	Nickel	<0.0050	
01/09/03	Nickel	<0.005	
01/23/03	Nickel	<0.005	
02/04/03	Nickel	<0.01	
02/04/03	Nickel	<0.01	
02/04/03	Nickel	0.01	
02/06/03	Nickel	<0.0050	
02/19/03	Nickel	0.016	
03/07/03	Nickel	<0.005	
03/21/03	Nickel	<0.010	
04/11/03	Nickel	<0.005	
04/24/03	Nickel	<0.01	
04/24/03	Nickel	<0.01	
04/24/03	Nickel	<0.01	
04/25/03	Nickel	0.006	
05/09/03	Nickel	<0.005	
05/23/03	Nickel	0.005	
06/05/03	Nickel	<0.005	
06/19/03	Nickel	0.0057	
07/17/03	Nickel	<0.005	
07/23/03	Nickel	<0.01	
07/24/03	Nickel	<0.01	
07/24/03	Nickel	<0.01	
07/24/03	Nickel	<0.005	
08/07/03	Nickel	<0.005	

General Electric College Street

Sample Date	Parameter	Result	Limit
08/21/03	Nickel	<0.005	
01/10/02	pH	8.3	6.0-12.0
01/10/02	pH	8	
01/16/02	pH	7	
01/16/02	pH	7.3	
01/24/02	pH	8.4	
01/24/02	pH	8.3	
02/07/02	pH	8.4	
02/08/02	pH	7.5	
02/20/02	pH	7.8	
02/20/02	pH	7.9	
03/07/02	pH	8.3	
03/22/02	pH	7.9	
04/04/02	pH	7.4	
04/04/02	pH	8.3	
04/17/02	pH	7.2	
04/17/02	pH	6.6	
04/17/02	pH	7.7	
04/18/02	pH	7.4	
04/18/02	pH	7.5	
05/09/02	pH	7.9	
05/23/02	pH	7.7	
06/06/02	pH	7.6	
06/20/02	pH	7.8	
07/10/02	pH	7.3	
07/18/02	pH	7.6	
08/06/02	pH	7.2	
08/06/02	pH	7.3	
08/06/02	pH	7.5	
08/08/02	pH	7.2	
08/22/02	pH	7.2	
09/05/02	pH	6.9	
09/23/02	pH	6.9	
10/02/02	pH	7.2	
10/02/02	pH	6.8	
10/09/02	pH	7.2	
10/24/02	pH	8.2	
11/07/02	pH	8.2	
11/21/02	pH	7.7	
12/05/02	pH	7.7	
12/19/02	pH	7.9	
01/09/03	pH	7.4	
01/23/03	pH	8.1	
02/04/03	pH	7.4	
02/04/03	pH	8.6	
02/04/03	pH	8.3	
02/06/03	pH	7.9	
02/19/03	pH	7.2	
03/07/03	pH	8.1	
03/21/03	pH	8.3	
04/11/03	pH	7	
04/24/03	pH	6.3	
04/24/03	pH	7.7	
04/24/03	pH	7.4	
04/25/03	pH	7.4	

General Electric College Street

Sample Date	Parameter	Result	Limit
05/09/03	pH	8.04	
05/23/03	pH	7.02	
06/05/03	pH	7.46	
06/19/03	pH	7.53	
07/17/03	pH	7.28	
07/23/03	pH	7.8	
07/24/03	pH	7.9	
07/24/03	pH	7.6	
07/24/03	pH	7.28	
08/07/03	pH	7.37	
08/21/03	pH	7.52	
01/16/02	Silver	<0.04	0.3
01/16/02	Silver	<0.04	
04/17/02	Silver	<0.04	
04/17/02	Silver	<0.04	
04/17/02	Silver	<0.04	
05/09/02	Silver	<0.040	
08/06/02	Silver	< 0.01	
08/06/02	Silver	< 0.01	
08/06/02	Silver	< 0.01	
10/02/02	Silver	<0.01	
10/02/02	Silver	<0.01	
11/07/02	Silver	<0.0005	
02/04/03	Silver	<0.01	
02/04/03	Silver	<0.01	
02/04/03	Silver	<0.01	
04/24/03	Silver	<0.01	
04/24/03	Silver	<0.01	
04/24/03	Silver	<0.01	
05/23/03	Silver	<0.0005	
07/23/03	Silver	<0.01	
07/24/03	Silver	<0.01	
07/24/03	Silver	<0.01	
01/16/02	Tot. Suspended Solids	89	300
01/16/02	Tot. Suspended Solids	89	
04/17/02	Tot. Suspended Solids	31	
04/17/02	Tot. Suspended Solids	33	
04/17/02	Tot. Suspended Solids	82	
08/06/02	Tot. Suspended Solids	63	
08/06/02	Tot. Suspended Solids	63	
08/06/02	Tot. Suspended Solids	63	
10/02/02	Tot. Suspended Solids	35	
10/02/02	Tot. Suspended Solids	35	
02/04/03	Tot. Suspended Solids	318	
02/04/03	Tot. Suspended Solids	318	
02/04/03	Tot. Suspended Solids	318	
04/24/03	Tot. Suspended Solids	578	
04/24/03	Tot. Suspended Solids	578	
04/24/03	Tot. Suspended Solids	578	
07/23/03	Tot. Suspended Solids	66	
07/24/03	Tot. Suspended Solids	66	
07/24/03	Tot. Suspended Solids	66	
01/16/02	Total Cyanide	0.0002	0.95
04/17/02	Total Cyanide	0.0005	
05/09/02	Total Cyanide	<0.005	

General Electric College Street

Sample Date	Parameter	Result	Limit
08/06/02	Total Cyanide	0.0013	
10/02/02	Total Cyanide	<0.0002	
11/07/02	Total Cyanide	<0.005	
02/04/03	Total Cyanide	0.00037	
04/24/03	Total Cyanide	0.0007	
05/23/03	Total Cyanide	<0.005	
07/23/03	Total Cyanide	0.0007	
01/16/02	Total Phosphorus	2	10
01/16/02	Total Phosphorus	2	
04/17/02	Total Phosphorus	1.3	
04/17/02	Total Phosphorus	1.3	
04/17/02	Total Phosphorus	1.3	
08/06/02	Total Phosphorus	1.1	
08/06/02	Total Phosphorus	1.1	
08/06/02	Total Phosphorus	1.1	
10/02/02	Total Phosphorus	1	
10/02/02	Total Phosphorus	3	
02/04/03	Total Phosphorus	5	
02/04/03	Total Phosphorus	5	
02/04/03	Total Phosphorus	5	
04/24/03	Total Phosphorus	4	
04/24/03	Total Phosphorus	4	
04/24/03	Total Phosphorus	4	
07/23/03	Total Phosphorus	1	
07/24/03	Total Phosphorus	1	
07/24/03	Total Phosphorus	1	
01/10/02	Zinc	0.64	2.06
01/10/02	Zinc	0.08	
01/16/02	Zinc	0.05	
01/16/02	Zinc	0.14	
01/24/02	Zinc	<0.050	
01/24/02	Zinc	0.24	
02/07/02	Zinc	0.386	
02/08/02	Zinc	<0.050	
02/20/02	Zinc	0.062	
02/20/02	Zinc	0.086	
03/07/02	Zinc	0.07	
03/22/02	Zinc	0.128	
04/04/02	Zinc	<0.050	
04/04/02	Zinc	0.053	
04/17/02	Zinc	<0.04	
04/17/02	Zinc	0.04	
04/17/02	Zinc	0.06	
04/18/02	Zinc	<0.050	
04/18/02	Zinc	<0.050	
05/09/02	Zinc	0.08	
05/23/02	Zinc	0.05	
06/06/02	Zinc	<0.050	
06/20/02	Zinc	<0.050	
07/10/02	Zinc	0.109	
07/18/02	Zinc	0.051	
08/06/02	Zinc	0.03	
08/06/02	Zinc	0.13	
08/06/02	Zinc	0.23	
08/08/02	Zinc	<0.050	

General Electric College Street

Sample Date	Parameter	Result	Limit
08/22/02	Zinc	<0.050	
09/05/02	Zinc	0.062	
09/23/02	Zinc	<0.05	
10/02/02	Zinc	0.08	
10/02/02	Zinc	0.08	
10/09/02	Zinc	0.059	
10/24/02	Zinc	0.086	
11/07/02	Zinc	<0.050	
11/21/02	Zinc	<0.050	
12/05/02	Zinc	0.122	
12/19/02	Zinc	0.066	
01/09/03	Zinc	0.05	
01/23/03	Zinc	<0.050	
02/04/03	Zinc	0.16	
02/04/03	Zinc	0.19	
02/04/03	Zinc	0.57	
02/06/03	Zinc	0.052	
02/19/03	Zinc	0.642	
03/07/03	Zinc	0.055	
03/21/03	Zinc	0.083	
04/11/03	Zinc	<0.050	
04/24/03	Zinc	0.1	
04/24/03	Zinc	0.1	
04/24/03	Zinc	0.45	
04/25/03	Zinc	0.182	
05/09/03	Zinc	<0.050	
05/23/03	Zinc	0.172	
06/05/03	Zinc	<0.050	
06/19/03	Zinc	0.204	
07/17/03	Zinc	<0.050	
07/23/03	Zinc	0.1	
07/24/03	Zinc	0.08	
07/24/03	Zinc	0.05	
07/24/03	Zinc	<0.050	
08/07/03	Zinc	<0.050	
08/21/03	Zinc	<0.050	

Site Consumption

ny: GENERAL ELECTRIC CO

Name: College Alley

IWS Number: 5519

Site Number: 2

Begin	End	Water	Sewer
.2/15/2001	01/17/2002	1,037	1,037
)1/17/2002	02/13/2002	464	464
)2/13/2002	03/13/2002	628	131
)3/13/2002	04/11/2002	659	162
)4/11/2002	05/08/2002	900	403
)5/08/2002	06/12/2002	1,246	746
)6/12/2002	07/10/2002	1,744	1,249
)7/10/2002	08/12/2002	2,398	1,900
)8/12/2002	09/12/2002	1,871	1,871
)9/12/2002	10/10/2002	1,471	978
L0/10/2002	11/13/2002	935	441
L1/13/2002	12/12/2002	1,500	1,005
L1/13/2002	01/09/2003	1,663	1,000
)1/09/2003	02/12/2003	1,001	509
)2/12/2003	03/12/2003	440	440
)3/12/2003	04/10/2003	457	457
)4/10/2003	05/14/2003	713	279
)5/14/2003	06/12/2003	577	577
)6/12/2003	07/10/2003	1,307	835
)7/10/2003	08/14/2003	1,771	1,308
)8/14/2003	09/12/2003	1,313	841

[redacted]

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03807**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

General Electric Company
2000 Taylor Street
Fort Wayne, IN 46802

Mailing Address:

P.O. Box 2205
Fort Wayne, IN 46801-2205
Phone: (219) 428-4002

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.15 standards.

is permit shall become effective on **January 1, 2000.**

This permit and the authorization to discharge wastewater shall expire on **December 31, 2004.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ___________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: Larry Porter
Title: EHS Coordinator

Permit 03807

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for Monthly Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.53	0.20	2/year	composite
Chromium	2.13	1.32	2/year	composite
Copper	2.00	1.59	2/month	composite
Lead	0.53	0.33	2/year	composite
Nickel	3.00	1.83	2/year	composite
Silver	0.30	0.18	2/year	composite
Zinc	2.01	1.14	2/month	composite
Cyanide	0.92	0.50	2/year	grab
T.T.O.	1.64	N/A	2/year	
Oil & Grease	100	N/A	2/month	grab
pH	6.0-12.0	N/A	2/month	grab

QUIRED REPORTS

REPORT	DUE DATE
Discharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**October 31, 2004**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

General Electric Taylor Street

Sample Date	Parameter	Result	Limit
01/16/02	Ammonia-Nitrogen	3.4	25
05/01/02	Ammonia-Nitrogen	4.9	
08/01/02	Ammonia-Nitrogen	2.5	
10/01/02	Ammonia-Nitrogen	3	
01/28/03	Ammonia-Nitrogen	3	
04/30/03	Ammonia-Nitrogen	1	
07/22/03	Ammonia-Nitrogen	5	
10/14/03	Ammonia-Nitrogen	5	
01/16/02	Biochemical Oxygen Demand 5 Day	20	300
05/01/02	Biochemical Oxygen Demand 5 Day	54	
08/01/02	Biochemical Oxygen Demand 5 Day	15	
10/01/02	Biochemical Oxygen Demand 5 Day	57	
01/28/03	Biochemical Oxygen Demand 5 Day	29	
04/30/03	Biochemical Oxygen Demand 5 Day	21	
07/22/03	Biochemical Oxygen Demand 5 Day	26	
10/14/03	Biochemical Oxygen Demand 5 Day	40	
01/16/02	Cadmium	<0.04	0.53
05/01/02	Cadmium	<0.04	
05/09/02	Cadmium	<0.030	
08/01/02	Cadmium	<0.01	
10/01/02	Cadmium	<0.01	
11/07/02	Cadmium	<0.030	
01/28/03	Cadmium	<0.01	
04/30/03	Cadmium	<0.01	
05/23/03	Cadmium	<0.001	
07/22/03	Cadmium	<0.01	
10/14/03	Cadmium	<0.01	
12/04/03	Cadmium	<0.0010	
01/16/02	Chemical Oxygen Demand	76	600
05/01/02	Chemical Oxygen Demand	218	
08/01/02	Chemical Oxygen Demand	80	
10/01/02	Chemical Oxygen Demand	172	
01/28/03	Chemical Oxygen Demand	101	
04/30/03	Chemical Oxygen Demand	54	
07/22/03	Chemical Oxygen Demand	144	
10/14/03	Chemical Oxygen Demand	103	
01/16/02	Chromium	<0.04	2.13
05/01/02	Chromium	<0.04	
05/09/02	Chromium	<0.040	
08/01/02	Chromium	<0.01	
10/01/02	Chromium	0.02	
11/07/02	Chromium	<0.040	
01/28/03	Chromium	<0.01	
04/30/03	Chromium	0.64	
05/23/03	Chromium	0.0082	
07/22/03	Chromium	<0.01	
10/14/03	Chromium	<0.01	
12/04/03	Chromium	<0.0020	
01/10/02	Copper	0.0144	2
01/16/02	Copper	<0.04	
01/18/02	Copper	0.0167	
01/23/02	Copper	0.0084	
02/06/02	Copper	0.0229	
02/19/02	Copper	0.0176	
03/06/02	Copper	0.0392	

General Electric Taylor Street

Sample Date	Parameter	Result	Limit
03/21/02	Copper	0.0272	
05/01/02	Copper	0.06	
05/09/02	Copper	0.362	
05/23/02	Copper	0.0307	
06/06/02	Copper	0.222	
06/20/02	Copper	0.43	
06/20/02	Copper	0.198	
07/18/02	Copper	0.524	
07/25/02	Copper	0.227	
08/01/02	Copper	0.58	
08/08/02	Copper	0.197	
08/22/02	Copper	0.317	
09/05/02	Copper	0.308	
09/20/02	Copper	0.268	
10/01/02	Copper	1.04	
10/09/02	Copper	0.0747	
10/24/02	Copper	0.143	
11/07/02	Copper	0.06	
11/21/02	Copper	0.0307	
12/05/02	Copper	0.0378	
12/19/02	Copper	0.0506	
01/09/03	Copper	0.0273	
01/23/03	Copper	0.397	
01/28/03	Copper	0.08	
02/06/03	Copper	0.0671	
02/19/03	Copper	0.355	
03/07/03	Copper	0.0542	
03/20/03	Copper	0.0466	
04/11/03	Copper	0.0416	
04/25/03	Copper	0.0277	
04/30/03	Copper	0.08	
05/09/03	Copper	0.0201	
05/23/03	Copper	0.0887	
06/05/03	Copper	0.246	
06/18/03	Copper	0.185	
07/17/03	Copper	0.379	
07/22/03	Copper	0.59	
07/24/03	Copper	0.252	
08/07/03	Copper	0.482	
08/21/03	Copper	0.417	
09/04/03	Copper	0.368	
09/18/03	Copper	0.315	
10/02/03	Copper	0.03	
10/14/03	Copper	0.09	
10/17/03	Copper	0.0268	
11/06/03	Copper	0.0212	
11/20/03	Copper	0.0265	
12/04/03	Copper	0.0329	
12/18/03	Copper	0.0558	
01/16/02	Lead	<0.04	0.53
05/01/02	Lead	<0.04	
05/09/02	Lead	<0.080	
08/01/02	Lead	<0.01	
10/01/02	Lead	0.05	
11/07/02	Lead	0.0037	

General Electric Taylor Street

Sample Date	Parameter	Result	Limit
01/28/03	Lead	<0.02	
04/30/03	Lead	<0.03	
05/23/03	Lead	0.0093	
07/22/03	Lead	<0.03	
10/14/03	Lead	<0.03	
12/04/03	Lead	0.0016	
01/16/02	Mercury	<0.000016	0.01
01/28/03	Mercury	0.000021	
01/16/02	Nickel	<0.04	3
05/01/02	Nickel	<0.04	
05/09/02	Nickel	<0.010	
08/01/02	Nickel	<0.01	
10/01/02	Nickel	0.01	
11/07/02	Nickel	<0.010	
01/28/03	Nickel	<0.01	
04/30/03	Nickel	0.92	
05/23/03	Nickel	0.0103	
07/22/03	Nickel	<0.01	
10/14/03	Nickel	<0.01	
12/04/03	Nickel	0.0063	
01/10/02	pH	6.7	6.0-12.0
01/16/02	pH	6.8	
01/23/02	pH	7.5	
02/06/02	pH	6.7	
02/19/02	pH	7.4	
03/06/02	pH	6.9	
03/21/02	pH	6.9	
05/01/02	pH	7.1	
05/09/02	pH	7.1	
05/23/02	pH	6.9	
06/06/02	pH	6.6	
06/20/02	pH	6.6	
07/18/02	pH	7.2	
07/25/02	pH	6.6	
08/01/02	pH	6.9	
08/08/02	pH	7.3	
08/22/02	pH	6.8	
09/05/02	pH	6.8	
09/20/02	pH	7.3	
10/01/02	pH	7.4	
10/09/02	pH	6.7	
10/24/02	pH	7.6	
11/07/02	pH	7.1	
11/21/02	pH	7.6	
12/05/02	pH	6.6	
12/19/02	pH	6.9	
01/09/03	pH	6.9	
01/23/03	pH	6.7	
01/28/03	pH	6.5	
02/06/03	pH	6.6	
02/19/03	pH	6.6	
03/07/03	pH	6.8	
03/20/03	pH	7.3	
04/11/03	pH	7.05	
04/25/03	pH	7.27	

General Electric Taylor Street

Sample Date	Parameter	Result	Limit
04/30/03	pH	6.1	
05/09/03	pH	7.44	
05/23/03	pH	6.22	
06/05/03	pH	7.91	
06/18/03	pH	8.57	
07/17/03	pH	7.72	
07/22/03	pH	8.3	
07/24/03	pH	7.52	
08/07/03	pH	7.42	
08/21/03	pH	7.74	
09/04/03	pH	8.19	
09/18/03	pH	7.77	
10/02/03	pH	8.16	
10/14/03	pH	7.4	
10/17/03	pH	7.86	
11/06/03	pH	8.1	
11/20/03	pH	7.64	
12/04/03	pH	7.68	
12/18/03	pH	7.81	
01/16/02	Silver	<0.04	0.3
05/01/02	Silver	<0.04	
05/09/02	Silver	<0.040	
08/01/02	Silver	<0.01	
10/01/02	Silver	<0.01	
11/07/02	Silver	<0.0005	
01/28/03	Silver	<0.01	
04/30/03	Silver	<0.01	
05/23/03	Silver	<0.0005	
07/22/03	Silver	<0.01	
10/14/03	Silver	<0.01	
12/04/03	Silver	<0.0005	
01/16/02	Tot. Suspended Solids	18	300
05/01/02	Tot. Suspended Solids	72	
08/01/02	Tot. Suspended Solids	43	
10/01/02	Tot. Suspended Solids	142	
01/28/03	Tot. Suspended Solids	26	
04/30/03	Tot. Suspended Solids	23	
07/22/03	Tot. Suspended Solids	74	
10/14/03	Tot. Suspended Solids	38	
01/16/02	Total Cyanide	0.005	0.92
05/01/02	Total Cyanide	0.0045	
08/01/02	Total Cyanide	0.0027	
10/01/02	Total Cyanide	0.00208	
11/07/02	Total Cyanide	0.0056	
01/28/03	Total Cyanide	0.0047	
04/30/03	Total Cyanide	<0.002	
05/23/03	Total Cyanide	0.0093	
07/22/03	Total Cyanide	0.0006	
10/14/03	Total Cyanide	0.004	
12/04/03	Total Cyanide	<0.005	
01/16/02	Total Phosphorus	34	10
05/01/02	Total Phosphorus	10.4	
08/01/02	Total Phosphorus	7.8	
10/01/02	Total Phosphorus	19	
01/28/03	Total Phosphorus	9	

General Electric Taylor Street

Sample Date	Parameter	Result	Limit
04/30/03	Total Phosphorus	0.79	
07/22/03	Total Phosphorus	5	
10/14/03	Total Phosphorus	4	
01/10/02	Zinc	<0.050	2.01
01/16/02	Zinc	0.04	
01/18/02	Zinc	<0.050	
01/23/02	Zinc	<0.050	
02/06/02	Zinc	0.197	
02/19/02	Zinc	0.149	
03/06/02	Zinc	0.292	
03/21/02	Zinc	0.379	
05/01/02	Zinc	0.36	
05/09/02	Zinc	0.494	
05/23/02	Zinc	0.308	
06/06/02	Zinc	0.429	
06/20/02	Zinc	0.396	
07/18/02	Zinc	0.486	
07/25/02	Zinc	0.567	
08/01/02	Zinc	0.46	
08/08/02	Zinc	0.508	
08/22/02	Zinc	0.426	
09/05/02	Zinc	0.696	
09/20/02	Zinc	0.664	
10/01/02	Zinc	1.34	
10/09/02	Zinc	0.649	
10/24/02	Zinc	0.676	
11/07/02	Zinc	0.777	
11/21/02	Zinc	0.587	
12/05/02	Zinc	0.923	
12/19/02	Zinc	1.11	
01/09/03	Zinc	0.461	
01/23/03	Zinc	1.76	
01/28/03	Zinc	0.83	
02/06/03	Zinc	0.789	
02/19/03	Zinc	0.593	
03/07/03	Zinc	0.65	
03/20/03	Zinc	0.549	
04/11/03	Zinc	0.704	
04/25/03	Zinc	0.588	
04/30/03	Zinc	0.12	
05/09/03	Zinc	0.465	
05/23/03	Zinc	0.885	
06/05/03	Zinc	0.675	
06/18/03	Zinc	0.264	
07/17/03	Zinc	0.416	
07/22/03	Zinc	0.58	
07/24/03	Zinc	0.5	
08/07/03	Zinc	0.541	
08/21/03	Zinc	0.468	
09/04/03	Zinc	0.601	
09/18/03	Zinc	0.406	
10/02/03	Zinc	0.387	
10/14/03	Zinc	0.83	
10/17/03	Zinc	0.474	
11/06/03	Zinc	0.232	

General Electric Taylor Street

Sample Date	Parameter	Result	Limit
11/20/03	Zinc	0.543	
12/04/03	Zinc	0.58	
12/18/03	Zinc	0.639	

Company: GENERAL ELECTRIC CO IWS Number: 5519
Site Name: Taylor Street Site Number: 5

Begin	End	Water	Sewer
12/15/2001	01/17/2002	3,400	1,775
01/17/2002	02/13/2002	4,745	2,475
02/13/2002	03/13/2002	3,000	1,598
03/13/2002	04/11/2002	2,830	1,525
04/11/2002	05/08/2002	3,240	1,782
05/08/2002	06/12/2002	4,840	2,732
06/12/2002	07/10/2002	4,290	2,404
07/10/2002	08/12/2002	5,930	3,303
08/12/2002	09/12/2002	7,340	4,230
09/12/2002	10/10/2002	7,090	4,106
10/10/2002	11/13/2002	7,700	4,463
11/13/2002	12/12/2002	6,360	3,724
12/12/2002	01/09/2003	5,944	3,472
01/09/2003	02/12/2003	4,931	2,769
02/12/2003	03/12/2003	6,060	3,696
03/12/2003	04/10/2003	5,970	3,496
04/10/2003	05/14/2003	6,805	3,934
05/14/2003	06/12/2003	5,120	2,976
06/12/2003	07/10/2003	2,555	1,986
07/10/2003	08/14/2003	3,215	2,479
08/14/2003	09/12/2003	3,170	2,406
09/12/2003	10/08/2003	2,760	2,004
10/08/2003	11/12/2003	3,465	3,465
1[illegible]/2003	12/12/2003	2,790	1,852
1[illegible]/2003	01/14/2004	3,755	2,358

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03802**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
General Electric Company 1635 Broadway Fort Wayne, IN 46802	General Electric Company P.O. Box 2204 Fort Wayne, In 46801-2204 Phone: (219) 439-4009

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.15 standards.

...is permit shall become effective on **September 4, 1998.**

This permit and the authorization to discharge wastewater shall expire on **September 4, 2003.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ________________________________

Jim Cornell, Manager of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

...ent via Certified mail to:

Name: Larry Porter
Title: EHS Coordinator

Permit 03802

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Maximum for Monthly Avg. mg/l**	**Self-Monitoring Frequency**	**Sample Type**
Cadmium	0.10	0.04	2/year	composite
Chromium	0.39	0.24	2/month	composite
Copper	0.47	0.29	2/year	composite
Lead	0.10	0.06	2/month	composite
Nickel	0.56	0.33	2/year	composite
Silver	0.06	0.03	2/year	composite
Zinc	0.37	0.21	2/month	composite
Cyanide	0.17	0.09	2/year	grab
T.T.O.	0.30	N/A	2/year	
pH	6.0-12.0	N/A	2/month	grab

REQUIRED REPORTS

'ORT	DUE DATE
Discharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**May 31, 2003**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

General Electric Lindley

Sample Date	Parameter	Result	Limit
01/16/02	Ammonia-Nitrogen	2.8	25
05/01/02	Ammonia-Nitrogen	4.8	
10/01/02	Ammonia-Nitrogen	1	
01/29/03	Ammonia-Nitrogen	1	
04/29/03	Ammonia-Nitrogen	1	
07/24/03	Ammonia-Nitrogen	<3	
01/16/02	Biochemical Oxygen Demand 5 Day	13	300
05/01/02	Biochemical Oxygen Demand 5 Day	19	
10/01/02	Biochemical Oxygen Demand 5 Day	14	
01/29/03	Biochemical Oxygen Demand 5 Day	22	
04/29/03	Biochemical Oxygen Demand 5 Day	33	
07/24/03	Biochemical Oxygen Demand 5 Day	6	
01/16/02	Cadmium	<0.04	0.7
05/01/02	Cadmium	<0.04	
05/09/02	Cadmium	<0.030	
10/01/02	Cadmium	<0.01	
11/07/02	Cadmium	<0.030	
01/29/03	Cadmium	<0.01	
04/29/03	Cadmium	<0.01	
05/23/03	Cadmium	<0.001	
07/24/03	Cadmium	<0.01	
01/16/02	Chemical Oxygen Demand	60	600
05/01/02	Chemical Oxygen Demand	68	
10/01/02	Chemical Oxygen Demand	36	
01/29/03	Chemical Oxygen Demand	550	
04/29/03	Chemical Oxygen Demand	26	
07/24/03	Chemical Oxygen Demand	47	
01/16/02	Chromium	<0.04	10
03/22/02	Chromium	<0.0050	
03/25/02	Chromium	<0.0020	
05/01/02	Chromium	<0.04	
05/09/02	Chromium	<0.040	
05/23/02	Chromium	<0.002	
06/06/02	Chromium	<0.0020	
06/20/02	Chromium	<0.0020	
07/18/02	Chromium	<0.002	
07/25/02	Chromium	<0.002	
08/08/02	Chromium	<0.002	
08/22/02	Chromium	<0.002	
09/05/02	Chromium	<0.002	
09/20/02	Chromium	<0.002	
10/01/02	Chromium	<0.01	
10/09/02	Chromium	<0.002	
10/24/02	Chromium	<0.002	
11/07/02	Chromium	<0.040	
11/21/02	Chromium	<0.0020	
12/05/02	Chromium	<0.002	
12/19/02	Chromium	<0.002	
01/09/03	Chromium	<0.002	
01/23/03	Chromium	<0.002	
01/29/03	Chromium	<0.01	
02/06/03	Chromium	<0.002	
02/19/03	Chromium	<0.002	
03/07/03	Chromium	<0.0020	
03/20/03	Chromium	<0.0020	

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Sample Date	Parameter	Result	Limit
04/11/03	Chromium	<0.002	
04/25/03	Chromium	<0.002	
04/29/03	Chromium	<0.01	
05/09/03	Chromium	0.0024	
05/23/03	Chromium	<0.002	
06/05/03	Chromium	<0.0020	
06/19/03	Chromium	<0.0020	
07/17/03	Chromium	<0.0020	
07/24/03	Chromium	<0.01	
07/24/03	Chromium	<0.0020	
08/07/03	Chromium	<0.002	
08/21/03	Chromium	<0.002	
01/16/02	Copper	<0.04	2
04/04/02	Copper	0.04	
04/18/02	Copper	2.05	
05/01/02	Copper	0.15	
05/09/02	Copper	<0.020	
10/01/02	Copper	0.01	
11/07/02	Copper	<0.020	
01/29/03	Copper	0.03	
04/29/03	Copper	0.03	
05/23/03	Copper	0.0095	
07/24/03	Copper	0.01	
01/16/02	Lead	<0.04	0.6
03/22/02	Lead	0.0012	
03/25/02	Lead	0.0016	
05/01/02	Lead	0.04	
05/09/02	Lead	<0.080	
05/23/02	Lead	<0.001	
06/06/02	Lead	<0.0010	
06/20/02	Lead	<0.0010	
07/18/02	Lead	0.0018	
07/25/02	Lead	0.0025	
08/08/02	Lead	<0.001	
08/22/02	Lead	0.0018	
09/05/02	Lead	<0.001	
09/20/02	Lead	0.0025	
10/01/02	Lead	<0.02	
10/09/02	Lead	<0.001	
10/24/02	Lead	0.0057	
11/07/02	Lead	<0.0010	
11/21/02	Lead	0.0032	
12/05/02	Lead	0.0011	
12/19/02	Lead	<0.0010	
01/09/03	Lead	0.0023	
01/23/03	Lead	0.0045	
01/29/03	Lead	<0.02	
02/06/03	Lead	0.0091	
02/19/03	Lead	<0.002	
03/07/03	Lead	0.0099	
03/20/03	Lead	0.0036	
04/11/03	Lead	0.0018	
04/25/03	Lead	0.0021	
04/29/03	Lead	<0.03	
05/09/03	Lead	0.0177	

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Sample Date	Parameter	Result	Limit
05/23/03	Lead	<0.001	
06/05/03	Lead	<0.0010	
06/19/03	Lead	0.0011	
07/17/03	Lead	<0.0010	
07/24/03	Lead	<0.03	
07/24/03	Lead	0.0022	
08/07/03	Lead	<0.002	
08/21/03	Lead	0.0033	
01/16/02	Mercury	<0.000016	0.01
01/29/03	Mercury	0.000022	
01/16/02	Nickel	<0.04	3
05/01/02	Nickel	<0.04	
05/09/02	Nickel	<0.010	
10/01/02	Nickel	<0.01	
11/07/02	Nickel	<0.010	
01/29/03	Nickel	<0.01	
04/29/03	Nickel	<0.01	
05/23/03	Nickel	<0.005	
07/24/03	Nickel	<0.01	
01/16/02	pH	7.1	6.0-12.0
03/22/02	pH	8.2	
03/25/02	pH	8.2	
04/04/02	pH	6.6	
04/18/02	pH	7.2	
05/01/02	pH	7.5	
05/09/02	pH	7.2	
05/23/02	pH	7.2	
06/06/02	pH	7.1	
06/20/02	pH	7	
07/18/02	pH	7.1	
07/25/02	pH	7.2	
08/08/02	pH	6.9	
08/22/02	pH	6.9	
09/05/02	pH	6.7	
09/20/02	pH	7.1	
10/01/02	pH	7.7	
10/09/02	pH	6.6	
10/24/02	pH	7.5	
11/07/02	pH	7.1	
11/21/02	pH	7.3	
12/05/02	pH	7.4	
12/19/02	pH	8.2	
01/09/03	pH	7.3	
01/23/03	pH	8	
01/29/03	pH	7.8	
02/06/03	pH	8.3	
02/19/03	pH	7	
03/07/03	pH	9.3	
03/20/03	pH	7.8	
04/11/03	pH	7	
04/25/03	pH	7.3	
04/29/03	pH	6.2	
05/09/03	pH	7.21	
05/23/03	pH	6.55	
06/05/03	pH	6.78	

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Sample Date	Parameter	Result	Limit
06/19/03	pH	7.2	
07/17/03	pH	6.75	
07/24/03	pH	6.5	
07/24/03	pH	7.1	
08/07/03	pH	7.15	
08/21/03	pH	7.15	
01/16/02	Silver	<0.04	0.3
05/01/02	Silver	<0.04	
05/09/02	Silver	<0.040	
10/01/02	Silver	<0.01	
11/07/02	Silver	<0.0005	
01/29/03	Silver	<0.01	
04/29/03	Silver	<0.01	
05/23/03	Silver	<0.0005	
07/24/03	Silver	<0.01	
01/16/02	Tot. Suspended Solids	10	300
05/01/02	Tot. Suspended Solids	45	
10/01/02	Tot. Suspended Solids	13	
01/29/03	Tot. Suspended Solids	12	
04/29/03	Tot. Suspended Solids	64	
07/24/03	Tot. Suspended Solids	6	
01/16/02	Total Cyanide	0.0007	1.2
05/09/02	Total Cyanide	0.01	
10/01/02	Total Cyanide	0.0003	
11/07/02	Total Cyanide	0.0082	
01/29/03	Total Cyanide	0.011	
04/29/03	Total Cyanide	<0.002	
05/23/03	Total Cyanide	0.0055	
07/24/03	Total Cyanide	0.0025	
01/16/02	Total Phosphorus	0.6	10
05/01/02	Total Phosphorus	0.5	
10/01/02	Total Phosphorus	1	
01/29/03	Total Phosphorus	0.256	
04/29/03	Total Phosphorus	1	
07/24/03	Total Phosphorus	1	
01/16/02	Zinc	<0.04	6
03/22/02	Zinc	<0.050	
03/25/02	Zinc	<0.050	
04/04/02	Zinc	0.401	
04/18/02	Zinc	1.72	
05/01/02	Zinc	0.12	
05/09/02	Zinc	<0.050	
05/23/02	Zinc	<0.050	
06/06/02	Zinc	<0.050	
06/20/02	Zinc	<0.050	
07/18/02	Zinc	<0.050	
07/25/02	Zinc	<0.050	
08/08/02	Zinc	<0.050	
08/22/02	Zinc	<0.050	
09/05/02	Zinc	<0.050	
09/20/02	Zinc	<0.050	
10/01/02	Zinc	0.04	
10/09/02	Zinc	<0.05	
10/24/02	Zinc	<0.05	
11/07/02	Zinc	<0.050	

General Electric Lindley

Sample Date	Parameter	Result	Limit
11/21/02	Zinc	0.05	
12/05/02	Zinc	0.102	
12/19/02	Zinc	<0.050	
01/09/03	Zinc	<0.050	
01/23/03	Zinc	<0.050	
01/29/03	Zinc	0.09	
02/06/03	Zinc	0.064	
02/19/03	Zinc	<0.050	
03/07/03	Zinc	<0.050	
03/20/03	Zinc	<0.050	
04/11/03	Zinc	<0.050	
04/25/03	Zinc	<0.050	
04/29/03	Zinc	0.07	
05/09/03	Zinc	0.098	
05/23/03	Zinc	<0.050	
06/05/03	Zinc	<0.050	
06/19/03	Zinc	<0.050	
07/17/03	Zinc	<0.050	
07/24/03	Zinc	0.05	
07/24/03	Zinc	<0.050	
08/07/03	Zinc	<0.050	
08/21/03	Zinc	<0.050	

:ompany: GENERAL ELECTRIC CO IWS Number: 5519
;ite Name: Lindley gate Site Number: 6

in	End	Water	Sewer
.2/15/2001	01/17/2002	4,125	3,712
)1/17/2002	02/13/2002	6,007	5,406
)2/13/2002	03/13/2002	4,068	3,661
)3/13/2002	04/11/2002	761	685
)3/13/2002	05/08/2002	9,000	4,500
)3/13/2002	06/19/2002	9,000	0
)6/19/2002	07/10/2002	8,421	7,570
)7/10/2002	08/12/2002	9,492	8,543
)8/12/2002	09/12/2002	7,929	7,639
)9/12/2002	10/10/2002	7,743	6,969
L0/10/2002	11/13/2002	9,620	8,658
L1/13/2002	12/12/2002	8,459	7,613
L2/12/2002	01/09/2003	7,465	6,718
)1/09/2003	02/12/2003	7,798	7,018
)2/12/2003	03/12/2003	5,644	5,127
)3/12/2003	04/10/2003	2,976	2,747
)4/10/2003	05/14/2003	8,500	7,650
)4/10/2003	08/14/2003	8,188	3,527
)5/14/2003	06/12/2003	9,000	8,141
)6/12/2003	07/10/2003	25,921	7,579
)8/14/2003	09/12/2003	2,097	1,887

[redacted]

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03701**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

General Motors Corporation
Fort Wayne Assembly
12200 Lafayette Center Road
Roanoke, IN 46783

Mailing Address:

Same

Phone: (260) 673-2100

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.17 standards.

s permit shall become effective on **December 18, 2003.**

This permit and the authorization to discharge wastewater shall expire on **December 18, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: __________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

t via Certified mail to:

George Kioultzopoulos

I. LIMITATIONS and MONITORING REQUIREMENTS

General Motors Corporation will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Maximum for Monthly Avg. mg/l**	Self-**Monitoring Frequency**	**Sample Type**
Cadmium	0.08	0.05	2/year	composite
Chromium	1.99	1.23	2/year	composite
Copper	2.00	1.49	2/year	composite
d	0.50	0.31	2/month	composite
ckel	2.87	1.71	2/year	composite
Silver	0.30	0.17	2/year	composite
Zinc	1.88	1.07	2/month	composite
Cyanide	0.86	0.47	2/year	grab
T.T.O.	1.53	N/A	2/year	
pH	6.0-12.0		2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume lected at equal time intervals (no more than 2 hours apart) over the aily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

General Motors Corp.

Sample Date	Parameter	Result	Limit
03/19/02	Ammonia-Nitrogen	25	25
06/18/02	Ammonia-Nitrogen	4.98	
09/17/02	Ammonia-Nitrogen	15	
12/12/02	Ammonia-Nitrogen	18	
03/12/03	Ammonia-Nitrogen	9	
06/12/03	Ammonia-Nitrogen	4	
09/04/03	Ammonia-Nitrogen	14	
12/03/03	Ammonia-Nitrogen	5	
03/19/02	Biochemical Oxygen Demand 5 Day	245	300
06/18/02	Biochemical Oxygen Demand 5 Day	81	
09/17/02	Biochemical Oxygen Demand 5 Day	100	
12/12/02	Biochemical Oxygen Demand 5 Day	80	
03/12/03	Biochemical Oxygen Demand 5 Day	120	
06/12/03	Biochemical Oxygen Demand 5 Day	76	
09/04/03	Biochemical Oxygen Demand 5 Day	54	
12/03/03	Biochemical Oxygen Demand 5 Day	55	
03/19/02	Cadmium	<0.04	0.08
05/10/02	Cadmium	<0.01	
06/18/02	Cadmium	<0.01	
09/17/02	Cadmium	<0.01	
11/12/02	Cadmium	0.04	
12/12/02	Cadmium	< 0.01	
03/12/03	Cadmium	<0.01	
05/27/03	Cadmium	0.01	
06/12/03	Cadmium	<0.01	
09/04/03	Cadmium	<0.01	
11/11/03	Cadmium	0.01	
12/03/03	Cadmium	<0.01	
03/19/02	Chemical Oxygen Demand	447	600
06/18/02	Chemical Oxygen Demand	253	
09/17/02	Chemical Oxygen Demand	319	
12/12/02	Chemical Oxygen Demand	235	
03/12/03	Chemical Oxygen Demand	453	
06/12/03	Chemical Oxygen Demand	260	
09/04/03	Chemical Oxygen Demand	162	
12/03/03	Chemical Oxygen Demand	221	
03/19/02	Chromium	<0.04	1.99
05/10/02	Chromium	<0.01	
06/18/02	Chromium	0.02	
09/17/02	Chromium	<0.01	
11/12/02	Chromium	0.08	
12/12/02	Chromium	< 0.01	
03/12/03	Chromium	<0.01	
05/27/03	Chromium	0.01	
06/12/03	Chromium	<0.01	
09/04/03	Chromium	<0.01	
11/11/03	Chromium	0.02	
12/03/03	Chromium	<0.01	
03/19/02	Copper	0.06	2
05/10/02	Copper	<0.01	
06/18/02	Copper	0.01	
09/17/02	Copper	0.02	
11/12/02	Copper	0.04	
12/12/02	Copper	0.015	
03/12/03	Copper	0.04	

General Motors Corp.

Sample Date	Parameter	Result	Limit
05/27/03	Copper	0.04	
06/12/03	Copper	0.02	
09/04/03	Copper	0.01	
11/11/03	Copper	0.07	
12/03/03	Copper	0.05	
01/11/02	Lead	0.02	0.5
01/25/02	Lead	Not detected	
02/15/02	Lead	0.04	
02/22/02	Lead	0.02	
03/08/02	Lead	0.01	
03/19/02	Lead	<0.04	
03/22/02	Lead	0.08	
04/12/02	Lead	0.01	
04/26/02	Lead	0.03	
05/10/02	Lead	<0.02	
05/24/02	Lead	<0.02	
06/07/02	Lead	<0.02	
06/18/02	Lead	<0.01	
06/19/02	Lead	<0.02	
07/17/02	Lead	0.01	
07/31/02	Lead	0.01	
08/07/02	Lead	0.01	
08/21/02	Lead	0.01	
09/11/02	Lead	0.01	
09/17/02	Lead	<0.02	
09/18/02	Lead	0.01	
09/25/02	Lead	0.01	
10/09/02	Lead	0.01	
10/23/02	Lead	0.01	
11/12/02	Lead	0.01	
11/26/02	Lead	0.01	
12/06/02	Lead	0.01	
12/12/02	Lead	< 0.02	
12/13/02	Lead	0.01	
12/18/02	Lead	0.01	
01/09/03	Lead	0.01	
01/22/03	Lead	0.01	
02/05/03	Lead	0.01	
02/21/03	Lead	0.01	
03/12/03	Lead	<0.02	
03/12/03	Lead	0.01	
03/13/03	Lead	0.01	
03/26/03	Lead	0.01	
04/09/03	Lead	0.01	
04/26/03	Lead	0.01	
05/08/03	Lead	0.01	
05/27/03	Lead	0.01	
06/12/03	Lead	<0.03	
06/13/03	Lead	0.01	
06/13/03	Lead	0.01	
06/26/03	Lead	0.01	
06/26/03	Lead	0.01	
07/17/03	Lead	0.01	
07/30/03	Lead	0.01	
08/06/03	Lead	0.01	

General Motors Corp.

Sample Date	Parameter	Result	Limit
08/27/03	Lead	0.01	
09/04/03	Lead	<0.03	
09/05/03	Lead	0.01	
09/24/03	Lead	0.01	
10/16/03	Lead	0.01	
10/29/03	Lead	0.01	
11/11/03	Lead	0.01	
11/25/03	Lead	0.01	
12/03/03	Lead	<0.03	
12/04/03	Lead	0.01	
12/17/03	Lead	0.01	
03/19/02	Mercury	0.0024	0.01
03/12/03	Mercury	0.000009	
03/19/02	Nickel	<0.04	2.87
05/10/02	Nickel	0.14	
06/18/02	Nickel	0.12	
09/17/02	Nickel	0.1	
11/12/02	Nickel	0.11	
12/12/02	Nickel	0.12	
03/12/03	Nickel	0.08	
05/27/03	Nickel	0.18	
06/12/03	Nickel	0.17	
09/04/03	Nickel	0.07	
11/11/03	Nickel	0.11	
12/03/03	Nickel	0.12	
01/11/02	pH	8.9	6.0-12.0
01/25/02	pH	8.8	
02/15/02	pH	8.6	
02/22/02	pH	8.3	
03/08/02	pH	8.2	
03/19/02	pH	9.7	
03/22/02	pH	9.4	
04/12/02	pH	9.1	
04/26/02	pH	8.2	
05/10/02	pH	9.3	
05/24/02	pH	8.7	
06/07/02	pH	8.3	
06/18/02	pH	7.6	
06/19/02	pH	9.1	
07/17/02	pH	7.7	
07/31/02	pH	7.6	
08/07/02	pH	8.2	
08/21/02	pH	9.4	
09/11/02	pH	7.8	
09/17/02	pH	8.1	
09/18/02	pH	8.4	
09/25/02	pH	8.1	
10/09/02	pH	8.4	
10/23/02	pH	8.2	
11/12/02	pH	8.7	
11/26/02	pH	7.8	
12/06/02	pH	9.1	
12/12/02	pH	8.25	
12/13/02	pH	9.6	
12/18/02	pH	8.2	

General Motors Corp.

Sample Date	Parameter	Result	Limit
01/09/03	pH	8.7	
01/22/03	pH	9.6	
02/05/03	pH	9.3	
02/21/03	pH	8.1	
03/12/03	pH	9.5	
03/12/03	pH	8.02	
03/13/03	pH	8.3	
03/26/03	pH	8.2	
04/09/03	pH	8.6	
04/26/03	pH	7.8	
05/08/03	pH	7.83	
05/27/03	pH	9.2	
06/12/03	pH	10	
06/13/03	pH	9.2	
06/13/03	pH	9.2	
06/26/03	pH	9.2	
06/26/03	pH	9.2	
07/17/03	pH	7.6	
07/30/03	pH	7.8	
08/06/03	pH	10	
08/27/03	pH	7.2	
09/04/03	pH	7.4	
09/05/03	pH	8.3	
09/24/03	pH	9.6	
10/16/03	pH	8.2	
10/29/03	pH	8	
11/11/03	pH	8.2	
11/25/03	pH	8	
12/03/03	pH	9.9	
12/04/03	pH	8.4	
12/17/03	pH	9	
03/19/02	Silver	<0.04	0.3
05/10/02	Silver	<0.01	
06/18/02	Silver	<0.01	
09/17/02	Silver	<0.01	
11/12/02	Silver	0.04	
12/12/02	Silver	< 0.01	
03/12/03	Silver	<0.01	
05/27/03	Silver	0.01	
06/12/03	Silver	<0.01	
09/04/03	Silver	<0.01	
11/11/03	Silver	0.01	
12/03/03	Silver	<0.01	
03/19/02	Tot. Suspended Solids	210	300
06/18/02	Tot. Suspended Solids	74	
09/17/02	Tot. Suspended Solids	93	
12/12/02	Tot. Suspended Solids	42	
03/12/03	Tot. Suspended Solids	126	
06/12/03	Tot. Suspended Solids	143	
09/04/03	Tot. Suspended Solids	50	
12/03/03	Tot. Suspended Solids	112	
03/19/02	Total Cyanide	0.001	0.86
05/10/02	Total Cyanide	<0.002	
06/18/02	Total Cyanide	0.0006	
09/17/02	Total Cyanide	0.00042	

General Motors Corp.

Sample Date	Parameter	Result	Limit
11/12/02	Total Cyanide	0.02	
12/12/02	Total Cyanide	0.00054	
03/12/03	Total Cyanide	0.0005	
05/27/03	Total Cyanide	0.02	
06/12/03	Total Cyanide	0.002	
09/04/03	Total Cyanide	0.0002	
11/11/03	Total Cyanide	0.02	
12/03/03	Total Cyanide	0.00065	
03/19/02	Total Phosphorus	5.4	10
06/18/02	Total Phosphorus	1.1	
09/17/02	Total Phosphorus	4	
12/12/02	Total Phosphorus	5	
03/12/03	Total Phosphorus	4	
06/12/03	Total Phosphorus	4	
09/04/03	Total Phosphorus	3	
12/03/03	Total Phosphorus	2.769	
01/11/02	Zinc	0.42	1.88
01/25/02	Zinc	0.14	
02/15/02	Zinc	0.55	
02/22/02	Zinc	0.26	
03/08/02	Zinc	0.2	
03/19/02	Zinc	0.05	
03/22/02	Zinc	0.56	
04/12/02	Zinc	0.07	
04/26/02	Zinc	0.34	
05/10/02	Zinc	0.05	
05/24/02	Zinc	0.12	
06/07/02	Zinc	0.07	
06/18/02	Zinc	0.16	
06/19/02	Zinc	0.11	
07/17/02	Zinc	0.09	
07/31/02	Zinc	0.07	
08/07/02	Zinc	0.19	
08/21/02	Zinc	0.18	
09/11/02	Zinc	0.09	
09/17/02	Zinc	0.22	
09/18/02	Zinc	0.19	
09/25/02	Zinc	0.16	
10/09/02	Zinc	0.06	
10/23/02	Zinc	0.21	
11/12/02	Zinc	0.08	
11/26/02	Zinc	0.11	
12/06/02	Zinc	0.14	
12/12/02	Zinc	0.095	
12/13/02	Zinc	0.1	
12/18/02	Zinc	0.13	
01/09/03	Zinc	0.07	
01/22/03	Zinc	0.08	
02/05/03	Zinc	0.09	
02/21/03	Zinc	0.06	
03/12/03	Zinc	0.23	
03/12/03	Zinc	0.17	
03/13/03	Zinc	0.11	
03/26/03	Zinc	0.09	
04/09/03	Zinc	0.88	

General Motors Corp.

Sample Date	Parameter	Result	Limit
04/26/03	Zinc	1.08	
05/08/03	Zinc	0.89	
05/27/03	Zinc	0.68	
06/12/03	Zinc	0.14	
06/13/03	Zinc	0.13	
06/13/03	Zinc	0.26	
06/26/03	Zinc	0.26	
06/26/03	Zinc	0.25	
07/17/03	Zinc	0.15	
07/30/03	Zinc	0.17	
08/06/03	Zinc	0.17	
08/27/03	Zinc	0.1	
09/04/03	Zinc	0.12	
09/05/03	Zinc	0.09	
09/24/03	Zinc	0.09	
10/16/03	Zinc	0.15	
10/29/03	Zinc	0.11	
11/11/03	Zinc	0.27	
11/25/03	Zinc	0.12	
12/03/03	Zinc	0.42	
12/04/03	Zinc	0.13	
12/17/03	Zinc	0.14	

Site Consumption

:ompany: GENERAL MOTORS
:ite Name: GENERAL MOTORS FW

IWS Number: 223
Site Number: 1

Begin	End	Water	Sewer
.2/13/2001	01/10/2002	26,288	23,659
)1/11/2002	02/08/2002	32,969	29,672
)2/09/2002	03/14/2002	39,643	35,679
)3/15/2002	04/11/2002	32,528	29,275
)4/12/2002	05/10/2002	33,662	30,296
)5/11/2002	06/14/2002	40,263	36,237
)6/15/2002	07/10/2002	40,263	36,237
)7/11/2002	08/13/2002	34,405	30,965
)8/14/2002	09/13/2002	41,936	37,742
)9/14/2002	10/14/2002	42,749	38,474
.0/15/2002	11/19/2002	44,111	39,700
.1/20/2002	12/06/2002	26,708	24,037
.2/07/2002	01/10/2003	23,086	20,777
)1/11/2003	02/13/2003	38,168	34,351
)2/14/2003	03/14/2003	33,039	29,735

DO NOT KNOW WHY
DATA ENDS.

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **03921**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Harris Kayot, Inc.
2801 West State Blvd.
Fort Wayne, IN 46808

Mailing Address:

Same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.17 standards.

.s permit shall become effective on **July 31, 2003.**

This permit and the authorization to discharge wastewater shall expire on **July 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________

____
Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

:t via Certified mail to:

Name: Barron Biedenweg

Permit 03921

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Harris Kayot** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Maximum for Monthly Avg. mg/l**	**Self-Monitoring Frequency**	**Sample Type**
pH	6.0-12.0	N/A	2/year	grab
Cadmium	0.07	0.04	2/year	composite
Chromium	1.75	1.08	2/year	composite
Copper	2.00	1.30	2/year	composite
Lead	0.43	0.27	2/year	composite
Nickel	2.51	1.50	2/year	composite
Silver	0.27	0.15	2/year	composite
Zinc	1.64	0.93	2/year	composite
Cyanide	0.76	0.41	2/year	grab
T.T.O.	1.34	N/A	2/year	

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located near the sidewalk along State Blvd. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

D. Basis for pollutant

Harris Kayot

Sample Date	Parameter	Result	Limit
01/29/02	Ammonia-Nitrogen	4.7	25
04/09/02	Ammonia-Nitrogen	2	
08/07/02	Ammonia-Nitrogen	4.84	
10/16/02	Ammonia-Nitrogen	3	
02/05/03	Ammonia-Nitrogen	2	
04/08/03	Ammonia-Nitrogen	2	
07/29/03	Ammonia-Nitrogen	<3	
10/22/03	Ammonia-Nitrogen	3	
01/29/02	Biochemical Oxygen Demand 5 Day	14	300
04/09/02	Biochemical Oxygen Demand 5 Day	73	
08/07/02	Biochemical Oxygen Demand 5 Day	28	
10/16/02	Biochemical Oxygen Demand 5 Day	112	
02/05/03	Biochemical Oxygen Demand 5 Day	79	
04/08/03	Biochemical Oxygen Demand 5 Day	26	
07/29/03	Biochemical Oxygen Demand 5 Day	29	
10/22/03	Biochemical Oxygen Demand 5 Day	127	
01/29/02	Cadmium	<0.04	0.07
04/09/02	Cadmium	<0.04	
05/02/02	Cadmium	<0.005	
08/07/02	Cadmium	< 0.01	
10/16/02	Cadmium	<0.01	
02/05/03	Cadmium	<0.01	
04/08/03	Cadmium	<0.01	
05/15/03	Cadmium	<0.005	
07/29/03	Cadmium	<0.01	
10/22/03	Cadmium	<0.01	
11/07/03	Cadmium	<0.005	
01/29/02	Chemical Oxygen Demand	80	600
04/09/02	Chemical Oxygen Demand	240	
08/07/02	Chemical Oxygen Demand	139	
10/16/02	Chemical Oxygen Demand	273	
02/05/03	Chemical Oxygen Demand	211	
07/29/03	Chemical Oxygen Demand	114	
10/22/03	Chemical Oxygen Demand	404	
01/29/02	Chromium	0.07	1.75
04/09/02	Chromium	0.18	
05/02/02	Chromium	0.031	
08/07/02	Chromium	0.41	
10/16/02	Chromium	0.06	
02/05/03	Chromium	0.07	
04/08/03	Chromium	0.07	
05/15/03	Chromium	0.125	
07/29/03	Chromium	0.02	
10/22/03	Chromium	0.02	
11/07/03	Chromium	0.033	
01/29/02	Copper	<0.04	2
04/09/02	Copper	0.05	
05/02/02	Copper	0.023	
08/07/02	Copper	0.05	
10/16/02	Copper	0.04	
02/05/03	Copper	0.07	
04/08/03	Copper	0.06	
05/15/03	Copper	0.026	
07/29/03	Copper	0.01	
10/22/03	Copper	0.04	

Harris Kayot

Sample Date	Parameter	Result	Limit
11/07/03	Copper	0.027	
01/29/02	Lead	<0.04	0.43
04/09/02	Lead	0.13	
05/02/02	Lead	<0.005	
08/07/02	Lead	0.28	
10/16/02	Lead	<0.02	
02/05/03	Lead	<0.02	
04/08/03	Lead	<0.03	
05/15/03	Lead	<0.005	
07/29/03	Lead	<0.03	
10/22/03	Lead	<0.03	
11/07/03	Lead	<0.005	
01/29/02	Mercury	<0.000016	0.01
02/05/03	Mercury	0.000016	
01/29/02	Nickel	<0.04	2.51
04/09/02	Nickel	<0.04	
05/02/02	Nickel	<0.005	
08/07/02	Nickel	< 0.01	
10/16/02	Nickel	<0.01	
02/05/03	Nickel	<0.01	
04/08/03	Nickel	<0.01	
05/15/03	Nickel	<0.005	
07/29/03	Nickel	<0.01	
10/22/03	Nickel	<0.01	
11/07/03	Nickel	<0.005	
01/29/02	pH	9.6	6.0-12.0
04/09/02	pH	10.1	
05/01/02	pH	7.5	
05/02/02	pH	8.2	
05/15/02	pH	7	
08/07/02	pH	10.3	
10/16/02	pH	10.6	
02/05/03	pH	9.5	
04/08/03	pH	8.9	
05/02/03	pH	7	
05/15/03	pH	7.39	
05/15/03	pH	7	
07/29/03	pH	7.3	
10/22/03	pH	9.4	
11/05/03	pH	7	
11/07/03	pH	10.2	
11/17/03	pH	6.5	
01/29/02	Silver	<0.04	0.27
04/09/02	Silver	<0.04	
05/02/02	Silver	<.01	
08/07/02	Silver	< 0.01	
10/16/02	Silver	<0.01	
02/05/03	Silver	<0.01	
04/08/03	Silver	<0.01	
05/15/03	Silver	<0.005	
07/29/03	Silver	<0.01	
10/22/03	Silver	<0.01	
11/07/03	Silver	<0.005	
01/29/02	Tot. Suspended Solids	140	300
04/09/02	Tot. Suspended Solids	412	

Harris Kayot

Sample Date	Parameter	Result	Limit
08/07/02	Tot. Suspended Solids	344	
10/16/02	Tot. Suspended Solids	214	
02/05/03	Tot. Suspended Solids	256	
04/08/03	Tot. Suspended Solids	159	
07/29/03	Tot. Suspended Solids	68	
10/22/03	Tot. Suspended Solids	240	
01/29/02	Total Cyanide	0.0019	0.76
04/09/02	Total Cyanide	0.0011	
05/02/02	Total Cyanide	<0.02	
08/07/02	Total Cyanide	0.0044	
10/16/02	Total Cyanide	0.0082	
02/05/03	Total Cyanide	0.0051	
04/08/03	Total Cyanide	<0.002	
05/15/03	Total Cyanide	0.027	
07/29/03	Total Cyanide	0.00029	
10/22/03	Total Cyanide	0.003	
11/07/03	Total Cyanide	0.008	
01/29/02	Total Phosphorus	0.5	10
04/09/02	Total Phosphorus	3.9	
08/07/02	Total Phosphorus	0.873	
10/16/02	Total Phosphorus	2	
02/05/03	Total Phosphorus	2	
04/08/03	Total Phosphorus	1.1	
07/29/03	Total Phosphorus	0.86	
10/22/03	Total Phosphorus	3	
01/29/02	Zinc	<0.04	1.64
04/09/02	Zinc	0.06	
05/02/02	Zinc	<0.02	
08/07/02	Zinc	0.61	
10/16/02	Zinc	0.06	
02/05/03	Zinc	0.08	
04/08/03	Zinc	0.04	
05/15/03	Zinc	0.022	
07/29/03	Zinc	0.02	
10/22/03	Zinc	0.08	
11/07/03	Zinc	0.074	

Site Consumption

Company: HARRIS-KAYOT, INC
Site Name: Harris Kayot

IWS Number: 6107
Site Number: 1

Begin	End	Water	Sewer
.2/17/2001	01/15/2002	124	124
)1/15/2002	02/15/2002	304	304
)2/15/2002	03/12/2002	285	285
)3/12/2002	04/15/2002	335	335
)4/15/2002	05/15/2002	255	255
)5/15/2002	06/19/2002	348	348
)6/19/2002	07/19/2002	204	204
)7/19/2002	08/13/2002	215	215
)8/13/2002	09/17/2002	330	330
)9/17/2002	10/14/2002	211	211
L0/14/2002	11/15/2002	223	223
L1/15/2002	12/11/2002	181	181
L2/11/2002	01/15/2003	228	228
)1/15/2003	02/11/2003	195	195
)2/11/2003	03/14/2003	240	240
)3/14/2003	04/08/2003	216	216
)4/08/2003	05/12/2003	368	368
)5/12/2003	06/11/2003	317	317
06/11/2003	07/14/2003	257	257
07/14/2003	08/08/2003	194	194
08/08/2003	09/10/2003	295	295
09 [illegible]/2003	10/08/2003	216	216
1 [illegible]/2003	11/12/2003	339	339
11/12/2003	12/12/2003	229	229
12/12/2003	01/15/2004	336	336

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **04661**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Johnson Controls Battery Group, Inc.
8710 Indianapolis Road
Fort Wayne, IN 46809

Mailing Address:

Same

Phone: (219) 478-7287

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

This permit shall become effective on **August 1, 1999.**

This permit and the authorization to discharge wastewater shall expire on **July 31, 2004.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________

____
Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

Name: Iris Williams
Title: DC Manager

Permit 04661

I. DISCHARGE LIMITATIONS, SELF-MONITORING, AND REQUIRED REPORTS

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Self-Monitoring Frequency	Sample Type
pH	6.0-12.0	2/month	grab
Lead	0.60	2/month	composite

REQUIRED REPORTS

REPORT	DUE DATE
Discharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
ustrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**June 1, 2004**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

Revised 8/11/03

Johnson Controls

Sample Date	Parameter	Result	Limit
02/13/02	Ammonia-Nitrogen	6	25
05/08/02	Ammonia-Nitrogen	0.61	
08/14/02	Ammonia-Nitrogen	18.7	
10/30/02	Ammonia-Nitrogen	9	
02/12/03	Ammonia-Nitrogen	32	
05/14/03	Ammonia-Nitrogen	22	
08/20/03	Ammonia-Nitrogen	53	
11/12/03	Ammonia-Nitrogen	40	
02/13/02	Biochemical Oxygen Demand 5 Day	265	300
05/08/02	Biochemical Oxygen Demand 5 Day	110	
08/14/02	Biochemical Oxygen Demand 5 Day	116	
10/30/02	Biochemical Oxygen Demand 5 Day	40	
02/12/03	Biochemical Oxygen Demand 5 Day	55	
05/14/03	Biochemical Oxygen Demand 5 Day	747	
08/20/03	Biochemical Oxygen Demand 5 Day	117	
11/12/03	Biochemical Oxygen Demand 5 Day	192	
02/13/02	Cadmium	<0.04	0.7
05/08/02	Cadmium	<0.04	
08/14/02	Cadmium	< 0.01	
10/30/02	Cadmium	<0.01	
02/12/03	Cadmium	<0.01	
05/14/03	Cadmium	<0.01	
08/20/03	Cadmium	<0.01	
11/12/03	Cadmium	<0.01	
02/13/02	Chemical Oxygen Demand	519	600
05/08/02	Chemical Oxygen Demand	194	
08/14/02	Chemical Oxygen Demand	207	
10/30/02	Chemical Oxygen Demand	50	
02/12/03	Chemical Oxygen Demand	147	
05/14/03	Chemical Oxygen Demand	1267	
08/20/03	Chemical Oxygen Demand	300	
11/12/03	Chemical Oxygen Demand	368	
02/13/02	Chromium	<0.04	10
05/08/02	Chromium	<0.04	
08/14/02	Chromium	< 0.01	
10/30/02	Chromium	<0.01	
02/12/03	Chromium	<0.01	
05/14/03	Chromium	<0.01	
08/20/03	Chromium	<0.01	
11/12/03	Chromium	<0.01	
02/13/02	Copper	0.07	2
05/08/02	Copper	0.08	
08/14/02	Copper	0.057	
10/30/02	Copper	0.15	
02/12/03	Copper	0.08	
05/14/03	Copper	0.07	
08/20/03	Copper	0.07	
11/12/03	Copper	0.09	
01/04/02	Lead	0.2	0.6
01/17/02	Lead	<0.10	
01/25/02	Lead	<0.10	
01/31/02	Lead	<0.10	
02/07/02	Lead	<0.10	
02/13/02	Lead	0.11	
02/14/02	Lead	<0.10	

Johnson Controls

Sample Date	Parameter	Result	Limit
02/21/02	Lead	<0.10	
02/28/02	Lead	<0.10	
03/07/02	Lead	0.14	
03/14/02	Lead	0.08	
03/21/02	Lead	<0.05	
03/28/02	Lead	<0.05	
04/04/02	Lead	0.05	
04/18/02	Lead	0.12	
04/25/02	Lead	0.1	
05/02/02	Lead	0.09	
05/08/02	Lead	0.65	
05/09/02	Lead	0.46	
05/16/02	Lead	0.06	
05/23/02	Lead	0.08	
05/30/02	Lead	<0.05	
06/06/02	Lead	0.14	
06/13/02	Lead	0.08	
06/20/02	Lead	0.26	
06/27/02	Lead	<0.05	
07/03/02	Lead	0.13	
07/11/02	Lead	0.28	
07/17/02	Lead	0.17	
07/18/02	Lead	0.21	
07/25/02	Lead	0.19	
08/01/02	Lead	<0.125	
08/08/02	Lead	<0.125	
08/14/02	Lead	0.12	
08/15/02	Lead	<0.125	
08/22/02	Lead	0.29	
08/29/02	Lead	0.51	
09/05/02	Lead	0.3	
09/12/02	Lead	0.3	
09/19/02	Lead	0.22	
09/26/02	Lead	<0.125	
10/03/02	Lead	<0.125	
10/10/02	Lead	0.26	
10/17/02	Lead	0.5	
10/24/02	Lead	1.09	
10/30/02	Lead	0.82	
10/31/02	Lead	1.01	
11/07/02	Lead	<0.125	
11/14/02	Lead	0.28	
11/21/02	Lead	<0.125	
11/26/02	Lead	0.17	
12/05/02	Lead	0.16	
12/12/02	Lead	0.41	
12/19/02	Lead	0.29	
12/26/02	Lead	0.28	
12/27/02	Lead	0.21	
01/03/03	Lead	0.15	
01/09/03	Lead	0.1	
01/16/03	Lead	0.32	
01/22/03	Lead	0.11	
01/30/03	Lead	0.27	
02/06/03	Lead	0.3	

Johnson Controls

Sample Date	Parameter	Result	Limit
02/12/03	Lead	0.09	
02/13/03	Lead	0.15	
02/20/03	Lead	0.08	
02/27/03	Lead	0.15	
03/06/03	Lead	0.05	
03/13/03	Lead	0.14	
03/21/03	Lead	0.13	
03/27/03	Lead	0.15	
04/03/03	Lead	0.04	
04/10/03	Lead	0.09	
04/17/03	Lead	0.07	
04/24/03	Lead	0.03	
05/01/03	Lead	0.09	
05/08/03	Lead	0.04	
05/14/03	Lead	<0.03	
05/15/03	Lead	0.03	
05/22/03	Lead	0.05	
05/30/03	Lead	0.01	
06/06/03	Lead	<0.01	
06/12/03	Lead	0.04	
06/18/03	Lead	<0.01	
06/26/03	Lead	0.11	
07/02/03	Lead	0.09	
07/10/03	Lead	0.21	
07/17/03	Lead	0.52	
07/24/03	Lead	0.16	
07/31/03	Lead	0.04	
08/07/03	Lead	0.05	
08/14/03	Lead	0.11	
08/20/03	Lead	0.11	
08/21/03	Lead	0.05	
09/05/03	Lead	0.4	
09/12/03	Lead	0.09	
10/02/03	Lead	0.17	
10/08/03	Lead	0.18	
11/06/03	Lead	0.14	
11/12/03	Lead	0.53	
11/13/03	Lead	0.35	
12/04/03	Lead	0.63	
12/11/03	Lead	0.15	
02/13/02	Mercury	<0.000016	0.01
02/12/03	Mercury	<0.000005	
02/13/02	Nickel	<0.04	3
05/08/02	Nickel	<0.04	
08/14/02	Nickel	0.012	
10/30/02	Nickel	0.02	
02/12/03	Nickel	<0.01	
05/14/03	Nickel	<0.01	
08/20/03	Nickel	<0.01	
11/12/03	Nickel	0.03	
01/04/02	pH	8.5	6.0-12.0
01/17/02	pH	8.7	
01/25/02	pH	7.7	
01/31/02	pH	7	
02/07/02	pH	7.6	

Johnson Controls

Sample Date	Parameter	Result	Limit
02/13/02	pH	7.7	
02/14/02	pH	8	
02/21/02	pH	7.6	
02/28/02	pH	8.3	
03/07/02	pH	7.8	
03/14/02	pH	7.8	
03/21/02	pH	8.5	
03/28/02	pH	9.1	
04/04/02	pH	7.2	
04/18/02	pH	7.8	
04/25/02	pH	8.5	
05/02/02	pH	8.6	
05/08/02	pH	8.1	
05/09/02	pH	8.6	
05/16/02	pH	9.4	
05/23/02	pH	9.8	
05/30/02	pH	9.6	
06/06/02	pH	9.7	
06/13/02	pH	9.4	
06/20/02	pH	9.3	
06/27/02	pH	8.5	
07/03/02	pH	7.4	
07/11/02	pH	8.9	
07/18/02	pH	8.8	
07/25/02	pH	9.2	
08/01/02	pH	8.7	
08/08/02	pH	8	
08/14/02	pH	8.7	
08/15/02	pH	7.7	
08/22/02	pH	7.8	
08/29/02	pH	8.5	
09/05/02	pH	7.8	
09/12/02	pH	8.5	
09/19/02	pH	8.5	
09/26/02	pH	7.5	
10/03/02	pH	8.2	
10/10/02	pH	7.5	
10/17/02	pH	8.7	
10/24/02	pH	8.4	
10/30/02	pH	7.7	
10/31/02	pH	8.2	
11/07/02	pH	8.3	
11/14/02	pH	8.6	
11/21/02	pH	8.6	
11/26/02	pH	8.7	
12/05/02	pH	4.1	
12/12/02	pH	8.4	
12/19/02	pH	7.7	
12/27/02	pH	8.2	
01/03/03	pH	7.8	
01/09/03	pH	7.9	
01/16/03	pH	7.6	
01/22/03	pH	8	
01/30/03	pH	8.2	
02/06/03	pH	8.4	

Johnson Controls

Sample Date	Parameter	Result	Limit
02/12/03	pH	7.2	
02/13/03	pH	7.8	
02/20/03	pH	6.8	
02/27/03	pH	7.9	
03/06/03	pH	7.7	
03/13/03	pH	8	
03/21/03	pH	7.8	
03/27/03	pH	8	
04/03/03	pH	8	
04/10/03	pH	7.7	
04/17/03	pH	8	
04/24/03	pH	8.1	
05/01/03	pH	7.7	
05/08/03	pH	7	
05/14/03	pH	6.6	
05/15/03	pH	7	
05/22/03	pH	7.9	
05/30/03	pH	8.5	
06/06/03	pH	7.3	
06/12/03	pH	7.8	
06/18/03	pH	6.7	
06/26/03	pH	7.3	
07/02/03	pH	7.2	
07/10/03	pH	7.09	
07/17/03	pH	6.3	
07/24/03	pH	7.25	
07/31/03	pH	7.3	
08/07/03	pH	7.74	
08/14/03	pH	7.58	
08/20/03	pH	9.1	
08/21/03	pH	7.29	
09/05/03	pH	8.09	
09/12/03	pH	7.33	
10/02/03	pH	8.29	
10/08/03	pH	7.54	
11/06/03	pH	7.9	
11/12/03	pH	8.1	
11/13/03	pH	7.71	
12/04/03	pH	8.28	
12/11/03	pH	7.71	
02/13/02	Silver	<0.04	0.3
05/08/02	Silver	<0.04	
08/14/02	Silver	< 0.01	
10/30/02	Silver	<0.01	
02/12/03	Silver	<0.01	
05/14/03	Silver	<0.01	
08/20/03	Silver	0.02	
11/12/03	Silver	<0.01	
02/13/02	Tot. Suspended Solids	142	300
05/08/02	Tot. Suspended Solids	120	
08/14/02	Tot. Suspended Solids	93	
10/30/02	Tot. Suspended Solids	34	
02/12/03	Tot. Suspended Solids	31	
05/14/03	Tot. Suspended Solids	33	
08/20/03	Tot. Suspended Solids	64	

Johnson Controls

Sample Date	Parameter	Result	Limit
11/12/03	Tot. Suspended Solids	68	
02/13/02	Total Phosphorus	10	10
05/08/02	Total Phosphorus	3.3	
08/14/02	Total Phosphorus	3	
10/30/02	Total Phosphorus	0.728	
02/12/03	Total Phosphorus	4.1	
05/14/03	Total Phosphorus	4	
08/20/03	Total Phosphorus	7	
11/12/03	Total Phosphorus	5	
02/13/02	Zinc	0.11	6
05/08/02	Zinc	0.14	
08/14/02	Zinc	0.092	
10/30/02	Zinc	0.02	
02/12/03	Zinc	0.08	
05/14/03	Zinc	0.11	
08/20/03	Zinc	0.13	
11/12/03	Zinc	0.24	

Site Consumption

y: JOHNSON CONTROLS BATTERY GROUP, INC. IWS Number: 7273
Name: JOHNSON CONTROLS Site Number: 1

Begin	End	Water	Sewer
2/10/2001	01/10/2002	531	531
1/10/2002	02/07/2002	368	368
2/07/2002	03/12/2002	325	325
3/12/2002	04/09/2002	615	615
4/09/2002	05/13/2002	984	984
5/13/2002	06/12/2002	807	807
6/12/2002	07/15/2002	834	834
7/15/2002	08/13/2002	638	638
8/13/2002	09/13/2002	977	977
9/13/2002	10/11/2002	626	626
0/11/2002	11/12/2002	863	863
1/12/2002	12/10/2002	909	909
2/10/2002	01/10/2003	973	973
1/10/2003	02/04/2003	619	619
2/04/2003	03/07/2003	29	29
3/07/2003	04/07/2003	900	900
4/07/2003	05/09/2003	1,699	1,699
5/09/2003	06/09/2003	1,335	1,335
6/09/2003	07/08/2003	482	1,010
7/08/2003	08/08/2003	1,106	1,106
8/08/2003	09/08/2003	872	872
/2003	10/07/2003	589	589
/2003	11/07/2003	1,206	1,206
1/07/2003	12/05/2003	1,139	1,139
2/05/2003	01/09/2004	1,824	1,824

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **05301**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Lincoln Foodservice Products, Inc. 1111 North Hadley Road Fort Wayne, IN 46804	Same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

:s permit shall become effective on **August 21, 2003.**

This permit and the authorization to discharge wastewater shall expire on **August 21, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ___________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: Steve L. Hower

Permit 05301

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Lincoln Foodservice Products, Inc.** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Self-Monitoring Frequency**	**Sample Type**
pH	6.0-12.0	2/month	grab
Oil and Grease	100	2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected. from the flume located in the yard beside the building. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

D. Basis for pollutant limitations:

The Permittee's pollutant limitations shall be the limitations contained in Chapter 51 and/or the Rules and Regulations

Lincoln Foodservice Products

Sample Date	Parameter	Result	Limit
02/27/02	Ammonia-Nitrogen	26.6	25
06/13/02	Ammonia-Nitrogen	37	
09/04/02	Ammonia-Nitrogen	37	
11/13/02	Ammonia-Nitrogen	54	
12/12/02	Ammonia-Nitrogen	19	
03/13/03	Ammonia-Nitrogen	15	
06/03/03	Ammonia-Nitrogen	46	
09/03/03	Ammonia-Nitrogen	38	
12/02/03	Ammonia-Nitrogen	13	
02/27/02	Biochemical Oxygen Demand 5 Day	242	300
06/13/02	Biochemical Oxygen Demand 5 Day	353	
09/04/02	Biochemical Oxygen Demand 5 Day	275	
11/13/02	Biochemical Oxygen Demand 5 Day	502	
12/12/02	Biochemical Oxygen Demand 5 Day	271	
03/13/03	Biochemical Oxygen Demand 5 Day	148	
06/03/03	Biochemical Oxygen Demand 5 Day	392	
09/03/03	Biochemical Oxygen Demand 5 Day	308	
12/02/03	Biochemical Oxygen Demand 5 Day	88	
02/27/02	Cadmium	<0.04	0.7
06/13/02	Cadmium	<0.01	
09/04/02	Cadmium	<0.01	
11/13/02	Cadmium	<0.01	
03/13/03	Cadmium	<0.01	
06/03/03	Cadmium	<0.01	
09/03/03	Cadmium	<0.01	
12/02/03	Cadmium	<0.01	
02/27/02	Chemical Oxygen Demand	448	600
06/13/02	Chemical Oxygen Demand	577	
09/04/02	Chemical Oxygen Demand	137	
11/13/02	Chemical Oxygen Demand	1061	
12/12/02	Chemical Oxygen Demand	511	
03/13/03	Chemical Oxygen Demand	311	
06/03/03	Chemical Oxygen Demand	332	
09/03/03	Chemical Oxygen Demand	817	
12/02/03	Chemical Oxygen Demand	333	
02/27/02	Chromium	<0.04	10
06/13/02	Chromium	3.12	
09/04/02	Chromium	<0.01	
11/13/02	Chromium	1.3	
03/13/03	Chromium	0.34	
06/03/03	Chromium	0.09	
09/03/03	Chromium	0.19	
12/02/03	Chromium	0.21	
02/27/02	Copper	0.85	
06/13/02	Copper	0.23	
09/04/02	Copper	0.11	
11/13/02	Copper	0.17	
03/13/03	Copper	0.15	
06/03/03	Copper	0.12	
09/03/03	Copper	0.12	
12/02/03	Copper	0.09	
02/27/02	Lead	<0.04	0.6
06/13/02	Lead	<0.01	
09/04/02	Lead	<0.02	
11/13/02	Lead	<0.02	

Lincoln Foodservice Products

Sample Date	Parameter	Result	Limit
03/13/03	Lead	<0.02	
06/03/03	Lead	<0.03	
09/03/03	Lead	<0.03	
12/02/03	Lead	<0.03	
02/27/02	Mercury	0.000033	0.01
03/13/03	Mercury	0.000074	
02/27/02	Nickel	<0.04	3
06/13/02	Nickel	0.27	
09/04/02	Nickel	<0.01	
11/13/02	Nickel	0.12	
03/13/03	Nickel	0.04	
06/03/03	Nickel	0.04	
09/03/03	Nickel	0.04	
12/02/03	Nickel	0.02	
01/02/02	pH	7	6.0-12.0
01/15/02	pH	7.4	
02/01/02	pH	6.8	
02/15/02	pH	7.3	
02/27/02	pH	8.3	
03/01/02	pH	7.4	
03/15/02	pH	7	
04/02/02	pH	6.6	
04/19/02	pH	8.2	
05/01/02	pH	7.3	
05/17/02	pH	8.6	
06/03/02	pH	6.6	
06/13/02	pH	8.2	
06/17/02	pH	7.5	
07/01/02	pH	6.8	
07/15/02	pH	8.1	
08/01/02	pH	7	
08/15/02	pH	8.2	
09/03/02	pH	6.7	
09/04/02	pH	7	
09/16/02	pH	8.7	
10/01/02	pH	7.2	
10/15/02	pH	8.6	
11/01/02	pH	7.8	
11/13/02	pH	8.6	
11/15/02	pH	8.5	
12/02/02	pH	7.3	
12/16/02	pH	7.1	
01/02/03	pH	6.7	
01/15/03	pH	8.3	
02/03/03	pH	6.8	
02/17/03	pH	8.5	
03/03/03	pH	7.1	
03/13/03	pH	7.8	
03/17/03	pH	8.3	
04/01/03	pH	7.5	
04/15/03	pH	7.7	
05/01/03	pH	6.3	
05/15/03	pH	7.5	
06/02/03	pH	7.02	
06/03/03	pH	9	

Lincoln Foodservice Products

Sample Date	Parameter	Result	Limit
06/16/03	pH	8.37	
07/01/03	pH	6.86	
07/15/03	pH	7.89	
08/01/03	pH	4.68	
08/15/03	pH	6.39	
09/02/03	pH	6.13	
09/03/03	pH	8.5	
09/15/03	pH	6.96	
10/01/03	pH	7.1	
10/15/03	pH	7.6	
10/17/03	pH	8.6	
11/03/03	pH	7.27	
11/17/03	pH	7.83	
12/01/03	pH	7.4	
12/02/03	pH	7.2	
12/15/03	pH	6.9	
02/27/02	Silver	<0.04	0.3
06/13/02	Silver	<0.01	
09/04/02	Silver	<0.01	
11/13/02	Silver	<0.01	
03/13/03	Silver	<0.01	
06/03/03	Silver	<0.01	
09/03/03	Silver	<0.01	
12/02/03	Silver	<0.01	
02/27/02	Tot. Suspended Solids	316	300
06/13/02	Tot. Suspended Solids	1520	
09/04/02	Tot. Suspended Solids	154	
11/13/02	Tot. Suspended Solids	1040	
12/12/02	Tot. Suspended Solids	434	
03/13/03	Tot. Suspended Solids	224	
06/03/03	Tot. Suspended Solids	656	
09/03/03	Tot. Suspended Solids	512	
12/02/03	Tot. Suspended Solids	154	
02/27/02	Total Phosphorus	5.5	10
06/13/02	Total Phosphorus	9.6	
09/04/02	Total Phosphorus	3	
11/13/02	Total Phosphorus	12	
12/12/02	Total Phosphorus	5	
03/13/03	Total Phosphorus	4	
06/03/03	Total Phosphorus	6	
09/03/03	Total Phosphorus	8	
12/02/03	Total Phosphorus	3.348	
02/27/02	Zinc	0.1	6
06/13/02	Zinc	0.28	
09/04/02	Zinc	0.18	
11/13/02	Zinc	0.28	
03/13/03	Zinc	0.42	
06/03/03	Zinc	0.19	
09/03/03	Zinc	0.17	
12/02/03	Zinc	0.14	

Site Consumption

ny: LINCOLN FOODSERVICE PRODUCTS, INC.
Name:

IWS Number: 5118
Site Number: 1

Begin	End	Water	Sewer
2/12/2001	01/11/2002	298	298
1/11/2002	02/13/2002	421	421
2/13/2002	03/15/2002	420	420
3/15/2002	04/10/2002	522	522
4/10/2002	05/09/2002	524	524
5/09/2002	06/13/2002	604	604
6/13/2002	07/17/2002	492	492
7/17/2002	08/16/2002	644	644
8/16/2002	09/16/2002	551	551
0/14/2002	11/11/2002	460	502
0/14/2002	12/16/2002	1,045	543
2/16/2002	01/14/2003	341	341
1/14/2003	02/10/2003	447	447
2/10/2003	03/08/2003	396	396
3/08/2003	04/09/2003	633	633
4/09/2003	05/08/2003	559	559
5/08/2003	06/09/2003	581	581
6/09/2003	07/08/2003	489	489
7/08/2003	08/11/2003	519	519
8/11/2003	09/10/2003	681	681
9/10/2003	10/10/2003	500	500
[illegible]/2003	11/07/2003	603	603
[illegible]/2003	12/12/2003	976	976
2/12/2003	01/09/2004	556	556

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **00801**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Prairie Farms Dairy, Inc.
3400 Lima Road
Fort Wayne, IN 46805

Mailing Address:

Prairie Farms Dairy, Inc.
P.O. Box 10419
Fort Wayne, IN 46852-0419

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

This permit shall become effective on **September 18, 2003**.

..is permit and the authorization to discharge wastewater shall expire on **September 18, 2008**.

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

ame: Ward Krause

Permit 00801

I. **LIMITATIONS and MONITORING REQUIREMENTS**

A. **Prairie Farms Dairy** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Self-Monitoring Frequency**	**Sample Type**
pH (units)	6.0-12.0	1/week	grab
Oil and Grease	1000	1/week	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15^{th} and December 15^{th} respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located near tanks along Lima Road. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

Prairie Farms Dairy

Sample Date	Parameter	Result	Limit
01/22/02	Ammonia-Nitrogen	2.4	25
07/16/02	Ammonia-Nitrogen	1.6	
07/30/02	Ammonia-Nitrogen	3.5	
10/15/02	Ammonia-Nitrogen	1	
01/09/03	Ammonia-Nitrogen	3	
04/09/03	Ammonia-Nitrogen	2	
07/01/03	Ammonia-Nitrogen	2.2	
10/24/03	Ammonia-Nitrogen	3	
01/22/02	Biochemical Oxygen Demand 5 Day	3165	300
07/16/02	Biochemical Oxygen Demand 5 Day	3065	
07/30/02	Biochemical Oxygen Demand 5 Day	2887	
10/15/02	Biochemical Oxygen Demand 5 Day	1910	
01/09/03	Biochemical Oxygen Demand 5 Day	3340	
04/09/03	Biochemical Oxygen Demand 5 Day	2566	
07/01/03	Biochemical Oxygen Demand 5 Day	2838	
10/24/03	Biochemical Oxygen Demand 5 Day	test failed	
01/22/02	Chemical Oxygen Demand	4560	600
07/16/02	Chemical Oxygen Demand	4690	
07/30/02	Chemical Oxygen Demand	4710	
10/15/02	Chemical Oxygen Demand	2940	
01/09/03	Chemical Oxygen Demand	4432	
04/09/03	Chemical Oxygen Demand	3292	
07/01/03	Chemical Oxygen Demand	4320	
10/24/03	Chemical Oxygen Demand	2740	
01/22/02	pH	6.2	6.0-12.0
02/21/02	pH	6.74	
02/28/02	pH	6.63	
03/07/02	pH	6.22	
03/14/02	pH	6.85	
03/21/02	pH	6.47	
03/28/02	pH	11.58	
04/04/02	pH	7.89	
04/11/02	pH	6.75	
04/18/02	pH	7.73	
04/25/02	pH	11.78	
05/02/02	pH	9.42	
05/09/02	pH	6.52	
05/16/02	pH	6.29	
05/23/02	pH	6.88	
06/06/02	pH	10.27	
06/13/02	pH	8.94	
06/20/02	pH	7.63	
06/27/02	pH	8.39	
07/03/02	pH	8.04	
07/11/02	pH	10.87	
07/16/02	pH	10.2	
07/18/02	pH	6.33	
07/30/02	pH	6.8	
07/31/02	pH	6.44	
08/08/02	pH	6.78	
08/15/02	pH	6.66	
08/22/02	pH	6.05	
08/29/02	pH	9.87	
09/05/02	pH	6.63	
09/12/02	pH	7.1	

Prairie Farms Dairy

Sample Date	Parameter	Result	Limit
09/18/02	pH	7.56	
09/26/02	pH	7.15	
10/03/02	pH	6.94	
10/10/02	pH	7.42	
10/15/02	pH	6.2	
10/17/02	pH	6.19	
10/24/02	pH	6.15	
11/07/02	pH	7.22	
11/14/02	pH	8.69	
11/21/02	pH	6.7	
11/27/02	pH	6.11	
12/05/02	pH	9.96	
12/12/02	pH	6.86	
12/19/02	pH	10.2	
12/23/02	pH	6.85	
01/02/03	pH	7.71	
01/09/03	pH	7.2	
01/09/03	pH	6.29	
01/16/03	pH	6.87	
01/23/03	pH	6.7	
02/06/03	pH	10.62	
02/13/03	pH	6.85	
02/20/03	pH	10.68	
02/27/03	pH	7.84	
03/06/03	pH	6.91	
03/13/03	pH	7.89	
03/20/03	pH	6.53	
03/27/03	pH	6.77	
04/03/03	pH	11.91	
04/09/03	pH	5	
04/10/03	pH	5.98	
04/17/03	pH	7.43	
04/24/03	pH	7.88	
05/01/03	pH	7.37	
05/08/03	pH	8.59	
05/15/03	pH	7.04	
05/22/03	pH	7.72	
06/05/03	pH	11.22	
06/06/03	pH	5.5	
06/12/03	pH	10.69	
06/18/03	pH	6.9	
06/19/03	pH	8.37	
06/26/03	pH	9.69	
07/01/03	pH	5.15	
07/10/03	pH	4.97	
07/17/03	pH	6.34	
07/23/03	pH	6.7	
07/24/03	pH	11.28	
07/31/03	pH	6.97	
08/07/03	pH	6.77	
08/14/03	pH	6.43	
08/18/03	pH	4.9	
08/21/03	pH	6.55	
08/28/03	pH	6.03	
09/04/03	pH	5.71	

Prairie Farms Dairy

Sample Date	Parameter	Result	Limit
09/11/03	pH	7.35	
09/18/03	pH	7.35	
09/23/03	pH	6.6	
09/25/03	pH	7.95	
10/02/03	pH	5.44	
10/09/03	pH	4.98	
10/16/03	pH	6.2	
10/16/03	pH	7.04	
10/23/03	pH	6.03	
10/24/03	pH	6	
11/06/03	pH	5.3	
11/13/03	pH	5.33	
11/20/03	pH	6.89	
11/26/03	pH	6.57	
12/04/03	pH	7.04	
12/10/03	pH	7.5	
12/11/03	pH	6.52	
12/18/03	pH	7.83	
12/24/03	pH	6.93	
01/22/02	Tot. Suspended Solids	755	300
07/16/02	Tot. Suspended Solids	560	
07/30/02	Tot. Suspended Solids	1220	
10/15/02	Tot. Suspended Solids	695	
01/09/03	Tot. Suspended Solids	608	
04/09/03	Tot. Suspended Solids	600	
07/01/03	Tot. Suspended Solids	780	
10/24/03	Tot. Suspended Solids	300	
01/22/02	Total Phosphorus	40	10
07/16/02	Total Phosphorus	42.4	
07/30/02	Total Phosphorus	51.9	
10/15/02	Total Phosphorus	29	
01/09/03	Total Phosphorus	67	
04/09/03	Total Phosphorus	23.6	
07/01/03	Total Phosphorus	285	
10/24/03	Total Phosphorus	35	

Site Consumption

ny: PRAIRIE FARMS
Name:

IWS Number: 4758
Site Number: 1

Begin	End	Water	Sewer
2/17/2001	01/15/2002	4,956	4,956
1/15/2002	02/15/2002	4,544	4,544
2/15/2002	03/18/2002	5,560	5,560
3/18/2002	04/15/2002	4,848	4,848
4/15/2002	05/16/2002	6,611	6,611
5/16/2002	06/14/2002	5,786	5,786
6/14/2002	07/15/2002	5,259	5,259
7/15/2002	08/15/2002	5,019	5,019
8/15/2002	09/17/2002	5,712	5,712
9/17/2002	10/15/2002	4,198	4,198
10/15/2002	11/12/2002	3,869	3,869
11/12/2002	12/16/2002	5,693	5,693
12/16/2002	01/17/2003	4,266	4,266
1/17/2003	02/12/2003	4,211	4,211
2/12/2003	03/11/2003	3,852	3,852
3/11/2003	04/11/2003	4,773	4,773
4/11/2003	05/12/2003	4,645	4,645
5/12/2003	06/13/2003	5,342	5,342
6/13/2003	07/10/2003	4,576	4,576
7/10/2003	08/12/2003	5,532	5,532
8/12/2003	09/15/2003	5,566	5,566
[illegible]5/2003	10/10/2003	4,002	4,002
[illegible]/2003	11/10/2003	5,899	5,899
11/10/2003	12/12/2003	5,616	5,616
12/12/2003	01/15/2004	4,102	4,102

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **08101**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Slater Steels 2400 Taylor Street Fort Wayne, IN 46802	P.O. Box 630 Fort Wayne, IN 46801

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

.s permit shall become effective on **August 31, 2003.**

This permit and the authorization to discharge wastewater shall expire on **August 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: Jon Hacker

Permit 01801

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **Slater Steels** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Self-Monitoring Frequency	Sample Type
pH	6.0-12.0	2/month	grab
Chromium (total)	10.00	2/month	Composite
Nickel (total)	3.00	2/month	composite

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

C. Location of sampling:

All samples must be collected from the control manhole located on East side of plant. Sampling points shall not be changed without notification to and the approval of the City of Fort Wayne.

Slater Steel

Sample Date	Parameter	Result	Limit
02/07/02	Ammonia-Nitrogen	1	25
05/01/02	Ammonia-Nitrogen	0.7	
09/25/02	Ammonia-Nitrogen	0.4	
11/13/02	Ammonia-Nitrogen	1	
01/28/03	Ammonia-Nitrogen	1	
04/30/03	Ammonia-Nitrogen	3	
05/28/03	Ammonia-Nitrogen	1	
07/22/03	Ammonia-Nitrogen	<3	
10/14/03	Ammonia-Nitrogen	<3	
12/02/03	Ammonia-Nitrogen	1	
02/07/02	Biochemical Oxygen Demand 5 Day	21	300
05/01/02	Biochemical Oxygen Demand 5 Day	34	
09/25/02	Biochemical Oxygen Demand 5 Day	8.6	
11/13/02	Biochemical Oxygen Demand 5 Day	74	
01/28/03	Biochemical Oxygen Demand 5 Day	26	
04/30/03	Biochemical Oxygen Demand 5 Day	24	
05/28/03	Biochemical Oxygen Demand 5 Day	9	
07/22/03	Biochemical Oxygen Demand 5 Day	11	
10/14/03	Biochemical Oxygen Demand 5 Day	test failed	
12/02/03	Biochemical Oxygen Demand 5 Day	14	
02/07/02	Cadmium	<0.04	0.7
05/01/02	Cadmium	<0.04	
09/25/02	Cadmium	<0.01	
11/13/02	Cadmium	<0.01	
01/28/03	Cadmium	<0.01	
04/30/03	Cadmium	<0.01	
07/22/03	Cadmium	<0.01	
10/14/03	Cadmium	<0.01	
02/07/02	Chemical Oxygen Demand	55	600
05/01/02	Chemical Oxygen Demand	102	
09/25/02	Chemical Oxygen Demand	46	
11/13/02	Chemical Oxygen Demand	79	
01/28/03	Chemical Oxygen Demand	60	
04/30/03	Chemical Oxygen Demand	64	
05/28/03	Chemical Oxygen Demand	30	
07/22/03	Chemical Oxygen Demand	70	
10/14/03	Chemical Oxygen Demand	891	
12/02/03	Chemical Oxygen Demand	52	
01/09/02	Chromium	0.06	10
01/23/02	Chromium	0.38	
02/07/02	Chromium	0.26	
02/08/02	Chromium	0.21	
02/13/02	Chromium	0.22	
02/27/02	Chromium	0.27	
03/13/02	Chromium	0.15	
03/20/02	Chromium	0.1	
04/10/02	Chromium	0.08	
04/24/02	Chromium	0.12	
05/01/02	Chromium	0.2	
05/02/02	Chromium	0.18	
05/09/02	Chromium	0.17	
05/23/02	Chromium	0.15	
06/13/02	Chromium	0.59	
06/26/02	Chromium	0.09	
07/10/02	Chromium	0.17	

Slater Steel

Sample Date	Parameter	Result	Limit
07/24/02	Chromium	0.06	
08/14/02	Chromium	0.04	
08/28/02	Chromium	0.05	
09/12/02	Chromium	0.06	
09/19/02	Chromium	0.06	
09/25/02	Chromium	0.36	
10/09/02	Chromium	0.04	
10/09/02	Chromium	0.12	
11/13/02	Chromium	0.29	
11/13/02	Chromium	0.19	
11/14/02	Chromium	0.19	
11/20/02	Chromium	0.11	
12/04/02	Chromium	0.04	
12/11/02	Chromium	0.07	
01/15/03	Chromium	0.23	
01/28/03	Chromium	0.16	
01/29/03	Chromium	0.1	
01/29/03	Chromium	0.09	
02/05/03	Chromium	0.08	
02/19/03	Chromium	0.27	
03/05/03	Chromium	0.11	
03/20/03	Chromium	0.48	
04/09/03	Chromium	0.05	
04/23/03	Chromium	0.16	
04/30/03	Chromium	<0.01	
05/01/03	Chromium	<0.01	
05/14/03	Chromium	0.27	
05/28/03	Chromium	0.05	
06/11/03	Chromium	0.05	
06/18/03	Chromium	0.06	
07/16/03	Chromium	0.24	
07/22/03	Chromium	0.1	
07/23/03	Chromium	0.11	
07/30/03	Chromium	0.01	
08/06/03	Chromium	0.01	
08/20/03	Chromium	0.04	
09/10/03	Chromium	0.69	
09/23/03	Chromium	0.17	
10/08/03	Chromium	0.34	
10/14/03	Chromium	0.73	
10/15/03	Chromium	0.43	
10/29/03	Chromium	0.26	
11/04/03	Chromium	0.16	
11/11/03	Chromium	0.19	
12/10/03	Chromium	0.04	
12/30/03	Chromium	0.14	
02/07/02	Copper	0.07	2
05/01/02	Copper	0.06	
09/25/02	Copper	0.04	
11/13/02	Copper	0.04	
01/28/03	Copper	0.03	
04/30/03	Copper	0.02	
07/22/03	Copper	0.01	
10/14/03	Copper	0.18	
02/07/02	Lead	<0.04	

Slater Steel

Sample Date	Parameter	Result	Limit
05/01/02	Lead	0.04	
09/25/02	Lead	0.08	
11/13/02	Lead	<0.02	
01/28/03	Lead	<0.02	
04/30/03	Lead	<0.03	
07/22/03	Lead	<0.03	
10/14/03	Lead	<0.03	
02/07/02	Mercury	0.00018	0.01
01/28/03	Mercury	0.000018	
01/09/02	Nickel	0.39	3
01/23/02	Nickel	0.57	
02/07/02	Nickel	0.49	
02/08/02	Nickel	0.43	
02/13/02	Nickel	0.53	
02/27/02	Nickel	0.53	
03/13/02	Nickel	0.25	
03/20/02	Nickel	0.5	
04/10/02	Nickel	0.33	
04/24/02	Nickel	0.33	
05/01/02	Nickel	0.48	
05/02/02	Nickel	0.42	
05/09/02	Nickel	0.18	
05/23/02	Nickel	0.26	
06/13/02	Nickel	0.72	
06/26/02	Nickel	0.14	
07/10/02	Nickel	0.32	
07/24/02	Nickel	0.25	
08/14/02	Nickel	0.13	
08/28/02	Nickel	0.32	
09/12/02	Nickel	0.31	
09/19/02	Nickel	0.29	
09/25/02	Nickel	0.62	
10/09/02	Nickel	0.97	
10/09/02	Nickel	0.22	
11/13/02	Nickel	0.35	
11/13/02	Nickel	0.46	
11/14/02	Nickel	0.28	
11/20/02	Nickel	0.27	
12/04/02	Nickel	0.36	
12/11/02	Nickel	0.08	
01/15/03	Nickel	0.61	
01/28/03	Nickel	0.45	
01/29/03	Nickel	0.29	
01/29/03	Nickel	0.36	
02/05/03	Nickel	0.39	
02/19/03	Nickel	0.7	
03/05/03	Nickel	0.4	
03/20/03	Nickel	0.87	
04/09/03	Nickel	0.3	
04/23/03	Nickel	0.56	
04/30/03	Nickel	<0.01	
05/01/03	Nickel	0.01	
05/14/03	Nickel	0.36	
05/28/03	Nickel	0.16	
06/11/03	Nickel	0.14	

Slater Steel

Sample Date	Parameter	Result	Limit
06/18/03	Nickel	0.18	
07/16/03	Nickel	0.31	
07/22/03	Nickel	0.15	
07/23/03	Nickel	0.16	
07/30/03	Nickel	0.03	
08/06/03	Nickel	0.05	
08/20/03	Nickel	0.18	
09/10/03	Nickel	0.84	
09/23/03	Nickel	0.38	
10/08/03	Nickel	0.34	
10/14/03	Nickel	0.87	
10/15/03	Nickel	0.52	
10/29/03	Nickel	0.42	
11/04/03	Nickel	0.31	
11/11/03	Nickel	0.33	
12/10/03	Nickel	0.07	
12/30/03	Nickel	0.03	
01/09/02	pH	6.52	6.0-12.0
01/23/02	pH	6.74	
02/07/02	pH	6.6	
02/13/02	pH	7.1	
02/27/02	pH	6.98	
03/13/02	pH	7.73	
03/20/02	pH	6.8	
04/10/02	pH	7.12	
04/24/02	pH	7.58	
05/01/02	pH	7.3	
05/09/02	pH	7.1	
05/23/02	pH	6.47	
06/13/02	pH	7.98	
06/26/02	pH	7.68	
07/10/02	pH	6.93	
07/24/02	pH	7.39	
08/14/02	pH	6.98	
08/28/02	pH	7.12	
09/12/02	pH	6.79	
09/19/02	pH	6.89	
09/25/02	pH	7.3	
10/09/02	pH	6.68	
10/09/02	pH	7.39	
11/13/02	pH	6.8	
11/13/02	pH	6.88	
11/20/02	pH	6.62	
12/04/02	pH	6.81	
12/11/02	pH	7.2	
01/15/03	pH	6.73	
01/28/03	pH	7.1	
01/29/03	pH	8.27	
02/05/03	pH	7.22	
02/19/03	pH	7.83	
03/05/03	pH	7.32	
03/20/03	pH	7.22	
04/09/03	pH	7.14	
04/23/03	pH	8.12	
04/30/03	pH	6.7	

Slater Steel

Sample Date	Parameter	Result	Limit
05/14/03	pH	7.16	
05/28/03	pH	7.23	
06/11/03	pH	6.49	
06/18/03	pH	7.21	
07/16/03	pH	6.69	
07/22/03	pH	7.2	
07/30/03	pH	6.41	
08/06/03	pH	6.88	
08/20/03	pH	7.48	
09/10/03	pH	7.06	
09/23/03	pH	8.06	
10/08/03	pH	6.92	
10/14/03	pH	7.2	
10/29/03	pH	6.79	
11/04/03	pH	7.68	
11/11/03	pH	6.94	
12/10/03	pH	9.28	
12/30/03	pH	6.78	
02/07/02	Silver	<0.04	0.3
05/01/02	Silver	<0.04	
09/25/02	Silver	<0.01	
11/13/02	Silver	<0.01	
01/28/03	Silver	<0.01	
04/30/03	Silver	<0.01	
07/22/03	Silver	<0.01	
10/14/03	Silver	<0.01	
02/07/02	Tot. Suspended Solids	54	300
05/01/02	Tot. Suspended Solids	77	
09/25/02	Tot. Suspended Solids	31	
11/13/02	Tot. Suspended Solids	60	
01/28/03	Tot. Suspended Solids	36	
04/30/03	Tot. Suspended Solids	16	
05/28/03	Tot. Suspended Solids	14	
07/22/03	Tot. Suspended Solids	34	
10/14/03	Tot. Suspended Solids	288	
12/02/03	Tot. Suspended Solids	12	
02/07/02	Total Phosphorus	0.5	10
05/01/02	Total Phosphorus	<0.06	
09/25/02	Total Phosphorus	0.225	
11/13/02	Total Phosphorus	0.237	
01/28/03	Total Phosphorus	0.343	
04/30/03	Total Phosphorus	19	
05/28/03	Total Phosphorus	0.815	
07/22/03	Total Phosphorus	<0.06	
10/14/03	Total Phosphorus	0.86	
12/02/03	Total Phosphorus	0.398	
02/07/02	Zinc	0.05	6
05/01/02	Zinc	0.05	
09/25/02	Zinc	0.37	
11/13/02	Zinc	0.04	
01/28/03	Zinc	0.12	
04/30/03	Zinc	0.55	
07/22/03	Zinc	0.05	
10/14/03	Zinc	0.26	

Site Consumption

y: SLATER STEEL
Name: SLATER STEEL

IWS Number: 5103
Site Number: 1

Begin	End	Water	Sewer
2/12/2001	01/11/2002	6,400	6,400
1/11/2002	02/13/2002	7,845	7,845
2/13/2002	03/15/2002	6,390	6,390
3/15/2002	04/10/2002	6,315	6,315
4/10/2002	05/09/2002	7,675	7,675
5/09/2002	06/13/2002	7,255	7,255
6/13/2002	07/17/2002	6,615	6,615
7/17/2002	08/16/2002	9,620	9,620
8/16/2002	09/16/2002	6,765	6,765
9/16/2002	10/14/2002	7,440	7,440
0/14/2002	11/11/2002	4,890	4,890
1/11/2002	12/16/2002	5,490	5,490
2/16/2002	01/14/2003	5,385	5,385
1/14/2003	02/10/2003	4,825	4,825
2/10/2003	03/08/2003	6,240	6,240
4/09/2003	05/08/2003	5,580	5,580
5/08/2003	06/09/2003	0	5,175
6/09/2003	07/08/2003	0	12,615
7/08/2003	08/11/2003	0	3,810
8/11/2003	09/10/2003	0	5,340
9/10/2003	10/10/2003	0	7,545
[illegible]/2003	11/07/2003	0	8,510
[illegible]/2003	12/12/2003	0	7,745
2/12/2003	01/09/2004	0	1,215

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **08851**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:

Three Rivers Gold Plating
1506 Wall Street
Fort Wayne, IN 46802

Mailing Address:

Same

Phone: (219) 422-0735

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433 standards.

s permit shall become effective on **February 19, 1999.**

This permit and the authorization to discharge wastewater shall expire on **February 19, 2004.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ____________________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: John T. Hendry
Title: Manager

Permit 08551

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

charge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for Monthly Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.07	0.04	N/A*	composite
Chromium	1.66	1.03	Each Batch*	composite
Copper	2.00	1.24	N/A*	composite
Lead	0.41	0.26	N/A*	composite
Nickel	2.39	1.43	Each Batch*	composite
Silver	0.26	0.14	N/A*	composite
Zinc	1.57	0.89	N/A*	composite
Cyanide	0.72	0.39	N/A*	grab
T.T.O.	1.28		N/A*	
pH	6.0-12.0		Each Batch*	grab
Discharge	Report volume		Each Batch	

REQUIRED REPORTS

REPORT	DUE DATE
ischarge/Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**December 19, 2003**

Note: The total volume of each batch discharge shall be reported on the monthly DMR.

During months in which there is no discharge of process wastewater, the monthly report shall indicate "No Discharge."

*Fort Wayne City Utilities will perform quarterly sampling for all regulated parameters in place of self-monitoring. If the permittee discharges process wastewater at a frequency greater than one time per quarter, samples must be collected, analyzed, and reported by the permittee for the parameters listed with the required self-monitoring frequency of "Each Batch". If the permittee requests to have these samples collected and analyzed by the City, the City will perform the sampling and analysis, and invoice the permittee for the services provided.

Site Consumption

y: THREE RIVERS GOLD PLATING

Name: THREE RIVERS GOLD

IWS Number: 3384

Site Number: 1

Begin	End	Water	Sewer
2/15/2001	01/18/2002	20	20
1/18/2002	02/19/2002	17	17
2/19/2002	03/20/2002	17	17
3/20/2002	04/19/2002	17	17
4/19/2002	05/18/2002	20	20
5/18/2002	06/18/2002	22	22
6/18/2002	07/18/2002	20	20
7/18/2002	08/16/2002	18	18
8/16/2002	09/18/2002	22	22
9/18/2002	10/18/2002	18	18
0/18/2002	11/20/2002	18	18
1/20/2002	12/20/2002	13	13
2/20/2002	01/22/2003	16	16
1/22/2003	02/20/2003	15	15
2/20/2003	03/21/2003	14	14
3/21/2003	04/21/2003	16	16
4/21/2003	05/20/2003	16	16
5/20/2003	06/19/2003	16	16
6/19/2003	07/17/2003	12	12
7/17/2003	08/19/2003	14	14
8/19/2003	09/17/2003	16	16
9[illegible]/2003	10/17/2003	18	18
[illegible]/2003	11/12/2003	13	13
1/12/2003	12/10/2003	0	0
2/10/2003	01/22/2004	16	16

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **08603**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Tokheim Corporation Attn: Gary Peterson 1600 Wabash Avenue Fort Wayne, IN 46803	Tokheim Corporation Attn: Gary Peterson P.O. Box 360 Fort Wayne, IN 46801 (219) 470-4600 ext. 6752

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433 standards.

.his permit shall become effective on **October 1, 1999.**

This permit and the authorization to discharge wastewater shall expire on **September 30, 2004.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ________________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ent via Certified mail to:

Name: Gary Peterson
Title: Environmental/Plant Engineer

Permit 08603

I. **LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS**

charge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for Monthly Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.48	0.18	2/year	composite
Chromium	1.94	1.20	2/year	composite
Copper	2.00	1.45	2/year	composite
Lead	0.48	0.30	2/year	composite
Nickel	2.79	1.67	2/month	composite
Silver	0.30	0.17	2/year	composite
Zinc	1.83	1.04	2/month	composite
Cyanide	0.84	0.46	2/year	grab
T.T.O.	1.49	N/A	2/year	
pH	6.0-12.0	N/A	2/month	grab

REQUIRED REPORTS

REPORT	DUE DATE
..scharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**August 1, 2004**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

Tokheim Corporation

Sample Date	Parameter	Result	Limit
01/08/02	Ammonia-Nitrogen	6.3	25
04/19/02	Ammonia-Nitrogen	2.2	
07/16/02	Ammonia-Nitrogen	2.7	
10/09/02	Ammonia-Nitrogen	3	
01/14/03	Ammonia-Nitrogen	8	
01/08/02	Biochemical Oxygen Demand 5 Day	34	300
04/19/02	Biochemical Oxygen Demand 5 Day	14	
07/16/02	Biochemical Oxygen Demand 5 Day	20	
10/09/02	Biochemical Oxygen Demand 5 Day	43	
01/14/03	Biochemical Oxygen Demand 5 Day	100	
01/08/02	Cadmium	<0.04	0.48
04/19/02	Cadmium	<0.04	
05/14/02	Cadmium	<0.01	
07/16/02	Cadmium	<0.01	
10/09/02	Cadmium	<0.01	
11/12/02	Cadmium	<0.01	
01/14/03	Cadmium	<0.01	
05/13/03	Cadmium	<0.01	
01/08/02	Chemical Oxygen Demand	85	600
04/19/02	Chemical Oxygen Demand	61	
07/16/02	Chemical Oxygen Demand	215	
10/09/02	Chemical Oxygen Demand	133	
01/14/03	Chemical Oxygen Demand	224	
01/08/02	Chromium	0.06	1.94
04/19/02	Chromium	<0.04	
05/14/02	Chromium	<0.01	
07/16/02	Chromium	0.01	
10/09/02	Chromium	<0.01	
11/12/02	Chromium	0.02	
01/14/03	Chromium	<0.01	
05/13/03	Chromium	0.01	
01/08/02	Copper	<0.04	2
04/19/02	Copper	<0.04	
05/14/02	Copper	0.01	
07/16/02	Copper	0.02	
10/09/02	Copper	0.02	
11/12/02	Copper	0.02	
01/14/03	Copper	0.02	
05/13/03	Copper	<0.01	
01/08/02	Lead	<0.04	0.48
04/19/02	Lead	<0.04	
05/14/02	Lead	<0.02	
07/16/02	Lead	<0.01	
10/09/02	Lead	<0.02	
11/12/02	Lead	0.08	
01/14/03	Lead	<0.02	
05/13/03	Lead	<0.06	
01/08/02	Mercury	<0.000016	0.01
01/14/03	Mercury	0.000019	
01/08/02	Nickel	<0.04	2.79
01/08/02	Nickel	0.04	
01/30/02	Nickel	0.03	
02/11/02	Nickel	0.03	
02/27/02	Nickel	0.02	
03/12/02	Nickel	0.04	

Tokheim Corporation

Sample Date	Parameter	Result	Limit
03/27/02	Nickel	0.04	
04/04/02	Nickel	0.02	
04/18/02	Nickel	0.01	
04/19/02	Nickel	<0.04	
05/14/02	Nickel	0.02	
05/21/02	Nickel	0.01	
06/12/02	Nickel	0.02	
06/26/02	Nickel	0.03	
07/16/02	Nickel	<0.01	
07/22/02	Nickel	0.06	
07/25/02	Nickel	0.15	
08/13/02	Nickel	0.11	
08/27/02	Nickel	0.05	
09/09/02	Nickel	0.02	
09/30/02	Nickel	0.03	
10/08/02	Nickel	0.02	
10/09/02	Nickel	0.01	
10/22/02	Nickel	0.03	
11/12/02	Nickel	0.01	
11/19/02	Nickel	0.03	
12/03/02	Nickel	0.02	
12/10/02	Nickel	0.01	
01/07/03	Nickel	<0.01	
01/14/03	Nickel	<0.01	
01/23/03	Nickel	0.01	
02/11/03	Nickel	0.03	
02/25/03	Nickel	<0.01	
03/11/03	Nickel	0.01	
03/25/03	Nickel	0.02	
04/08/03	Nickel	0.02	
04/22/03	Nickel	0.03	
05/13/03	Nickel	0.02	
05/20/03	Nickel	0.01	
06/03/03	Nickel	<0.01	
06/17/03	Nickel	0.02	
07/08/03	Nickel	0.01	
07/29/03	Nickel	0.02	
08/05/03	Nickel	0.03	
08/05/03	Nickel	0.03	
08/27/03	Nickel	0.02	
08/27/03	Nickel	0.02	
09/11/03	Nickel	0.02	
09/23/03	Nickel	0.01	
01/08/02	pH	7.5	6.0-12.0
01/08/02	pH	7.15	
01/30/02	pH	7.66	
02/11/02	pH	7.58	
02/27/02	pH	7.41	
03/12/02	pH	7.29	
03/27/02	pH	7.06	
04/04/02	pH	6.87	
04/18/02	pH	7.12	
04/19/02	pH	7.3	
05/14/02	pH	7.69	
05/21/02	pH	7.83	

Tokheim Corporation

Sample Date	Parameter	Result	Limit
06/12/02	pH	9.17	
06/26/02	pH	6.23	
07/16/02	pH	6.9	
07/22/02	pH	6.46	
07/25/02	pH	6.64	
08/13/02	pH	6.73	
08/27/02	pH	6.31	
09/09/02	pH	6.59	
09/30/02	pH	6.58	
10/08/02	pH	6.19	
10/09/02	pH	6.8	
10/22/02	pH	6.89	
11/12/02	pH	7.54	
11/19/02	pH	7.3	
12/03/02	pH	7.4	
12/10/02	pH	6.62	
01/07/03	pH	6.73	
01/14/03	pH	8.9	
01/23/03	pH	7.49	
02/11/03	pH	7.43	
02/25/03	pH	7.84	
03/11/03	pH	7.48	
03/25/03	pH	7.21	
04/08/03	pH	7.47	
04/22/03	pH	7.59	
05/13/03	pH	7.64	
05/20/03	pH	7.54	
06/03/03	pH	7.64	
06/17/03	pH	7.83	
07/08/03	pH	6.93	
07/29/03	pH	7.32	
08/05/03	pH	7.63	
08/05/03	pH	7.63	
08/27/03	pH	7.66	
08/27/03	pH	7.66	
09/11/03	pH	7.35	
09/23/03	pH	7.49	
01/08/02	Silver	<0.04	0.3
04/19/02	Silver	<0.04	
05/14/02	Silver	<0.01	
07/16/02	Silver	<0.01	
10/09/02	Silver	<0.01	
11/12/02	Silver	<0.01	
01/14/03	Silver	<0.01	
05/13/03	Silver	<0.01	
01/08/02	Tot. Suspended Solids	22	300
04/19/02	Tot. Suspended Solids	14	
07/16/02	Tot. Suspended Solids	7	
10/09/02	Tot. Suspended Solids	63	
01/14/03	Tot. Suspended Solids	17	
01/08/02	Total Cyanide	<0.0001	0.84
04/19/02	Total Cyanide	0.0001	
05/14/02	Total Cyanide	<0.01	
07/16/02	Total Cyanide	<0.0002	
10/09/02	Total Cyanide	<0.0002	

Tokheim Corporation

Sample Date	Parameter	Result	Limit
11/12/02	Total Cyanide	<0.01	
01/14/03	Total Cyanide	0.00094	
05/13/03	Total Cyanide	<0.01	
01/08/02	Total Phosphorus	5.9	10
04/19/02	Total Phosphorus	26.4	
07/16/02	Total Phosphorus	31.6	
10/09/02	Total Phosphorus	11	
01/14/03	Total Phosphorus	16	
01/08/02	Zinc	0.16	1.83
01/08/02	Zinc	0.11	
01/30/02	Zinc	0.17	
02/11/02	Zinc	0.09	
02/27/02	Zinc	0.08	
03/12/02	Zinc	0.19	
03/27/02	Zinc	0.21	
04/04/02	Zinc	0.08	
04/18/02	Zinc	0.08	
04/19/02	Zinc	0.08	
05/14/02	Zinc	0.08	
05/21/02	Zinc	0.11	
06/12/02	Zinc	0.16	
06/26/02	Zinc	0.15	
07/16/02	Zinc	0.16	
07/22/02	Zinc	0.08	
07/25/02	Zinc	0.14	
08/13/02	Zinc	0.2	
08/27/02	Zinc	0.25	
09/09/02	Zinc	0.09	
09/30/02	Zinc	0.21	
10/08/02	Zinc	0.06	
10/09/02	Zinc	0.08	
10/22/02	Zinc	0.12	
11/12/02	Zinc	0.06	
11/19/02	Zinc	0.13	
12/03/02	Zinc	0.18	
12/10/02	Zinc	0.16	
01/07/03	Zinc	0.11	
01/14/03	Zinc	0.24	
01/23/03	Zinc	0.15	
02/11/03	Zinc	0.11	
02/25/03	Zinc	0.12	
03/11/03	Zinc	0.06	
03/25/03	Zinc	0.07	
04/08/03	Zinc	0.05	
04/22/03	Zinc	0.1	
05/13/03	Zinc	0.03	
05/20/03	Zinc	0.04	
06/03/03	Zinc	0.06	
06/17/03	Zinc	0.11	
07/08/03	Zinc	0.06	
07/29/03	Zinc	0.05	
08/05/03	Zinc	0.08	
08/05/03	Zinc	0.08	
08/27/03	Zinc	0.07	
08/27/03	Zinc	0.07	

Tokheim Corporation

Sample Date	Parameter	Result	Limit
09/11/03	Zinc	0.19	
09/23/03	Zinc	0.04	

Site Consumption

ny: TOKHEIM CORP
1. Name: Fletcher Dock

IWS Number: 5322
Site Number: 1

Begin	End	Water	Sewer
2/04/2001	01/04/2002	667	658
1/04/2002	01/30/2002	659	650
1/30/2002	03/04/2002	766	755
3/04/2002	04/02/2002	676	667
4/02/2002	05/02/2002	641	632
5/02/2002	06/05/2002	575	567
6/05/2002	07/02/2002	315	311
7/02/2002	08/05/2002	853	841
8/05/2002	08/30/2002	777	766
.0/02/2002	11/01/2002	754	734
3/04/2003	04/04/2003	0	603
4/04/2003	05/05/2003	478	478
5/05/2003	06/06/2003	0	78
6/06/2003	07/01/2003	0	49
7/01/2003	08/01/2003	0	49
8/01/2003	09/01/2003	0	69
9/01/2003	10/01/2003	0	30
.0/01/2003	10/30/2003	0	28

[redacted]

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **08801**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
TriTech Manufacturing, Inc. 2728 Commercial Road Fort Wayne, IN 46809	Same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 413 standards.

's permit shall become effective on **August 31, 2003.**

This permit and the authorization to discharge wastewater shall expire on **August 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: Thomas Uslar

Permit 08801

I. LIMITATIONS and MONITORING REQUIREMENTS

A. **TriTech Manufacturing, Inc.** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for 4-day Avg. mg/l	Self-Monitoring Frequency	Sample Type
pH	6.0-12.0		2/month	grab
Cadmium	0.74	0.65	2/year	composite
Chromium	6.51	3.72	2/year	composite
Copper	2.00	2.51	2/month	composite
...d	0.56	0.37	2/month	composite
...ckel	3.00	2.21	2/month	composite
Silver	0.30	N/A	2/year	composite
Zinc	3.91	1.38	2/year	composite
Cyanide	1.20	0.60	2/month	grab
T.T.O.	1.98	N/A	2/year	
T.M.	9.77	6.32	2/year	calculate

T.M. = Total Metals and is defined as the sum of the concentrations of Copper, Nickel, Chromium, and Zinc.

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
02/12/02	Ammonia-Nitrogen	6	25
05/07/02	Ammonia-Nitrogen	10	
08/15/02	Ammonia-Nitrogen	31	
11/05/02	Ammonia-Nitrogen	2	
02/11/03	Ammonia-Nitrogen	11	
05/15/03	Ammonia-Nitrogen	20	
08/19/03	Ammonia-Nitrogen	<3	
11/13/03	Ammonia-Nitrogen	21.2	
02/12/02	Biochemical Oxygen Demand 5 Day	42	300
05/07/02	Biochemical Oxygen Demand 5 Day	48	
08/15/02	Biochemical Oxygen Demand 5 Day	test failed	
11/05/02	Biochemical Oxygen Demand 5 Day	31	
02/11/03	Biochemical Oxygen Demand 5 Day	20	
05/15/03	Biochemical Oxygen Demand 5 Day	68	
08/19/03	Biochemical Oxygen Demand 5 Day	104	
11/13/03	Biochemical Oxygen Demand 5 Day	101	
02/12/02	Cadmium	<0.04	0.74
05/07/02	Cadmium	<0.04	
05/14/02	Cadmium	<0.01	
08/15/02	Cadmium	< 0.01	
11/05/02	Cadmium	<0.01	
11/05/02	Cadmium	<0.01	
02/11/03	Cadmium	<0.01	
05/06/03	Cadmium	<0.01	
05/15/03	Cadmium	<0.01	
08/19/03	Cadmium	<0.01	
11/04/03	Cadmium	<0.01	
11/13/03	Cadmium	<0.01	
02/12/02	Chemical Oxygen Demand	294	600
05/07/02	Chemical Oxygen Demand	213	
08/15/02	Chemical Oxygen Demand	1083	
11/05/02	Chemical Oxygen Demand	163	
02/11/03	Chemical Oxygen Demand	597	
05/15/03	Chemical Oxygen Demand	310	
08/19/03	Chemical Oxygen Demand	523	
11/13/03	Chemical Oxygen Demand	284	
02/12/02	Chromium	<0.04	6.51
05/07/02	Chromium	<0.04	
05/14/02	Chromium	<0.01	
08/15/02	Chromium	< 0.01	
11/05/02	Chromium	<0.01	
11/05/02	Chromium	<0.01	
02/11/03	Chromium	<0.01	
05/06/03	Chromium	<0.01	
05/15/03	Chromium	<0.01	
08/19/03	Chromium	<0.01	
11/04/03	Chromium	<0.01	
11/13/03	Chromium	<0.01	
01/09/02	Copper	0.04	2
01/15/02	Copper	0.54	
01/22/02	Copper	0.36	
01/29/02	Copper	0.46	
02/05/02	Copper	0.64	
02/12/02	Copper	0.65	
02/12/02	Copper	1.14	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
02/19/02	Copper	0.55	
02/26/02	Copper	1.6	
03/05/02	Copper	0.03	
03/12/02	Copper	0.18	
03/19/02	Copper	0.38	
03/26/02	Copper	0.76	
04/05/02	Copper	0.44	
04/09/02	Copper	0.27	
04/16/02	Copper	0.1	
04/23/02	Copper	0.43	
05/07/02	Copper	0.32	
05/07/02	Copper	0.26	
05/14/02	Copper	0.28	
05/21/02	Copper	0.23	
05/28/02	Copper	0.34	
06/05/02	Copper	0.45	
06/12/02	Copper	0.34	
06/19/02	Copper	0.23	
06/26/02	Copper	0.4	
07/02/02	Copper	0.8	
07/09/02	Copper	0.42	
07/16/02	Copper	0.2	
07/23/02	Copper	0.59	
08/06/02	Copper	0.44	
08/13/02	Copper	0.42	
08/15/02	Copper	0.32	
08/20/02	Copper	1.84	
08/27/02	Copper	0.61	
09/05/02	Copper	0.22	
09/11/02	Copper	0.74	
09/18/02	Copper	0.49	
09/25/02	Copper	0.24	
10/01/02	Copper	0.54	
10/08/02	Copper	0.44	
10/15/02	Copper	0.05	
10/22/02	Copper	0.13	
11/05/02	Copper	0.12	
11/05/02	Copper	0.29	
11/12/02	Copper	0.23	
11/19/02	Copper	0.34	
11/26/02	Copper	0.18	
12/03/02	Copper	0.18	
12/10/02	Copper	0.24	
12/17/02	Copper	0.33	
12/26/02	Copper	0.04	
01/07/03	Copper	0.36	
01/14/03	Copper	0.43	
01/22/03	Copper	0.44	
01/28/03	Copper	0.36	
02/05/03	Copper	0.48	
02/11/03	Copper	0.71	
02/11/03	Copper	0.51	
02/18/03	Copper	0.52	
02/25/03	Copper	0.74	
03/04/03	Copper	0.67	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
03/11/03	Copper	0.74	
03/18/03	Copper	0.06	
03/25/03	Copper	0.3	
04/01/03	Copper	0.26	
04/08/03	Copper	0.35	
04/15/03	Copper	0.39	
04/22/03	Copper	0.64	
05/06/03	Copper	0.53	
05/13/03	Copper	0.44	
05/15/03	Copper	2.13	
05/20/03	Copper	2.98	
05/27/03	Copper	0.41	
06/03/03	Copper	0.36	
06/10/03	Copper	0.51	
06/17/03	Copper	0.42	
06/24/03	Copper	0.41	
07/01/03	Copper	0.49	
07/07/03	Copper	0.4	
07/08/03	Copper	0.3	
07/15/03	Copper	0.21	
07/22/03	Copper	0.53	
07/31/03	Copper	0.43	
08/05/03	Copper	0.11	
08/12/03	Copper	0.43	
08/19/03	Copper	0.38	
08/19/03	Copper	0.35	
08/27/03	Copper	0.51	
09/02/03	Copper	0.42	
09/09/03	Copper	0.31	
10/07/03	Copper	0.27	
10/21/03	Copper	0.58	
11/04/03	Copper	0.67	
11/13/03	Copper	0.57	
11/18/03	Copper	0.72	
12/02/03	Copper	0.15	
12/16/03	Copper	0.36	
01/09/02	Lead	<0.02	0.56
01/15/02	Lead	0.1	
01/22/02	Lead	0.07	
01/29/02	Lead	0.08	
02/05/02	Lead	0.06	
02/12/02	Lead	0.07	
02/12/02	Lead	0.15	
02/19/02	Lead	0.59	
02/26/02	Lead	0.23	
03/05/02	Lead	<0.02	
03/12/02	Lead	0.03	
03/19/02	Lead	<0.02	
03/26/02	Lead	0.02	
04/05/02	Lead	<0.02	
04/09/02	Lead	<0.02	
04/15/02	Lead	<0.04	
04/16/02	Lead	<0.02	
04/23/02	Lead	0.05	
05/07/02	Lead	0.05	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
05/07/02	Lead	<0.02	
05/14/02	Lead	<0.02	
05/21/02	Lead	0.05	
05/28/02	Lead	0.06	
06/05/02	Lead	0.08	
06/12/02	Lead	<0.06	
06/19/02	Lead	0.13	
06/26/02	Lead	<0.06	
07/02/02	Lead	<0.06	
07/09/02	Lead	<0.06	
07/16/02	Lead	<0.06	
07/23/02	Lead	<0.06	
08/06/02	Lead	0.1	
08/13/02	Lead	<0.06	
08/15/02	Lead	0.028	
08/20/02	Lead	0.09	
08/27/02	Lead	<0.06	
09/05/02	Lead	<0.06	
09/11/02	Lead	<0.06	
09/18/02	Lead	<0.06	
09/25/02	Lead	<0.06	
10/01/02	Lead	<0.06	
10/08/02	Lead	<0.06	
10/15/02	Lead	<0.06	
10/22/02	Lead	<0.06	
11/05/02	Lead	<0.02	
11/05/02	Lead	<0.06	
11/12/02	Lead	0.08	
11/19/02	Lead	<0.06	
11/26/02	Lead	<0.06	
12/03/02	Lead	<0.06	
12/10/02	Lead	<0.06	
12/17/02	Lead	0.06	
12/26/02	Lead	<0.06	
01/07/03	Lead	0.03	
01/14/03	Lead	0.03	
01/22/03	Lead	0.03	
01/28/03	Lead	0.03	
02/05/03	Lead	<0.06	
02/11/03	Lead	0.07	
02/11/03	Lead	0.07	
02/18/03	Lead	<0.06	
02/25/03	Lead	<0.06	
03/04/03	Lead	0.11	
03/11/03	Lead	<0.06	
03/18/03	Lead	<0.06	
03/25/03	Lead	<0.06	
04/01/03	Lead	<0.06	
04/08/03	Lead	<0.06	
04/15/03	Lead	0.1	
04/22/03	Lead	<0.06	
05/06/03	Lead	<0.06	
05/13/03	Lead	<0.06	
05/15/03	Lead	0.03	
05/20/03	Lead	0.5	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
05/27/03	Lead	<0.06	
06/03/03	Lead	<0.06	
06/10/03	Lead	<0.06	
06/17/03	Lead	<0.06	
06/24/03	Lead	0.08	
07/01/03	Lead	<0.06	
07/08/03	Lead	<0.06	
07/15/03	Lead	<0.06	
07/22/03	Lead	<0.06	
08/05/03	Lead	<0.06	
08/12/03	Lead	<0.06	
08/19/03	Lead	0.05	
08/19/03	Lead	<0.06	
08/27/03	Lead	0.08	
09/02/03	Lead	0.07	
09/09/03	Lead	0.2	
10/07/03	Lead	0.34	
10/21/03	Lead	0.15	
11/04/03	Lead	0.12	
11/13/03	Lead	<0.03	
11/18/03	Lead	<0.06	
12/02/03	Lead	<0.06	
12/16/03	Lead	<0.06	
02/12/02	Mercury	0.000049	0.01
02/11/03	Mercury	0.000036	
01/09/02	Nickel	0.02	3
01/15/02	Nickel	0.03	
01/22/02	Nickel	0.04	
01/29/02	Nickel	0.04	
02/05/02	Nickel	0.05	
02/12/02	Nickel	<0.04	
02/12/02	Nickel	0.04	
02/19/02	Nickel	0.09	
02/26/02	Nickel	0.08	
03/05/02	Nickel	<0.01	
03/12/02	Nickel	0.01	
03/19/02	Nickel	0.04	
03/26/02	Nickel	0.08	
04/05/02	Nickel	0.02	
04/09/02	Nickel	0.02	
04/16/02	Nickel	0.02	
04/23/02	Nickel	0.01	
05/07/02	Nickel	<0.04	
05/07/02	Nickel	<0.01	
05/14/02	Nickel	0.02	
05/21/02	Nickel	<0.01	
05/28/02	Nickel	<0.01	
06/05/02	Nickel	0.01	
06/12/02	Nickel	0.02	
06/19/02	Nickel	0.04	
06/26/02	Nickel	0.01	
07/02/02	Nickel	0.08	
07/09/02	Nickel	0.02	
07/16/02	Nickel	0.04	
07/23/02	Nickel	0.03	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
08/06/02	Nickel	0.02	
08/13/02	Nickel	0.02	
08/15/02	Nickel	< 0.01	
08/20/02	Nickel	0.07	
08/27/02	Nickel	0.02	
09/05/02	Nickel	0.01	
09/11/02	Nickel	0.02	
09/18/02	Nickel	0.01	
09/25/02	Nickel	0.04	
10/01/02	Nickel	0.03	
10/08/02	Nickel	0.2	
10/15/02	Nickel	0.03	
10/22/02	Nickel	0.05	
11/05/02	Nickel	0.01	
11/05/02	Nickel	0.02	
11/12/02	Nickel	0.02	
11/19/02	Nickel	0.02	
11/26/02	Nickel	0.02	
12/03/02	Nickel	0.17	
12/10/02	Nickel	<0.01	
12/17/02	Nickel	0.01	
12/26/02	Nickel	0.01	
01/07/03	Nickel	0.22	
01/14/03	Nickel	0.04	
01/22/03	Nickel	0.02	
01/28/03	Nickel	0.07	
02/05/03	Nickel	0.02	
02/11/03	Nickel	0.01	
02/11/03	Nickel	0.02	
02/18/03	Nickel	0.01	
02/25/03	Nickel	0.02	
03/04/03	Nickel	0.03	
03/11/03	Nickel	0.02	
03/18/03	Nickel	0.02	
03/25/03	Nickel	0.01	
04/01/03	Nickel	0.02	
04/08/03	Nickel	0.01	
04/15/03	Nickel	0.05	
04/22/03	Nickel	0.03	
05/06/03	Nickel	0.05	
05/13/03	Nickel	0.03	
05/15/03	Nickel	0.02	
05/20/03	Nickel	0.08	
05/27/03	Nickel	0.01	
06/03/03	Nickel	0.02	
06/10/03	Nickel	0.02	
06/17/03	Nickel	0.09	
06/24/03	Nickel	0.04	
07/01/03	Nickel	0.02	
07/08/03	Nickel	0.02	
07/15/03	Nickel	0.05	
07/22/03	Nickel	0.03	
08/05/03	Nickel	0.03	
08/12/03	Nickel	0.02	
08/19/03	Nickel	0.14	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
08/19/03	Nickel	0.08	
08/27/03	Nickel	0.03	
09/02/03	Nickel	0.03	
09/09/03	Nickel	0.1	
10/07/03	Nickel	0.04	
10/21/03	Nickel	0.03	
11/04/03	Nickel	0.03	
11/13/03	Nickel	<0.01	
11/18/03	Nickel	0.08	
12/02/03	Nickel	0.02	
12/16/03	Nickel	0.03	
01/09/02	pH	7.4	6.0-12.0
01/15/02	pH	7.2	
01/22/02	pH	6.9	
01/29/02	pH	7.1	
02/05/02	pH	7.3	
02/12/02	pH	6.1	
02/12/02	pH	7.4	
02/19/02	pH	7.4	
02/26/02	pH	7.8	
03/05/02	pH	7.3	
03/12/02	pH	8	
03/19/02	pH	7.1	
03/26/02	pH	7.6	
04/05/02	pH	7.8	
04/09/02	pH	7.2	
04/16/02	pH	8.1	
04/23/02	pH	7.9	
05/07/02	pH	7.2	
05/07/02	pH	7	
05/14/02	pH	7	
05/21/02	pH	7.3	
05/28/02	pH	7.4	
06/05/02	pH	6.7	
06/12/02	pH	7.2	
06/19/02	pH	8.3	
06/26/02	pH	7.5	
07/02/02	pH	7.8	
07/09/02	pH	7.9	
07/16/02	pH	7.2	
07/23/02	pH	7.1	
08/06/02	pH	7.3	
08/13/02	pH	6.9	
08/15/02	pH	7.5	
08/20/02	pH	6.9	
08/27/02	pH	7.8	
09/05/02	pH	8.3	
09/11/02	pH	7.2	
09/18/02	pH	7.4	
09/25/02	pH	7.3	
10/01/02	pH	6.2	
10/08/02	pH	8	
10/15/02	pH	8.1	
10/22/02	pH	7.1	
11/05/02	pH	6.7	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
11/05/02	pH	7.2	
11/12/02	pH	7.1	
11/19/02	pH	7.3	
11/26/02	pH	6.9	
12/03/02	pH	7.8	
12/10/02	pH	7.3	
12/17/02	pH	7.2	
12/26/02	pH	7.4	
01/07/03	pH	7.3	
01/14/03	pH	7.4	
01/22/03	pH	7.8	
01/28/03	pH	7.6	
02/05/03	pH	7.9	
02/11/03	pH	8.7	
02/11/03	pH	7.9	
02/18/03	pH	7.7	
02/25/03	pH	7.7	
03/04/03	pH	7.6	
03/11/03	pH	7.8	
03/18/03	pH	7.6	
03/25/03	pH	7.8	
04/01/03	pH	7.8	
04/08/03	pH	7.7	
04/15/03	pH	8.2	
04/22/03	pH	7.8	
05/06/03	pH	7.8	
05/13/03	pH	7.6	
05/15/03	pH	7.4	
05/20/03	pH	8.7	
05/27/03	pH	8.04	
06/03/03	pH	8.9	
06/10/03	pH	8.4	
06/17/03	pH	8.3	
06/24/03	pH	8.2	
07/01/03	pH	7.2	
07/08/03	pH	6.7	
07/15/03	pH	7.2	
07/22/03	pH	8.2	
08/05/03	pH	7.9	
08/12/03	pH	6.8	
08/19/03	pH	9.1	
08/19/03	pH	7.6	
08/27/03	pH	8.5	
09/02/03	pH	8.6	
09/09/03	pH	7.6	
10/07/03	pH	7.7	
10/21/03	pH	7.6	
11/04/03	pH	8.2	
11/13/03	pH	8.6	
11/18/03	pH	6.3	
12/02/03	pH	7.9	
12/16/03	pH	8.1	
02/12/02	Silver	<0.04	0.3
05/07/02	Silver	<0.04	
08/15/02	Silver	< 0.01	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
11/05/02	Silver	0.04	
02/11/03	Silver	0.09	
05/15/03	Silver	<0.01	
08/19/03	Silver	0.02	
11/13/03	Silver	<0.01	
02/12/02	Tot. Suspended Solids	14	300
05/07/02	Tot. Suspended Solids	12	
08/15/02	Tot. Suspended Solids	44	
11/05/02	Tot. Suspended Solids	10	
02/11/03	Tot. Suspended Solids	11	
05/15/03	Tot. Suspended Solids	13	
08/19/03	Tot. Suspended Solids	26	
11/13/03	Tot. Suspended Solids	11	
01/09/02	Total Cyanide	<0.01	1.2
01/15/02	Total Cyanide	<0.01	
01/22/02	Total Cyanide	<0.01	
01/29/02	Total Cyanide	<0.01	
02/05/02	Total Cyanide	<0.01	
02/12/02	Total Cyanide	0.0021	
02/12/02	Total Cyanide	<0.01	
02/19/02	Total Cyanide	<0.01	
02/26/02	Total Cyanide	0.02	
03/05/02	Total Cyanide	<0.01	
03/12/02	Total Cyanide	<0.01	
03/19/02	Total Cyanide	<0.01	
03/26/02	Total Cyanide	<0.01	
04/05/02	Total Cyanide	<0.01	
04/09/02	Total Cyanide	<0.01	
04/16/02	Total Cyanide	<0.01	
04/23/02	Total Cyanide	<0.01	
05/07/02	Total Cyanide	0.0056	
05/07/02	Total Cyanide	0.02	
05/14/02	Total Cyanide	<0.01	
05/21/02	Total Cyanide	<0.01	
05/28/02	Total Cyanide	<0.01	
06/05/02	Total Cyanide	<0.01	
06/12/02	Total Cyanide	<0.01	
06/19/02	Total Cyanide	0.02	
06/26/02	Total Cyanide	0.04	
07/02/02	Total Cyanide	<0.01	
07/09/02	Total Cyanide	<0.01	
07/16/02	Total Cyanide	<0.01	
07/23/02	Total Cyanide	<0.01	
08/06/02	Total Cyanide	<0.01	
08/13/02	Total Cyanide	0.02	
08/15/02	Total Cyanide	0.00096	
08/20/02	Total Cyanide	<0.01	
08/27/02	Total Cyanide	<0.01	
09/05/02	Total Cyanide	<0.01	
09/11/02	Total Cyanide	0.03	
09/18/02	Total Cyanide	<0.01	
09/25/02	Total Cyanide	<0.01	
10/01/02	Total Cyanide	<0.01	
10/08/02	Total Cyanide	<0.01	
10/15/02	Total Cyanide	<0.01	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
10/22/02	Total Cyanide	0.02	
11/05/02	Total Cyanide	0.00034	
11/05/02	Total Cyanide	<0.01	
11/12/02	Total Cyanide	<0.01	
11/19/02	Total Cyanide	0.02	
11/26/02	Total Cyanide	<0.01	
12/03/02	Total Cyanide	<0.01	
12/10/02	Total Cyanide	<0.01	
12/17/02	Total Cyanide	0.04	
12/26/02	Total Cyanide	<0.01	
01/07/03	Total Cyanide	0.01	
01/14/03	Total Cyanide	0.02	
01/22/03	Total Cyanide	0.005	
01/28/03	Total Cyanide	0.1	
02/05/03	Total Cyanide	<0.01	
02/11/03	Total Cyanide	0.0011	
02/11/03	Total Cyanide	<0.01	
02/18/03	Total Cyanide	<0.01	
02/25/03	Total Cyanide	0.09	
03/04/03	Total Cyanide	<0.01	
03/11/03	Total Cyanide	<0.01	
03/18/03	Total Cyanide	<0.01	
03/25/03	Total Cyanide	<0.01	
04/01/03	Total Cyanide	<0.01	
04/08/03	Total Cyanide	0.14	
04/15/03	Total Cyanide	<0.01	
04/22/03	Total Cyanide	0.03	
05/06/03	Total Cyanide	0.01	
05/13/03	Total Cyanide	<0.01	
05/15/03	Total Cyanide	0.0008	
05/20/03	Total Cyanide	0.03	
05/27/03	Total Cyanide	<0.01	
06/03/03	Total Cyanide	<0.01	
06/10/03	Total Cyanide	<0.01	
06/17/03	Total Cyanide	0.03	
06/24/03	Total Cyanide	0.1	
07/01/03	Total Cyanide	0.11	
07/08/03	Total Cyanide	<0.01	
07/15/03	Total Cyanide	<0.01	
07/22/03	Total Cyanide	<0.01	
08/05/03	Total Cyanide	<0.01	
08/12/03	Total Cyanide	<0.01	
08/19/03	Total Cyanide	Scratched	
08/19/03	Total Cyanide	<0.01	
08/27/03	Total Cyanide	<0.01	
09/02/03	Total Cyanide	0.02	
09/09/03	Total Cyanide	0.02	
10/07/03	Total Cyanide	<0.01	
10/21/03	Total Cyanide	<0.01	
11/04/03	Total Cyanide	<0.01	
11/13/03	Total Cyanide	0.00094	
12/02/03	Total Cyanide	<0.01	
12/16/03	Total Cyanide	<0.01	
02/12/02	Total Metal (40CFR413)	0.71	9.77
05/07/02	Total Metal (40CFR413)	0.46	

TriTech Manufacturing

Sample Date	Parameter	Result	Limit
05/14/02	Total Metal (40CFR413)	<0.32	
08/15/02	Total Metal (40CFR413)	0.37	
11/05/02	Total Metal (40CFR413)	0.145	
11/05/02	Total Metal (40CFR413)	<0.37	
02/11/03	Total Metal (40CFR413)	0.745	
05/06/03	Total Metal (40CFR413)	0.63	
05/15/03	Total Metal (40CFR413)	nodata	
08/19/03	Total Metal (40CFR413)	0.545	
11/04/03	Total Metal (40CFR413)	0.74	
11/13/03	Total Metal (40CFR413)	0.06	
02/12/02	Total Phosphorus	0.6	10
05/07/02	Total Phosphorus	0.1	
08/15/02	Total Phosphorus	< 0.06	
11/05/02	Total Phosphorus	0.304	
02/11/03	Total Phosphorus	0.2	
05/15/03	Total Phosphorus	2	
08/19/03	Total Phosphorus	0.47	
11/13/03	Total Phosphorus	0.2	
02/12/02	Zinc	<0.04	3.91
05/07/02	Zinc	0.1	
05/14/02	Zinc	0.01	
08/15/02	Zinc	0.043	
11/05/02	Zinc	0.01	
11/05/02	Zinc	0.05	
02/11/03	Zinc	0.02	
05/06/03	Zinc	0.04	
05/15/03	Zinc	0.01	
08/19/03	Zinc	0.02	
11/04/03	Zinc	0.03	
11/13/03	Zinc	0.02	

Site Consumption

ompany: TRI TECH MANUFACTURING I IWS Number: 5360
ite Name: TRI TECH MFG. Site Number: 1

Begin	End	Water	Sewer
2/10/2001	01/10/2002	228	228
1/10/2002	02/07/2002	313	313
2/07/2002	03/12/2002	296	296
3/12/2002	04/09/2002	277	277
4/09/2002	05/13/2002	314	314
5/13/2002	06/12/2002	274	274
6/12/2002	07/15/2002	360	360
7/15/2002	08/13/2002	269	269
8/13/2002	09/13/2002	418	418
9/13/2002	10/11/2002	265	265
.0/11/2002	11/12/2002	101	101
.1/12/2002	12/10/2002	247	247
.2/10/2002	01/10/2003	178	178
)1/10/2003	02/04/2003	267	267
)2/04/2003	03/07/2003	320	320
)3/07/2003	04/07/2003	261	261
)4/07/2003	05/09/2003	349	349
)5/09/2003	06/09/2003	283	283
)6/09/2003	07/08/2003	180	180
)7/[illegible]/2003	08/08/2003	183	183
)[illegible]/2003	09/08/2003	176	176
)9/08/2003	10/07/2003	193	193
10/07/2003	11/07/2003	249	249
11/07/2003	12/05/2003	174	174
12/05/2003	01/09/2004	248	248

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **09401**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Valspar Coatings Division of Engineered Polymer Solutions, Inc. 202 Jacobs Avenue Fort Wayne, IN 46808	 P.O. Box 10330 Fort Wayne, IN 46851 Phone: (219) 484-9011

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 403 standards.

'.s permit shall become effective on **December 11, 1998.**

This permit and the authorization to discharge wastewater shall expire on **December 11, 2003.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ________________________________

Jim Cornell, Manager of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

ıt via Certified mail to:

Name: Stephen Scales
Title: H.S.E. Manager

Permit 09401

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

Discharge Limitations and Self-Monitoring

Regulated Parameter	**Maximum for any one day mg/l**	**Self-Monitoring Frequency**	**Sample Type**
Lead	0.60	2/month	composite
Zinc	6.00	2/month	composite
pH	6.0-12.0	2/month	grab

REQUIRED REPORTS

REPORT	DUE DATE
Discharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
ıpliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**October 11, 2003**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

Valspar Corp.

Sample Date	Parameter	Result	Limit
01/31/02	Ammonia-Nitrogen	1	25
01/31/02	Biochemical Oxygen Demand 5 Day	FAILED	300
01/31/02	Cadmium	<0.04	0.7
01/31/02	Chemical Oxygen Demand	<27	600
01/31/02	Chromium	<0.04	10
01/31/02	Copper	<0.04	2
01/08/02	Lead	0.08	0.6
01/21/02	Lead	0.06	
01/31/02	Lead	<0.04	
02/01/02	Lead	0.06	
02/13/02	Lead	<0.02	
02/27/02	Lead	0.06	
03/04/02	Lead	<0.02	
03/25/02	Lead	0.06	
01/31/02	Mercury	0.00008	0.01
01/31/02	Nickel	<0.04	3
01/08/02	pH	7.75	6.0-12.0
01/21/02	pH	6.61	
01/31/02	pH	6.3	
02/13/02	pH	7.34	
02/27/02	pH	7.13	
03/04/02	pH	6.79	
03/25/02	pH	8.35	
01/31/02	Silver	<0.04	0.3
01/31/02	Tot. Suspended Solids	4	300
01/31/02	Total Phosphorus	0.1	10
01/08/02	Zinc	0.23	6
01/21/02	Zinc	0.1	
01/31/02	Zinc	<0.04	
02/01/02	Zinc	0.02	
02/13/02	Zinc	0.05	
02/27/02	Zinc	0.02	
03/04/02	Zinc	0.02	
03/25/02	Zinc	0.06	

Site Consumption

ny: VALSPAR CORP

Name:

IWS Number: 4869

Site Number: 1

Begin	End	Water	Sewer
2/17/2001	01/15/2002	505	524
1/15/2002	02/15/2002	480	480
2/15/2002	03/12/2002	357	383

[redacted]

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **09551**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Venture Powder Coaters, Inc. 517 Southview Avenue Fort Wayne, IN 46806	Same Phone: 219-744-6757

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.17 standards.

is permit shall become effective on **June 16, 2000**

This permit and the authorization to discharge wastewater shall expire on **June 16, 2005.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

it via Certified mail to:

Name: Dennis F. Long
Title: Plant Manager

Permit 09551

I. LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

charge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for Monthly Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.11	0.07	2/year	composite
Chromium	2.77	1.71	2/year	composite
Copper	2.00	2.07	2/year	composite
Lead	0.60	0.43	2/year	composite
Nickel	3.00	2.38	2/month	composite
Silver	0.30	0.24	2/year	composite
Zinc	2.61	1.48	2/month	composite
Cyanide	1.20	0.65	2/year	grab
TTO	2.13	N/A	2/year	
pH	6.0-12.0		2/month	grab
Oil and Grease	100		2/year	grab

REQUIRED REPORTS

REPORT	DUE DATE
. scharge Monitoring Report (DMR)	due the 15th of each month, for the prior month sampling.
Compliance Monitoring Report (CMR)	June 28 and December 28 each year
Industrial Waste Questionnaire (IWQ)	January 15, each year
Baseline Monitoring Report (BMR) (Permit Application)	**April 17, 2005**

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

Venture Powder Coaters

Sample Date	Parameter	Result	Limit
02/07/02	Ammonia-Nitrogen	4	25
06/26/02	Ammonia-Nitrogen	0.118	
08/28/02	Ammonia-Nitrogen	0.0046	
11/14/02	Ammonia-Nitrogen	<1	
02/25/03	Ammonia-Nitrogen	<3	
05/01/03	Ammonia-Nitrogen	<1	
08/13/03	Ammonia-Nitrogen	<3	
02/07/02	Biochemical Oxygen Demand 5 Day	failed	300
06/26/02	Biochemical Oxygen Demand 5 Day	29	
08/28/02	Biochemical Oxygen Demand 5 Day	14	
11/14/02	Biochemical Oxygen Demand 5 Day	19	
02/25/03	Biochemical Oxygen Demand 5 Day	13	
05/01/03	Biochemical Oxygen Demand 5 Day	18	
08/13/03	Biochemical Oxygen Demand 5 Day	48	
02/07/02	Cadmium	<0.04	0.11
06/25/02	Cadmium	<0.01	
06/26/02	Cadmium	<0.01	
08/28/02	Cadmium	<0.01	
11/14/02	Cadmium	<0.01	
11/14/02	Cadmium	<0.01	
02/25/03	Cadmium	<0.01	
05/01/03	Cadmium	<0.01	
05/21/03	Cadmium	<0.01	
08/13/03	Cadmium	<0.01	
11/24/03	Cadmium	<0.01	
02/07/02	Chemical Oxygen Demand	912	600
06/26/02	Chemical Oxygen Demand	160	
08/28/02	Chemical Oxygen Demand	118	
11/14/02	Chemical Oxygen Demand	78	
02/25/03	Chemical Oxygen Demand	139	
05/01/03	Chemical Oxygen Demand	138	
08/13/03	Chemical Oxygen Demand	307	
02/07/02	Chromium	<0.04	2.77
06/25/02	Chromium	0.02	
06/26/02	Chromium	0.01	
08/28/02	Chromium	<0.01	
11/14/02	Chromium	<0.01	
11/14/02	Chromium	0.02	
02/25/03	Chromium	<0.01	
05/01/03	Chromium	0.01	
05/21/03	Chromium	0.04	
08/13/03	Chromium	0.01	
11/24/03	Chromium	<0.01	
02/07/02	Copper	0.25	2
06/25/02	Copper	0.1	
06/26/02	Copper	0.07	
08/28/02	Copper	0.05	
11/14/02	Copper	0.01	
11/14/02	Copper	0.03	
02/25/03	Copper	0.03	
05/01/03	Copper	0.06	
05/21/03	Copper	0.03	
08/13/03	Copper	0.15	
11/24/03	Copper	0.03	
02/07/02	Lead	<0.04	0.6

Venture Powder Coaters

Sample Date	Parameter	Result	Limit
06/25/02	Lead	<0.06	
06/26/02	Lead	0.02	
08/28/02	Lead	<0.02	
11/14/02	Lead	<0.02	
11/14/02	Lead	0.08	
02/25/03	Lead	<0.02	
05/01/03	Lead	<0.03	
05/21/03	Lead	<0.06	
08/13/03	Lead	0.04	
11/24/03	Lead	<0.06	
02/07/02	Mercury	0.000023	0.01
02/25/03	Mercury	<0.000005	
01/07/02	Nickel	0.02	3
01/28/02	Nickel	0.04	
02/07/02	Nickel	<0.04	
02/11/02	Nickel	0.03	
02/27/02	Nickel	0.03	
03/14/02	Nickel	0.02	
03/29/02	Nickel	0.02	
04/12/02	Nickel	0.03	
04/26/02	Nickel	0.08	
05/15/02	Nickel	0.02	
05/30/02	Nickel	0.01	
06/13/02	Nickel	0.02	
06/25/02	Nickel	0.03	
06/26/02	Nickel	0.02	
07/02/02	Nickel	0.01	
07/25/02	Nickel	0.03	
08/19/02	Nickel	0.02	
08/28/02	Nickel	<0.01	
08/29/02	Nickel	0.02	
09/12/02	Nickel	0.02	
09/20/02	Nickel	0.03	
10/21/02	Nickel	0.03	
10/31/02	Nickel	0.03	
11/14/02	Nickel	<0.01	
11/14/02	Nickel	0.03	
11/20/02	Nickel	0.02	
12/05/02	Nickel	0.02	
12/18/02	Nickel	0.02	
01/07/03	Nickel	0.03	
01/27/03	Nickel	<0.01	
02/19/03	Nickel	<0.01	
02/25/03	Nickel	<0.01	
02/28/03	Nickel	0.02	
03/03/03	Nickel	0.02	
03/21/03	Nickel	<0.01	
04/17/03	Nickel	0.02	
04/22/03	Nickel	0.02	
05/01/03	Nickel	0.01	
05/05/03	Nickel	0.03	
05/21/03	Nickel	0.02	
06/16/03	Nickel	0.02	
06/18/03	Nickel	0.02	
07/18/03	Nickel	0.01	

Venture Powder Coaters

Sample Date	Parameter	Result	Limit
07/21/03	Nickel	0.01	
08/13/03	Nickel	0.02	
08/27/03	Nickel	0.02	
08/29/03	Nickel	0.02	
09/20/03	Nickel	0.01	
09/29/03	Nickel	0.01	
11/20/03	Nickel	<0.01	
11/24/03	Nickel	<0.01	
12/09/03	Nickel	0.02	
01/07/02	pH	7.12	6.0-12.0
01/28/02	pH	6.56	
02/07/02	pH	8	
02/11/02	pH	7.17	
02/27/02	pH	7.16	
03/14/02	pH	7.51	
03/29/02	pH	6.88	
04/12/02	pH	9.31	
04/26/02	pH	10	
05/15/02	pH	9.18	
05/30/02	pH	9.34	
06/13/02	pH	10.4	
06/25/02	pH	9.79	
06/26/02	pH	9.5	
07/02/02	pH	9.53	
07/25/02	pH	9.98	
08/19/02	pH	9.36	
08/28/02	pH	8.8	
08/29/02	pH	7.69	
09/12/02	pH	8.09	
09/20/02	pH	8.64	
10/21/02	pH	8.57	
10/31/02	pH	8.68	
11/14/02	pH	7.4	
11/14/02	pH	8.25	
11/20/02	pH	7.48	
12/05/02	pH	7.21	
12/18/02	pH	8.25	
01/07/03	pH	7.38	
01/27/03	pH	7.23	
02/19/03	pH	7.62	
02/25/03	pH	7	
02/28/03	pH	7.42	
03/03/03	pH	7.43	
03/21/03	pH	7.58	
04/17/03	pH	8.92	
04/22/03	pH	9.36	
05/01/03	pH	7.9	
05/05/03	pH	10.1	
05/21/03	pH	7.35	
06/16/03	pH	9.35	
06/18/03	pH	9.34	
07/18/03	pH	9.29	
07/21/03	pH	9.33	
08/13/03	pH	9.4	
08/27/03	pH	9.2	

Venture Powder Coaters

Sample Date	Parameter	Result	Limit
08/29/03	pH	9.24	
09/20/03	pH	9.11	
09/29/03	pH	9.06	
11/20/03	pH	8.21	
11/24/03	pH	8.16	
12/09/03	pH	7.52	
02/07/02	Silver	<0.04	0.3
06/25/02	Silver	0.01	
06/26/02	Silver	<0.01	
08/28/02	Silver	0.01	
11/14/02	Silver	<0.01	
11/14/02	Silver	<0.01	
02/25/03	Silver	<0.01	
05/01/03	Silver	<0.01	
05/21/03	Silver	<0.01	
08/13/03	Silver	0.01	
11/24/03	Silver	0.02	
02/07/02	Tot. Suspended Solids	65	300
06/26/02	Tot. Suspended Solids	18	
08/28/02	Tot. Suspended Solids	21	
11/14/02	Tot. Suspended Solids	6	
02/25/03	Tot. Suspended Solids	4	
05/01/03	Tot. Suspended Solids	52	
08/13/03	Tot. Suspended Solids	19	
02/07/02	Total Cyanide	0.0005	1.2
06/25/02	Total Cyanide	<0.01	
06/26/02	Total Cyanide	0.0016	
08/28/02	Total Cyanide	0.00765	
11/14/02	Total Cyanide	< 0.0002	
11/14/02	Total Cyanide	<0.01	
02/25/03	Total Cyanide	0.0015	
05/01/03	Total Cyanide	<0.0002	
05/21/03	Total Cyanide	0.03	
08/13/03	Total Cyanide	<0.0002	
11/24/03	Total Cyanide	<0.01	
02/07/02	Total Phosphorus	79.5	10
06/26/02	Total Phosphorus	23	
08/28/02	Total Phosphorus	17	
11/14/02	Total Phosphorus	6	
02/25/03	Total Phosphorus	6	
05/01/03	Total Phosphorus	15	
08/13/03	Total Phosphorus	25	
01/07/02	Zinc	0.64	2.61
01/28/02	Zinc	0.53	
02/07/02	Zinc	1.09	
02/11/02	Zinc	0.22	
02/27/02	Zinc	0.55	
03/14/02	Zinc	0.41	
03/29/02	Zinc	0.38	
04/12/02	Zinc	0.81	
04/26/02	Zinc	7.78	
05/15/02	Zinc	1.22	
05/30/02	Zinc	1.24	
06/13/02	Zinc	1.97	
06/25/02	Zinc	2.46	

Venture Powder Coaters

Sample Date	Parameter	Result	Limit
06/26/02	Zinc	2.45	
07/02/02	Zinc	1.58	
07/16/02	Zinc	12.5	
07/25/02	Zinc	1.37	
08/19/02	Zinc	1.16	
08/28/02	Zinc	0.72	
08/29/02	Zinc	0.36	
09/06/02	Zinc	0.52	
09/12/02	Zinc	0.31	
09/20/02	Zinc	0.31	
10/21/02	Zinc	0.31	
10/31/02	Zinc	0.47	
11/14/02	Zinc	0.22	
11/14/02	Zinc	0.38	
11/20/02	Zinc	0.44	
12/05/02	Zinc	0.23	
12/18/02	Zinc	0.21	
01/07/03	Zinc	0.36	
01/27/03	Zinc	0.32	
02/19/03	Zinc	0.5	
02/25/03	Zinc	0.08	
02/28/03	Zinc	0.25	
03/03/03	Zinc	0.27	
03/21/03	Zinc	0.48	
04/17/03	Zinc	0.81	
04/22/03	Zinc	0.95	
05/01/03	Zinc	0.46	
05/05/03	Zinc	1.91	
05/21/03	Zinc	0.25	
06/16/03	Zinc	0.91	
06/18/03	Zinc	0.91	
07/18/03	Zinc	0.31	
07/21/03	Zinc	0.3	
08/13/03	Zinc	2.33	
08/27/03	Zinc	0.39	
08/29/03	Zinc	0.42	
09/20/03	Zinc	0.66	
09/29/03	Zinc	0.66	
11/20/03	Zinc	0.3	
11/24/03	Zinc	0.3	
12/09/03	Zinc	0.23	

Site Consumption

ny: VENTURE POWDER COATERS
1(Name: VENTURE POWDER COAT

IWS Number: 7372
Site Number: 1

Begin	End	Water	Sewer
2/07/2001	01/07/2002	49	49
2/05/2002	03/04/2002	61	61
2/02/2002	01/03/2003	171	171
1/03/2003	02/03/2003	66	66
2/03/2003	03/03/2003	90	90
3/03/2003	03/28/2003	100	100
3/28/2003	05/01/2003	103	103
5/01/2003	06/03/2003	64	64
6/03/2003	07/03/2003	40	40
7/03/2003	07/31/2003	58	58
7/31/2003	09/03/2003	55	55
9/03/2003	09/30/2003	56	56
9/30/2003	10/31/2003	141	141
.0/31/2003	12/02/2003	73	73
.2/02/2003	01/05/2004	62	62

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **09901**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
Wayne Metal Protection Company 1511 Wabash Avenue Fort Wayne, IN 46803	 same

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 413.14 and 413.4 standards.

This permit shall become effective on **October 31, 2003**

This permit and the authorization to discharge wastewater shall expire on **October 31, 2008**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

Name: Harold Otis

Permit 09901

I. **LIMITATIONS and MONITORING REQUIREMENTS**

A. **Wayne Metal Protection Company** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for 4-Day avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.70	0.66	1/month	composite
Chromium	6.58	3.76	1/month	composite
Copper	2.00	2.54	1/month	composite
Lead	0.56	0.38	2/year	composite
Nickel	3.00	2.44	1/month	composite
Zinc	3.95	2.44	1/month	composite
Cyanide	1.20	0.94	2/year	grab
Total Metals	9.87	6.39	N/A	N/A
pH	6.0-12.0		1/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

Total metals is defined as the sum of the concentration of Copper, Nickel, Chromium, and Zinc.

Wayne Metal Protection Company

Sample Date	Parameter	Result	Limit
01/08/02	Ammonia-Nitrogen	1.1	25
04/30/02	Ammonia-Nitrogen	0.414	
07/16/02	Ammonia-Nitrogen	0.0435	
10/09/02	Ammonia-Nitrogen	2	
01/15/03	Ammonia-Nitrogen	1	
04/16/03	Ammonia-Nitrogen	1	
07/15/03	Ammonia-Nitrogen	<3	
10/21/03	Ammonia-Nitrogen	<3	
01/08/02	Biochemical Oxygen Demand 5 Day	120	300
04/30/02	Biochemical Oxygen Demand 5 Day	164	
07/16/02	Biochemical Oxygen Demand 5 Day	196	
10/09/02	Biochemical Oxygen Demand 5 Day	165	
01/15/03	Biochemical Oxygen Demand 5 Day	167	
04/16/03	Biochemical Oxygen Demand 5 Day	239	
07/15/03	Biochemical Oxygen Demand 5 Day	164	
10/21/03	Biochemical Oxygen Demand 5 Day	96	
01/04/02	Cadmium	<0.04	0.7
01/08/02	Cadmium	<0.04	
02/12/02	Cadmium	<0.04	
03/05/02	Cadmium	<0.04	
04/09/02	Cadmium	<0.04	
04/30/02	Cadmium	<0.04	
05/07/02	Cadmium	<0.04	
06/05/02	Cadmium	<0.04	
07/08/02	Cadmium	<0.04	
07/16/02	Cadmium	<0.01	
08/06/02	Cadmium	<0.01	
09/05/02	Cadmium	<0.04	
10/08/02	Cadmium	<0.01	
10/09/02	Cadmium	<0.01	
11/12/02	Cadmium	<0.01	
12/09/02	Cadmium	<0.01	
01/07/03	Cadmium	<0.01	
01/15/03	Cadmium	<0.01	
02/06/03	Cadmium	<0.01	
03/11/03	Cadmium	<0.01	
04/08/03	Cadmium	<0.01	
04/16/03	Cadmium	<0.01	
05/05/03	Cadmium	<0.01	
06/06/03	Cadmium	<0.01	
07/14/03	Cadmium	<0.01	
07/15/03	Cadmium	<0.01	
08/15/03	Cadmium	<0.01	
09/09/03	Cadmium	<0.01	
10/09/03	Cadmium	0.005	
10/21/03	Cadmium	<0.01	
11/12/03	Cadmium	<0.01	
12/15/03	Cadmium	<0.01	
01/08/02	Chemical Oxygen Demand	36	600
04/30/02	Chemical Oxygen Demand	393	
07/16/02	Chemical Oxygen Demand	497	
10/09/02	Chemical Oxygen Demand	749	
01/15/03	Chemical Oxygen Demand	411	
04/16/03	Chemical Oxygen Demand	544	
07/15/03	Chemical Oxygen Demand	437	

Wayne Metal Protection Company

Sample Date	Parameter	Result	Limit
10/21/03	Chemical Oxygen Demand	274	
01/04/02	Chromium	0.17	6.58
01/08/02	Chromium	0.16	
02/12/02	Chromium	0.25	
03/05/02	Chromium	0.11	
04/09/02	Chromium	0.09	
04/30/02	Chromium	0.11	
05/07/02	Chromium	0.06	
06/05/02	Chromium	0.17	
07/08/02	Chromium	0.1	
07/16/02	Chromium	0.47	
08/06/02	Chromium	0.71	
09/05/02	Chromium	0.3	
10/08/02	Chromium	0.16	
10/09/02	Chromium	0.1	
11/12/02	Chromium	0.17	
12/09/02	Chromium	0.22	
01/07/03	Chromium	0.29	
01/15/03	Chromium	0.77	
02/06/03	Chromium	0.25	
03/11/03	Chromium	0.14	
04/08/03	Chromium	0.1	
04/16/03	Chromium	0.04	
05/05/03	Chromium	0.21	
06/06/03	Chromium	0.16	
07/14/03	Chromium	0.16	
07/15/03	Chromium	0.91	
08/15/03	Chromium	0.41	
09/09/03	Chromium	0.24	
10/09/03	Chromium	0.15	
10/21/03	Chromium	0.1	
11/12/03	Chromium	0.29	
12/15/03	Chromium	0.29	
01/04/02	Copper	0.02	2
01/08/02	Copper	0.06	
02/12/02	Copper	0.05	
03/05/02	Copper	0.04	
04/09/02	Copper	0.03	
04/30/02	Copper	<0.04	
05/07/02	Copper	0.02	
06/05/02	Copper	0.03	
07/08/02	Copper	0.04	
07/16/02	Copper	0.03	
08/06/02	Copper	0.04	
09/05/02	Copper	0.06	
10/08/02	Copper	0.19	
10/09/02	Copper	0.07	
11/12/02	Copper	0.03	
12/09/02	Copper	0.03	
01/07/03	Copper	0.05	
01/15/03	Copper	0.15	
02/06/03	Copper	0.1	
03/11/03	Copper	0.07	
04/08/03	Copper	0.07	
04/16/03	Copper	0.03	

Wayne Metal Protection Company

Sample Date	Parameter	Result	Limit
05/05/03	Copper	0.07	
06/06/03	Copper	0.08	
07/14/03	Copper	0.07	
07/15/03	Copper	0.07	
08/15/03	Copper	0.38	
09/09/03	Copper	0.23	
10/09/03	Copper	0.18	
10/21/03	Copper	0.07	
11/12/03	Copper	0.12	
12/15/03	Copper	0.17	
01/08/02	Lead	<0.04	0.56
04/30/02	Lead	<0.04	
07/16/02	Lead	0.05	
10/09/02	Lead	0.03	
01/15/03	Lead	0.04	
04/16/03	Lead	<0.03	
07/15/03	Lead	<0.03	
10/21/03	Lead	<0.03	
01/08/02	Mercury	<0.000016	0.01
01/15/03	Mercury	0.000028	
01/04/02	Nickel	0.08	3
01/08/02	Nickel	0.07	
02/12/02	Nickel	0.09	
03/05/02	Nickel	0.16	
04/09/02	Nickel	0.08	
04/30/02	Nickel	0.04	
05/07/02	Nickel	0.08	
06/05/02	Nickel	0.1	
07/08/02	Nickel	0.09	
07/16/02	Nickel	0.04	
08/06/02	Nickel	0.07	
09/05/02	Nickel	0.13	
10/08/02	Nickel	0.1	
10/09/02	Nickel	0.04	
11/12/02	Nickel	0.1	
12/09/02	Nickel	0.12	
01/07/03	Nickel	0.37	
01/15/03	Nickel	0.93	
02/06/03	Nickel	0.3	
03/11/03	Nickel	0.1	
04/08/03	Nickel	0.12	
04/16/03	Nickel	0.02	
05/05/03	Nickel	0.24	
06/06/03	Nickel	0.06	
07/14/03	Nickel	0.23	
07/15/03	Nickel	0.19	
08/15/03	Nickel	0.62	
09/09/03	Nickel	0.2	
10/09/03	Nickel	0.12	
10/21/03	Nickel	0.03	
11/12/03	Nickel	0.18	
12/15/03	Nickel	0.08	
01/04/02	pH	7.75	6.0-12.0
01/08/02	pH	9.1	
02/12/02	pH	8.1	

Wayne Metal Protection Company

Sample Date	Parameter	Result	Limit
03/05/02	pH	7.5	
04/09/02	pH	7.4	
04/30/02	pH	8.5	
05/07/02	pH	7.4	
06/05/02	pH	7.6	
07/08/02	pH	8.25	
07/16/02	pH	8.4	
08/06/02	pH	7.95	
09/05/02	pH	8.05	
10/08/02	pH	7.6	
10/09/02	pH	8.2	
11/12/02	pH	7.85	
12/09/02	pH	7.95	
01/07/03	pH	8.25	
01/15/03	pH	8.6	
02/06/03	pH	8.3	
03/11/03	pH	7.55	
04/08/03	pH	7.8	
04/16/03	pH	9.6	
05/05/03	pH	7.4	
06/06/03	pH	7.5	
07/14/03	pH	7.6	
07/15/03	pH	9.2	
08/15/03	pH	8	
09/09/03	pH	7.65	
10/09/03	pH	8.05	
10/21/03	pH	9.1	
11/12/03	pH	7.85	
12/15/03	pH	7.78	
01/08/02	Silver	<0.04	0.3
04/30/02	Silver	<0.04	
07/16/02	Silver	<0.01	
10/09/02	Silver	<0.01	
01/15/03	Silver	<0.01	
04/16/03	Silver	<0.01	
07/15/03	Silver	<0.01	
10/21/03	Silver	<0.01	
01/08/02	Tot. Suspended Solids	32	300
04/30/02	Tot. Suspended Solids	28	
07/16/02	Tot. Suspended Solids	5	
10/09/02	Tot. Suspended Solids	98	
01/15/03	Tot. Suspended Solids	68	
04/16/03	Tot. Suspended Solids	23	
07/15/03	Tot. Suspended Solids	54	
10/21/03	Tot. Suspended Solids	26	
01/04/02	Total Cyanide	<0.001	1.2
01/08/02	Total Cyanide	0.0003	
02/12/02	Total Cyanide	<0.001	
03/05/02	Total Cyanide	<0.001	
04/09/02	Total Cyanide	<0.001	
04/30/02	Total Cyanide	0.0003	
05/07/02	Total Cyanide	<0.001	
06/05/02	Total Cyanide	<0.001	
07/08/02	Total Cyanide	<0.001	
07/16/02	Total Cyanide	0.0022	

Wayne Metal Protection Company

Sample Date	Parameter	Result	Limit
08/06/02	Total Cyanide	0.002	
09/05/02	Total Cyanide	0.002	
10/08/02	Total Cyanide	0.002	
10/09/02	Total Cyanide	0.002	
11/12/02	Total Cyanide	0.002	
12/09/02	Total Cyanide	0.002	
01/07/03	Total Cyanide	0.002	
01/15/03	Total Cyanide	0.00066	
02/06/03	Total Cyanide	0.3	
03/11/03	Total Cyanide	0.0007	
04/08/03	Total Cyanide	0.004	
04/16/03	Total Cyanide	0.004	
05/05/03	Total Cyanide	0.004	
06/06/03	Total Cyanide	0.004	
07/14/03	Total Cyanide	0.001	
07/15/03	Total Cyanide	0.0009	
08/15/03	Total Cyanide	0.001	
09/09/03	Total Cyanide	0.001	
10/09/03	Total Cyanide	0.001	
10/21/03	Total Cyanide	<0.0002	
11/12/03	Total Cyanide	<0.0002	
12/15/03	Total Cyanide	<0.0002	
01/04/02	Total Metal (40CFR413)	1.06	9.87
01/08/02	Total Metal (40CFR413)	0.85	
02/12/02	Total Metal (40CFR413)	1.47	
03/05/02	Total Metal (40CFR413)	1.54	
04/09/02	Total Metal (40CFR413)	1.32	
04/30/02	Total Metal (40CFR413)	0.84	
05/07/02	Total Metal (40CFR413)	0.96	
06/05/02	Total Metal (40CFR413)	1.38	
07/08/02	Total Metal (40CFR413)	1.03	
07/16/02	Total Metal (40CFR413)	3.86	
08/06/02	Total Metal (40CFR413)	1.59	
09/05/02	Total Metal (40CFR413)	1.81	
10/08/02	Total Metal (40CFR413)	2.45	
10/09/02	Total Metal (40CFR413)	1.5	
11/12/02	Total Metal (40CFR413)	1.7	
01/07/03	Total Metal (40CFR413)	2.63	
01/15/03	Total Metal (40CFR413)	9.07	
02/06/03	Total Metal (40CFR413)	2.16	
03/11/03	Total Metal (40CFR413)	1.53	
04/08/03	Total Metal (40CFR413)	1.65	
04/16/03	Total Metal (40CFR413)	0.64	
05/05/03	Total Metal (40CFR413)	1.7	
06/06/03	Total Metal (40CFR413)	1.98	
07/14/03	Total Metal (40CFR413)	1.54	
07/15/03	Total Metal (40CFR413)	5.53	
08/15/03	Total Metal (40CFR413)	4.11	
10/09/03	Total Metal (40CFR413)	1.86	
10/21/03	Total Metal (40CFR413)	0.74	
12/15/03	Total Metal (40CFR413)	2.24	
01/08/02	Total Phosphorus	0.3	10
04/30/02	Total Phosphorus	0.6	
07/16/02	Total Phosphorus	0.566	
10/09/02	Total Phosphorus	0.907	

Wayne Metal Protection Company

Sample Date	Parameter	Result	Limit
01/15/03	Total Phosphorus	0.742	
04/16/03	Total Phosphorus	0.294	
07/15/03	Total Phosphorus	1	
10/21/03	Total Phosphorus	0.416	
01/04/02	Zinc	0.79	3.95
01/08/02	Zinc	0.7	
03/05/02	Zinc	1.23	
04/09/02	Zinc	1.12	
04/30/02	Zinc	0.67	
05/07/02	Zinc	0.8	
06/05/02	Zinc	1.08	
07/08/02	Zinc	0.8	
07/16/02	Zinc	3.32	
08/06/02	Zinc	0.77	
09/05/02	Zinc	1.32	
10/08/02	Zinc	2	
10/09/02	Zinc	1.29	
11/12/02	Zinc	1.4	
12/09/02	Zinc	1.66	
01/07/03	Zinc	1.92	
01/15/03	Zinc	7.22	
02/06/03	Zinc	1.51	
03/04/03	Zinc	0.62	
03/11/03	Zinc	1.22	
04/08/03	Zinc	1.36	
04/16/03	Zinc	0.55	
05/05/03	Zinc	1.18	
06/06/03	Zinc	1.68	
07/14/03	Zinc	1.08	
07/15/03	Zinc	4.36	
08/15/03	Zinc	2.7	
08/26/03	Zinc	1.37	
09/09/03	Zinc	1.69	
10/09/03	Zinc	1.41	
10/21/03	Zinc	0.54	
11/12/03	Zinc	1.02	
12/15/03	Zinc	1.69	

Site Consumption

ny: WAYNE METAL CO
Name: Wayne Metal

IWS Number: 2000
Site Number: 1

Begin	End	Water	Sewer
2/04/2001	01/04/2002	531	531
1/04/2002	01/30/2002	636	636
1/30/2002	03/04/2002	748	748
3/04/2002	04/02/2002	791	791
4/02/2002	05/02/2002	820	820
5/02/2002	06/05/2002	972	972
6/05/2002	07/02/2002	784	784
7/02/2002	08/05/2002	789	789
8/05/2002	08/30/2002	644	644
8/30/2002	10/02/2002	773	773
.0/02/2002	11/01/2002	708	708
.1/01/2002	12/02/2002	695	695
.2/02/2002	01/03/2003	754	695
1/03/2003	01/29/2003	624	683
1/29/2003	03/04/2003	762	762
3/04/2003	04/04/2003	649	649
4/04/2003	05/05/2003	816	816
5/05/2003	06/05/2003	713	713
6/05/2003	07/01/2003	666	666
7/01/2003	08/01/2003	651	651
8/01/2003	09/01/2003	674	674
9/01/2003	10/01/2003	749	749
[illegible]/2003	10/30/2003	945	945
10/30/2003	11/25/2003	734	734
11/25/2003	12/30/2003	700	700

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit No. **01201**

In accordance with all terms and conditions of the Code of Ordinances, Chapter 51, City of Fort Wayne, Indiana, and in accordance with any applicable provisions of Federal or State law and/or regulation, authorization to discharge wastewater to the Fort Wayne Water Pollution Control Plant is hereby granted, with the following permit conditions to:

Facility Address:	**Mailing Address:**
White Electronic Designs 8000 Bluffton Road Fort Wayne, IN 46809	Same Phone: (219) 747-3121

Permit Classification: **Significant Industrial User (SIU)**

Subject to 40 CFR 433.15 standards.

This permit shall become effective on **December 31, 2003.**

. .is permit and the authorization to discharge wastewater shall expire on **December 31, 2008.**

A violation of any provision in this permit is a violation of Chapter 51 of the City of Fort Wayne Municipal Ordinance and may subject the permittee to enforcement action by the City of Fort Wayne through Chapter 51 and/or the Water Pollution Control Plant's Enforcement Response Plan (ERP).

In order to renew authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as required by the Water Pollution Control Plant, Fort Wayne, Indiana, no later than sixty (60) days prior to the date of expiration.

Date Signed: ____________ ______________________________

Jim Cornell, Supervisor of Water Quality
Industrial Pretreatment Section
Water Pollution Control Plant

Sent via Certified mail to:

.ame: Carl Shopoff

Permit 01201

I. **LIMITATIONS and MONITORING REQUIREMENTS**

A. **White Electronic Designs** will perform the sampling and analysis for all parameters listed below. The City reserves the right at any future date to require additional self-monitoring by the permittee if deemed necessary by the Director of Utilities.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 and amendments thereto, the results of such monitoring must be reported in the monthly report submitted to the Industrial Pretreatment Section.

Discharge Limitations and Self-Monitoring

Regulated Parameter	Maximum for any one day mg/l	Maximum for Monthly Avg. mg/l	Self-Monitoring Frequency	Sample Type
Cadmium	0.22	0.08	2/year	composite
Chromium	0.89	0.55	2/month	composite
Copper	1.08	0.66	2/year	composite
Lead	0.22	0.14	2/year	composite
Nickel	1.27	0.76	2/month	composite
Silver	0.14	0.08	2/year	composite
Zinc	0.84	0.47	2/year	composite
Cyanide	0.38	0.21	2/year	grab
T.T.O.	0.68	N/A	2/year	
pH	6.0-12.0		2/month	grab

All other parameter limits not specifically listed above but contained the Sewer Use Ordinance, Chapter 51 and Rules and Regulations shall be in effect.

Note: Regulated parameters with a specified Monitoring Frequency of 2/year shall be sampled in May and November, and shall be reported on the May and November Discharge Monitoring Reports (DMR), which are due June 15th and December 15th respectively.

Regulated parameters with a specified Monitoring Frequency of 2/month shall be sampled on alternating workweeks, for example, the first and third, or second and fourth weeks.

B. "Composite sample" shall consist of grab samples of equal volume collected at equal time intervals (no more than 2 hours apart) over the daily discharge period (no more than 24 hours). Grab samples may be taken manually or with automatic sampling equipment, not to exceed a 15-minute period.

White Electronic Designs

Sample Date	Parameter	Result	Limit
02/12/02	Ammonia-Nitrogen	4	25
05/07/02	Ammonia-Nitrogen	10	
08/15/02	Ammonia-Nitrogen	4	
11/05/02	Ammonia-Nitrogen	10	
02/11/03	Ammonia-Nitrogen	2	
05/15/03	Ammonia-Nitrogen	3	
08/19/03	Ammonia-Nitrogen	6	
11/20/03	Ammonia-Nitrogen	2.3	
02/12/02	Biochemical Oxygen Demand 5 Day	18	300
05/07/02	Biochemical Oxygen Demand 5 Day	124	
08/15/02	Biochemical Oxygen Demand 5 Day	32	
11/05/02	Biochemical Oxygen Demand 5 Day	168	
02/11/03	Biochemical Oxygen Demand 5 Day	17	
05/15/03	Biochemical Oxygen Demand 5 Day	22	
08/19/03	Biochemical Oxygen Demand 5 Day	152	
11/20/03	Biochemical Oxygen Demand 5 Day	68	
02/12/02	Cadmium	<0.04	0.22
05/07/02	Cadmium	<0.04	
08/15/02	Cadmium	< 0.01	
11/05/02	Cadmium	<0.01	
02/11/03	Cadmium	<0.01	
05/15/03	Cadmium	<0.01	
08/19/03	Cadmium	<0.01	
11/20/03	Cadmium	<0.01	
02/12/02	Chemical Oxygen Demand	51	600
05/07/02	Chemical Oxygen Demand	273	
08/15/02	Chemical Oxygen Demand	67	
11/05/02	Chemical Oxygen Demand	736	
02/11/03	Chemical Oxygen Demand	61	
05/15/03	Chemical Oxygen Demand	108	
08/19/03	Chemical Oxygen Demand	299	
11/20/03	Chemical Oxygen Demand	118	
01/03/02	Chromium	<0.04	0.89
01/08/02	Chromium	0.05	
02/07/02	Chromium	<0.04	
02/12/02	Chromium	<0.04	
02/13/02	Chromium	<0.04	
03/08/02	Chromium	<0.04	
03/12/02	Chromium	0.05	
04/09/02	Chromium	<0.04	
04/16/02	Chromium	0.27	
05/07/02	Chromium	<0.04	
05/08/02	Chromium	<0.04	
05/14/02	Chromium	<0.04	
06/05/02	Chromium	0.06	
06/11/02	Chromium	<0.04	
07/02/02	Chromium	<0.04	
07/09/02	Chromium	<0.04	
08/06/02	Chromium	0.04	
08/12/02	Chromium	0.07	
08/15/02	Chromium	0.044	
09/04/02	Chromium	<0.04	
09/10/02	Chromium	<0.04	
10/02/02	Chromium	0.04	
10/08/02	Chromium	0.07	

White Electronic Designs

Sample Date	Parameter	Result	Limit
11/05/02	Chromium	0.02	
11/05/02	Chromium	0.07	
11/12/02	Chromium	0.67	
12/03/02	Chromium	<0.04	
12/10/02	Chromium	0.07	
01/07/03	Chromium	<0.04	
01/14/03	Chromium	0.07	
02/04/03	Chromium	<0.04	
02/11/03	Chromium	0.08	
02/14/03	Chromium	0.82	
03/04/03	Chromium	<0.04	
03/11/03	Chromium	<0.04	
04/01/03	Chromium	0.06	
04/08/03	Chromium	<0.04	
05/06/03	Chromium	<0.04	
05/13/03	Chromium	0.06	
05/15/03	Chromium	<0.01	
06/03/03	Chromium	0.1	
06/10/03	Chromium	<0.04	
07/07/03	Chromium	0.08	
07/15/03	Chromium	0.05	
08/04/03	Chromium	<0.04	
08/12/03	Chromium	0.05	
08/19/03	Chromium	<0.01	
09/03/03	Chromium	<0.04	
09/09/03	Chromium	0.04	
10/07/03	Chromium	<0.04	
10/14/03	Chromium	<0.04	
11/04/03	Chromium	0.06	
11/11/03	Chromium	<0.04	
11/20/03	Chromium	0.02	
12/02/03	Chromium	0.14	
12/09/03	Chromium	0.06	
02/12/02	Copper	0.14	1.08
05/07/02	Copper	0.06	
08/15/02	Copper	< 0.01	
11/05/02	Copper	0.13	
02/11/03	Copper	0.03	
05/15/03	Copper	0.01	
08/19/03	Copper	0.03	
11/20/03	Copper	0.03	
02/12/02	Lead	<0.04	0.22
05/07/02	Lead	<0.04	
08/15/02	Lead	< 0.01	
11/05/02	Lead	<0.02	
02/11/03	Lead	<0.02	
05/15/03	Lead	<0.03	
08/19/03	Lead	<0.01	
11/20/03	Lead	<0.03	
02/12/02	Mercury	<0.000016	0.01
02/11/03	Mercury	0.000018	
01/03/02	Nickel	<0.04	1.27
01/08/02	Nickel	<0.04	
02/07/02	Nickel	<0.04	
02/12/02	Nickel	0.04	

White Electronic Designs

Sample Date	Parameter	Result	Limit
02/13/02	Nickel	<0.04	
03/08/02	Nickel	<0.04	
03/12/02	Nickel	<0.04	
04/09/02	Nickel	<0.04	
04/16/02	Nickel	<0.04	
05/07/02	Nickel	<0.04	
05/08/02	Nickel	<0.04	
05/14/02	Nickel	<0.04	
06/05/02	Nickel	<0.04	
06/11/02	Nickel	<0.04	
07/02/02	Nickel	<0.04	
07/09/02	Nickel	<0.04	
08/06/02	Nickel	<0.04	
08/12/02	Nickel	0.04	
08/15/02	Nickel	< 0.01	
09/04/02	Nickel	<0.04	
09/10/02	Nickel	<0.04	
10/02/02	Nickel	<0.04	
10/08/02	Nickel	<0.04	
11/05/02	Nickel	0.02	
11/05/02	Nickel	<0.04	
11/12/02	Nickel	<0.04	
12/03/02	Nickel	<0.04	
12/10/02	Nickel	<0.04	
01/07/03	Nickel	<0.04	
01/14/03	Nickel	<0.04	
02/04/03	Nickel	<0.04	
02/11/03	Nickel	<0.01	
02/14/03	Nickel	<0.04	
03/04/03	Nickel	<0.04	
03/11/03	Nickel	<0.04	
04/01/03	Nickel	<0.04	
04/08/03	Nickel	<0.04	
05/06/03	Nickel	<0.04	
05/13/03	Nickel	<0.04	
05/15/03	Nickel	<0.01	
06/03/03	Nickel	<0.04	
06/10/03	Nickel	<0.04	
07/07/03	Nickel	<0.04	
07/15/03	Nickel	<0.04	
08/04/03	Nickel	<0.04	
08/12/03	Nickel	<0.04	
08/19/03	Nickel	0.01	
09/03/03	Nickel	<0.04	
09/09/03	Nickel	<0.04	
10/07/03	Nickel	<0.04	
10/14/03	Nickel	<0.04	
11/04/03	Nickel	<0.04	
11/11/03	Nickel	<0.04	
11/20/03	Nickel	<0.01	
12/02/03	Nickel	<0.04	
12/09/03	Nickel	<0.04	
01/03/02	pH	7.7	6.0-12.0
01/08/02	pH	8	
02/07/02	pH	7.8	

White Electronic Designs

Sample Date	Parameter	Result	Limit
02/12/02	pH	7.1	
02/13/02	pH	8.5	
03/08/02	pH	8.1	
03/12/02	pH	7.9	
04/09/02	pH	8.1	
04/16/02	pH	7.7	
05/07/02	pH	6.8	
05/08/02	pH	7.9	
05/14/02	pH	8.3	
06/05/02	pH	7.7	
06/11/02	pH	7.5	
07/02/02	pH	8.7	
07/09/02	pH	7.2	
08/06/02	pH	7.1	
08/12/02	pH	7.5	
08/15/02	pH	7.8	
09/04/02	pH	8.4	
09/10/02	pH	8.6	
10/02/02	pH	8.1	
10/08/02	pH	7.9	
11/05/02	pH	7.1	
11/05/02	pH	8.4	
11/12/02	pH	9.1	
12/03/02	pH	8.2	
12/10/02	pH	7.6	
01/07/03	pH	7.6	
01/14/03	pH	8	
02/04/03	pH	8	
02/11/03	pH	8.8	
02/14/03	pH	7.6	
03/04/03	pH	8.1	
03/11/03	pH	7.9	
04/01/03	pH	7	
04/08/03	pH	7.9	
05/06/03	pH	7.7	
05/13/03	pH	7.4	
05/15/03	pH	8.2	
06/03/03	pH	7.4	
06/10/03	pH	7.5	
07/07/03	pH	7.61	
07/15/03	pH	6.61	
08/04/03	pH	7.03	
08/12/03	pH	7.25	
08/19/03	pH	7.8	
09/03/03	pH	6.76	
09/09/03	pH	7.33	
10/07/03	pH	7.23	
10/14/03	pH	7.68	
11/04/03	pH	7.52	
11/11/03	pH	7.86	
11/20/03	pH	8.6	
12/02/03	pH	7.54	
12/09/03	pH	7.64	
02/12/02	Silver	<0.04	0.14
05/07/02	Silver	<0.04	

White Electronic Designs

Sample Date	Parameter	Result	Limit
08/15/02	Silver	< 0.01	
11/05/02	Silver	<0.01	
02/11/03	Silver	<0.01	
05/15/03	Silver	<0.01	
08/19/03	Silver	<0.01	
11/20/03	Silver	<0.01	
02/12/02	Tot. Suspended Solids	7	300
05/07/02	Tot. Suspended Solids	10	
08/15/02	Tot. Suspended Solids	11	
11/05/02	Tot. Suspended Solids	432	
02/11/03	Tot. Suspended Solids	31	
05/15/03	Tot. Suspended Solids	20	
08/19/03	Tot. Suspended Solids	210	
11/20/03	Tot. Suspended Solids	111	
02/12/02	Total Cyanide	0.0056	0.38
05/07/02	Total Cyanide	0.0048	
08/15/02	Total Cyanide	0.0029	
11/05/02	Total Cyanide	0.0029	
02/11/03	Total Cyanide	0.0031	
05/15/03	Total Cyanide	0.0061	
08/19/03	Total Cyanide	0.002	
11/20/03	Total Cyanide	0.0313	
02/12/02	Total Phosphorus	0.9	10
05/07/02	Total Phosphorus	3.4	
08/15/02	Total Phosphorus	1.2	
11/05/02	Total Phosphorus	8	
02/11/03	Total Phosphorus	1.1	
05/15/03	Total Phosphorus	2	
08/19/03	Total Phosphorus	2	
11/20/03	Total Phosphorus	0.946	
02/12/02	Zinc	0.43	0.84
05/07/02	Zinc	0.25	
08/15/02	Zinc	0.1	
11/05/02	Zinc	0.45	
02/11/03	Zinc	0.04	
05/15/03	Zinc	0.04	
08/19/03	Zinc	0.11	
11/20/03	Zinc	0.06	

Site Consumption

: ny: WHITE ELECTRONIC DESIGNS CORP IWS Number: 5350
Si Name: WHITE ELEC. DESIGNS Site Number: 1

Begin	End	Water	Sewer
.2/10/2001	01/10/2002	168	168
)1/10/2002	02/07/2002	196	196
)2/07/2002	03/12/2002	201	201
)3/12/2002	04/09/2002	215	215
)4/09/2002	05/13/2002	316	316
)5/13/2002	06/12/2002	159	159
)6/12/2002	07/15/2002	158	158
)7/15/2002	08/13/2002	160	160
)8/13/2002	09/13/2002	221	221
)9/13/2002	10/11/2002	194	194
L0/11/2002	11/12/2002	228	228
L1/12/2002	12/10/2002	246	246
L2/10/2002	01/10/2003	275	275
)1/10/2003	02/04/2003	231	231
)2/04/2003	03/07/2003	264	264
)3/07/2003	04/07/2003	187	187
)4/07/2003	05/09/2003	203	203
)5/09/2003	06/09/2003	208	208
)6/09/2003	07/08/2003	148	148
)7/08/2003	08/08/2003	179	179
)8/08/2003	09/08/2003	150	150
)[illegible]8/2003	10/07/2003	245	245
1[illegible]/2003	11/07/2003	217	217
11/07/2003	12/05/2003	117	117
12/05/2003	01/09/2004	168	168

Nine Minimum Controls – No. 4

4.0 MAXIMIZATION OF FLOW TO THE POTW FOR TREATMENT

4.1 OVERVIEW

The 4^{th} of the nine minimum controls is "Maximization of Flow to the POTW for Treatment". The collection system aspects of flow maximization to the City's POTW, the WPCP, are addressed in Chapter 2. Consequently, this Chapter addresses only those aspects of WPCP operations which allow for increased sewage treatment. More specifically, this chapter presents discussions of the WPCP's capabilities, plans for WPCP improvements and strategies for operating the WPCP to both maximize the rate at which flow can be treated and best utilize the WPCP's non-peak unused capacity.

4.2 WPCP CAPABILITIES

In 1994 the City completed a sewer system master plan. The performance of the WPCP as well as that of its individual processes were analyzed as part of that undertaking. In 1995 a stress test was performed to determine the capacity of the secondary system. These two studies led to the conclusions that sections of the WPCP were due for major repair or replacement and that the secondary system had more capacity than the primary system. The above studies also led to preparation of a facility plan for the WPCP in 1998.

The capacities of the WPCP, based on these three studies, are summarized in a description prepared by Donohue & Associates. This can be found at Exhibit D-1.

4.3 PLANNED WPCP IMPROVEMENTS

The 1998 facilities plan identified a number of potential improvements to the WPCP. An excerpt from this study can be found at Exhibit D-2. These improvements were suggested to increase the reliability and performance of the WPCP and increase the wet weather capacity of the individual unit processes to match the capacity of the existing secondary system.

The actual construction of these improvements has been divided into 3 phases. The first phase focused on screening and pumping facilities. An excerpt from the Preliminary Engineering Report for this phase can be found in Exhibit D-3. The goal of second phase will be to address the primary system and transportation of the sewage from the primary system to the secondary system. An excerpt from the Preliminary Engineering Report for this phase can be found at Exhibit D-4. The final phase is intended to address the problem of discharging effluent during high river stage. The projects for this phase are also discussed in the Preliminary Engineering Report found at Exhibit D-4.

All of the new structures are being sized to increase the WPCP's overall wet weather capacity to that of the secondary system. However, some of the equipment required to increase the WPCP's capacity is not being installed until all the processes can handle the increased flow. This means that there will not be any substantial increase in the WPCP's wet weather treatment rate until the completion of the final phase.

The first phase was completed in early 2005. The second phase is expected to be completed in 2008. The final phase is scheduled to begin in 2014.

In addition to the above-described WPCP improvements, the City intends (as part of its LTCP) to implement improvements with respect to its CSO Ponds to provide for dewatering from the CSO Ponds to the WPCP during dry weather. The dewatering facilities are to be constructed in two phases. The first phase is scheduled to be completed during 2008 to allow immediate dewatering capabilities on a limited scale. Higher capacity dewatering improvements will be implemented later during the LTCP implementation period.

4.4 OPERATION OF THE WPCP

Currently, all WPCP components are used during wet weather operations. There are no unused tanks or process equipment. Once all phases of WPCP improvements are completed, a higher rate of treatment during wet weather will be possible. .

Chapter 2 identified several ways to store peak flows and release the stored flows as the WPCP has capacity. Therefore, the best way to increase flow through the WPCP is to utilize its non-peak unused capacity. This can be accomplished by treating all dry weather flow as it arrives at the WPCP, increasing treatment rates as flow rates to the WPCP increase, and run the WPCP at its maximum capacity until all stored flow is treated.

4.5 RECORDKEEPING

The projects listed in Exhibit D-2 should be considered part of the CSO LTCP not a minimum control because of their size and complexity. Progress on these projects will be included in LTCP progress reports.

WPCP records will be analyzed after each wet weather event to see that the WPCP works at capacity intended until all stored flows are treated.

DIRECTORY FOR APPENDIX D
(Items Presented in Order of Appearance in Appendix D)

EXHIBIT D-1

Exhibit D-1

DONOHUE & ASSOCIATES

City of Fort Wayne, Indiana
Unit Process Depiction of WPCP Capacity

The Water Pollution Control Plant (WPCP) of the City of Fort Wayne comprises the following three basic process units, characterized by the indicated hydraulic/treatment capacities (unless otherwise noted, capacities are based on all units/basins in service):

Preliminary Treatment	
Firm hydraulic capacity (less 1 pump)	60 mgd
Total hydraulic capacity (all pumps)	72 mgd
Grit removal performance deteriorates at	40 mgd [1]

Primary Treatment	
Maximum treatment capacity	60 mgd [2]

Secondary Treatment, Disinfection, and Polishing	
Maximum treatment capacity	60 mgd [3]

Comments:

[1] As reported by plant staff

[2] From preliminary treatment, flow is pumped to the primary clarifiers for primary treatment. At high flows (about 60 mgd), the weirs of the primary clarifiers are flooded and water enters the rotating scum pipes while they are in the "closed" position. Also, with flows of 70 mgd, the primary mechanism flights in the tanks are completely submerged. At these conditions, the primary clarifiers perform poorly. Operating records show that the removal efficiencies for TSS and BOD are 32% and 19%, respectively. The primary clarifiers should be able to achieve removal efficiencies for TSS and BOD up to 75% and 40%, respectively. The excess water that enters the scum pipes drain to the primary sludge wet well which is pumped to the digesters. The additional water from the scum pipes dilutes the sludge which reduces digestion performance and is energy intensive.

[3] After primary treatment, the wastewater enters the secondary treatment or activated sludge process. In 1996, a process stress test was performed to determine capacity of the secondary system. With all units in service, the secondary system could treat up to 85 mgd. However, to reach this capacity, design and construction of new preliminary treatment, primary treatment and some secondary facilities are needed to be able to transport 85 mgd through the secondary process. In October 2002, additional hydraulic testing was performed on the existing secondary system from the primary effluent channels through the secondary clarifiers. The testing showed the hydraulic capacity of the existing facilities is about 60 mgd. At this flow rate, the primary clarifier weirs will begin to flood. Finally, the plant is not able to discharge water from the plant at high river levels.

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EXHIBIT D-2

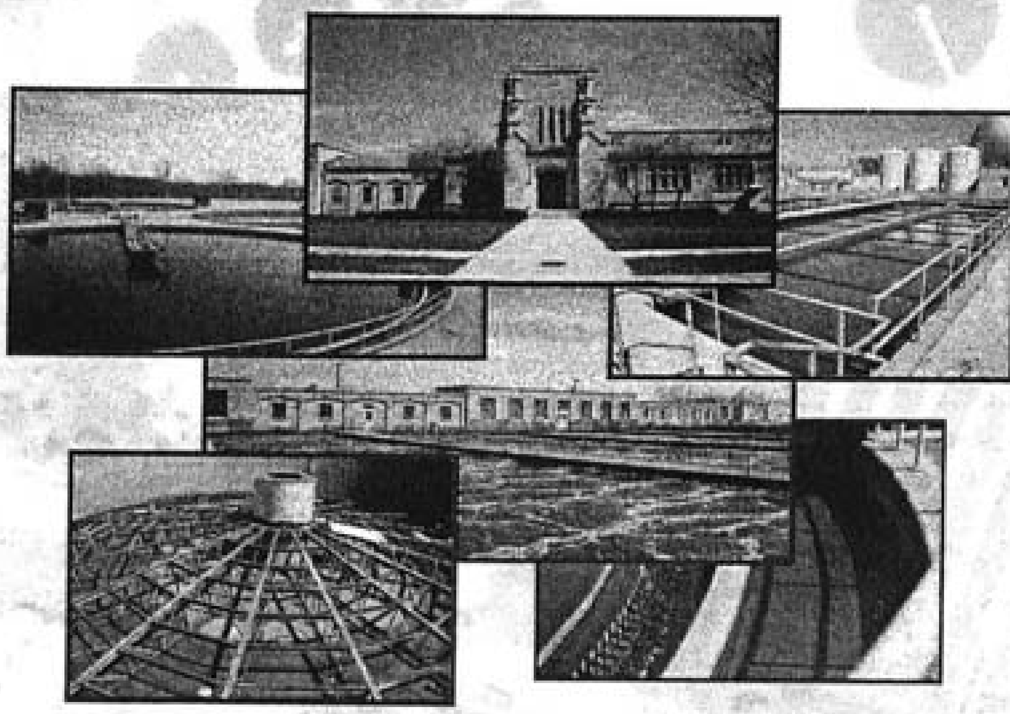
May 1998

City of Fort Wayne
Water Pollution Control Plant

Facilities Planning Study

Volume 1 of 2
REPORT

The City of Fort Wayne
City Utilities



DONOHUE & ASSOCIATES

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in association with

Greeley and Hansen
Environmental Management Consulting
EMA, Services, Inc.

A breakdown of the initial costs is presented in the following table. The estimates include the total cost of construction with contingencies and engineering. The initial cost has been indexed to an Engineering News Record (ENR) Construction Cost Index of 5900. (Note: The ENR Construction Cost Index stood at 5882.73 in April 1998.)

Initial Cost Estimate of Recommended Plan

Description	Plan A Pond 3 Used For Effluent Polishing ($ million)	Plan B Pond 3 Used For CSO Storage ($ million)
Preliminary Treatment Facilities		
Headworks and Screening	6.01	6.01
Raw Wastewater Pumping	5.96	5.96
Grit Removal	2.78	2.78
Septage Receiving	0.79	0.79
Subtotal	15.54	15.54
Primary Treatment Facilities		
Circular Primary Clarifiers	17.37	17.37
Primary Sludge Pumps	0.86	0.86
Subtotal	18.23	18.23
Secondary Treatment Improvements		
Clarifier Feed Channel Hydraulics	1.12	1.12
Clarifier Mechanism Rehabilitation	2.92	2.92
Clarifier Feed Channel Scum	0.14	0.14
West RAS Pumps (Clarifiers No. 1 - 6)	1.09	1.09
East RAS Pumps (Clarifiers No. 6 - 9)	0.44	0.44
Subtotal	5.71	5.71
Filtration	0	24.60
Disinfection: Hypochlorite and Bisulfite	1.65	0
Disinfection: Ultraviolet Light	0	5.32
Effluent Pump Station	1.92	1.92
WAS Handling Improvements	0.41	0.41
Anaerobic Digestion Improvements	3.39	3.39
Non-Process Facilities	5.57	5.57
Site Power Distribution	1.79	1.79
Flood Control	0.99	0.99
Plantwide I&C (EMA – April 1998)	1.92	1.92
TOTAL	**57.12**	**85.39**

ENR Construction Cost Index = 5900

TABLE 1 Plan A - Pond 3 Used For Effluent Polishing Construction Packaging and Annual Expenditure Plan

Package Description	Total ($ million)	1998 ($ million)	1999 ($ million)	2000 ($ million)	2001 ($ million)	2002 ($ million)	2003 ($ million)	2004 ($ million)	2005 ($ million)
Package 1									
Secondary Treatment: Feed Channel, East RAS, East Mech Rehab	3.00		3.00						
WAS Handling Improvements	0.41		0.41						
Disinfection: Bisulfite Facilities	0.45		0.45						
Package 2									
Preliminary Treatment Facilities	15.54		1.01	7.26	7.26				
Primary Treatment: 6 Clarifiers	13.74		1.19	6.28	6.28				
Site Power Distribution	1.79		0.12	1.68					
Flood Control	0.99		0.06	0.92					
Package 3									
Non-Process Facilities	5.57				0.36	3.90	1.30		
Package 4									
Anaerobic Digestion Improvements	3.39				0.22	3.17			
Package 5									
Hypochlorite	1.20					0.08	1.12		
Effluent Pump Station	1.92					0.13	1.79		
Package 6									
Secondary Treatment: West RAS, West Mech Rehab	2.72							2.72	
Package 7									
Primary Treatment: 2 Clarifiers	4.49								4.49
Plantwide I&C (EMA April, 1998)	1.92	0.50	0.63	0.46	0.18	0.16			
Total	**57.12**	**0.50**	**6.87**	**16.60**	**14.30**	**7.44**	**4.22**	**2.72**	**4.49**

Costs Indexed to Engineering News Record (ENR) Construction Cost Index = 5900

EXHIBIT D-3

EXHIBIT D-3

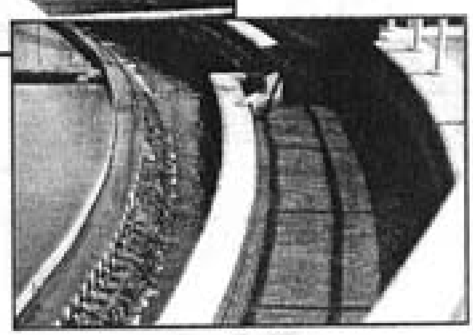
January 2001

City of Fort Wayne Water Pollution Control Plant

Preliminary Engineering Report

Phase II Package No. 1 PRELIMINARY AND SECONDARY TREATMENT IMPROVEMENTS

The City of Fort Wayne
City Utilities



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DONOHUE & ASSOCIATES

PREFACE
PROJECT SUMMARY

Introduction

This Preliminary Engineering Report (PER) is being prepared for review and approval by the Indiana Department of Environmental Management (IDEM) as part of the City of Fort Wayne's year 2000 request for State Revolving Loan Funds (SRF). This PER is intended to summarize portions of the work included in the previously completed "Facilities Planning Study" prepared for the City of Fort Wayne Water Pollution Control Plant, dated May 1998. That study addressed the Water Pollution Control Plant modifications needed for improved operations, additional capacity of certain process units, and included facilities needed for conformance with the Long Term Control Plan (LTCP) being prepared by the City. This PER is also intended to address additional issues, which were not discussed in the earlier study but are required for SRF participation in the construction of the facilities.

Project Purpose and Overview

This project is the first package of seven to expand and upgrade the plant to 85 mgd. Package No.1 is the construction of the preliminary treatment facilities for equipment that will handle 60 mgd presently and a structure that will provide space for future equipment to handle a peak flow of 85 mgd. The purpose of the proposed project is to rehabilitate or replace deteriorated facilities, meet the state and federal CSO Policy minimum control and long-term control plan requirements to maximize flow of wastewater at the wastewater treatment plant, and to meet future wastewater needs in the future area through the planning period to the year 2015. In addition to preliminary treatment improvements, this package includes rehabilitation of east secondary clarifiers and return sludge pumping facilities, septage receiving, upgrades to the electrical system, and flood control improvements.

The existing treatment plant was designed for a flow of 60 mgd. A stress test was conducted in 1995 that indicated that the secondary treatment facilities are capable of treating 85 mgd. This project is to design and construct preliminary treatment facilities (grit removal, screening, and influent pumping) and associated improvements so that 60 mgd of wastewater can reliably be delivered into the plant. In addition the preliminary treatment facilities will be structurally sized so that additional equipment can be installed in the future that will increase the peak flow to 85 MGD to match the capacity of the secondary facilities. Therefore this project will not increase the capacity of the existing plant at this time.

The overall plan to expand the treatment plant capacity to handle a peak flow of 85 mgd will be designed and constructed over a 13-year period. The plan includes design and construction of the facilities as described in 7 packages as shown below. **This project and PER is only for Package No. 1.**

Package 1 Preliminary and Secondary Treatment Improvements PhaseI

- Raw Wastewater Screening Facilities
- Raw Wastewater Pumping Facilities
- Grit Removal Facilities
- Septage Receiving Facilities
- Site Power Distribution (preliminary and primary only)
- Flood Control
- Secondary Treatment Improvements:
- Clarifier Effluent Flow Metering
- Stamford Baffles (1 clarifier only for testing)
- Clarifier Feed Channel Capacity Improvements

WAS Handling Improvements
East Clarifier Mechanism Rehabilitation
East RAS Pumps (Clarifiers No. 6 - 9)

Package 1 is scheduled for design, bid and award followed by a 2-year construction period. This is a large package that includes new wastewater screens, pumps and grit removal equipment (preliminary treatment facilities). New preliminary treatment facilities are desperately needed to remove debris from the wastewater. Since this project includes construction on the prior disturbed vacant land west of the existing main plant, this package includes the new flood control levee and the new site power distribution system. Package 1 includes improvements to increase the hydraulic capacity for all of the secondary clarifiers. This package includes rehabilitation of the mechanisms for the east clarifiers, the oldest of the secondary clarifiers, and replacement of the east clarifier RAS pump drives.

Future Design and Construction Packages are as follows:

Package 2 Digestion Improvements Phase I
Cover Replacement for Digesters 5 and 6
Installation of Mixers for Digesters 5 and 6

This package provides replacement of the digester covers for tanks 5 & 6. The mixers were purchased as a part of a previous contract but could not be installed on the existing old covers due to structural deterioration.

Package 3 Primary Treatment Improvements Phase I
4 of 8 Primary Clarifiers
6 of 12 Primary Sludge Pumps

Package 4 replaces the existing primary clarifiers with 4 new primary clarifies that will handle up to 60 mgd.

Package 4 Disinfection and Effluent Pump Station
Sodium Hypochlorite and Bisulfite Facilities
Effluent Pump Station

Replacement of the existing gaseous chlorine system, including shipment by railcar and storage in 55-ton tanks, will be accomplished in Package 4 by the addition of new sodium hypochlorite storage and feed facilities. Sodium bisulfite facilities will be added at pond No.3 for dechlorination of the effluent. The new effluent pump station for pumping secondary effluent is also included in this package.

Package 5 Non-Process Facilities
Non-Process Facilities

Construction of the non-process facilities in Package 5 includes new administration and personnel areas in the Main Control Building and a new vehicle storage garage. Construction of this package is scheduled to begin as soon as startup and operation of the new primary treatment facilities provided in Package allow the existing preliminary treatment facilities located in the basement of the Main Control Building to be abandoned or demolished.

Package 6 Preliminary, Primary, Secondary and Digestion Improvements Phase II

4th of 4 Raw Wastewater Screens
6th of 6 Raw Wastewater Pumps
5th and 6th of 8 Primary Clarifiers
4 of 6 Remaining Primary Sludge Pumps
Secondary Treatment Improvements:
West Clarifier Mechanism Rehabilitation
West RAS Pumps (Clarifiers No. 1 - 5)
Stamford Baffles (8 remaining clarifiers)
Clarifier Scum Channel Improvements
4th of 4 Effluent Pumps
Heat Exchangers for Digesters 5 and 6

Package 6 provides preliminary, primary treatment and effluent pumping for the plant to handle a peak flow of 85 mgd. The heat exchanges for digester 5 and 6 are added to allow the digesters to operate as high rate primary tanks.
This package includes rehabilitation of the mechanisms for the west secondary clarifiers. Replacement of the existing airlift RAS pumps for the west secondary clarifiers with new submersible RAS pumps. Stamford baffles would be installed in the remaining 8 clarifiers to handle the higher flow and the secondary clarifier scum channels would be automated for unmanned operation.

Package 7

Primary Treatment: 2 Clarifiers
Primary Sludge Pumps: 2 Remaining

The 2 remaining primary clarifiers, with associated sludge pumping equipment, are included in Package 7. These clarifiers do not need to be constructed until wastewater BOD_5 and suspended solids increase to the point that the activated sludge process cannot consistently nitrify the waste.

Plantwide I&C

The plantwide instrumentation and control work will be performed concurrent with other construction packages.

Construction Cost Estimate

The initial cost for the recommended plan for Package No. 1 is $ 22.63 million

A breakdown of the construction costs is presented in the following table. The estimates include the total cost of construction with contingencies. The construction cost has been indexed to an Engineering News Record (ENR) Construction Cost Index of 6266. (Note: The ENR Construction Cost Index stood at 6265.63 in November 2000.)

Construction Cost Estimate of Recommended Plan

Description	Package 1 ($ million)
Preliminary Treatment Facilities	
Headworks and Screening	5.03
Raw Wastewater Pumping	5.16
Grit Removal	2.57
Septage Receiving	0.73
84" Sewage Conduit	0.74
Piping Tunnel	1.47
Subtotal	15.70
Secondary Treatment Improvements	
Clarifier Feed Channel Hydraulics	0.02
East Clarifiers Mechanism Rehabilitation	1.20
Clarifier Effluent Metering	0.07
Stamford Baffles (1 Clarifier)	0.10
East RAS Pumps (Clarifiers No. 6 - 9)	0.41
WAS Handling Improvements	0.38
Subtotal	2.18
Site Power Distribution	1.31
Flood Control	0.91
Site Work & Yard Piping	0.05
Plantwide I&C	0.43
Subtotal	20.58
Contingency 10%	2.05
TOTAL	22.63

ENR Construction Cost Index = 6266

SELECTED PLAN COST SUMMARY

Item	Total Cost
Non-Construction Costs	
Administrative and Legal	$ 200,000
Land & Rights-of-way Acquisition	$ -
Relocation	$ -
Engineering Fees	
Design	$ 1,200,000
Construction	$ 250,000
Other	$ 500,000
Project Inspection	$ 1,500,000
Costs Related to Plant Start-up	$ 520,000
Non-Construction Subtotal	$ 4,170,000
Construction and Equipment Subtotal	$ 20,580,000
Contingencies	$ 2,050,000
TOTAL PROJECT COST	**$ 26,800,000**

EXHIBIT D-4

EXHIBIT D-4

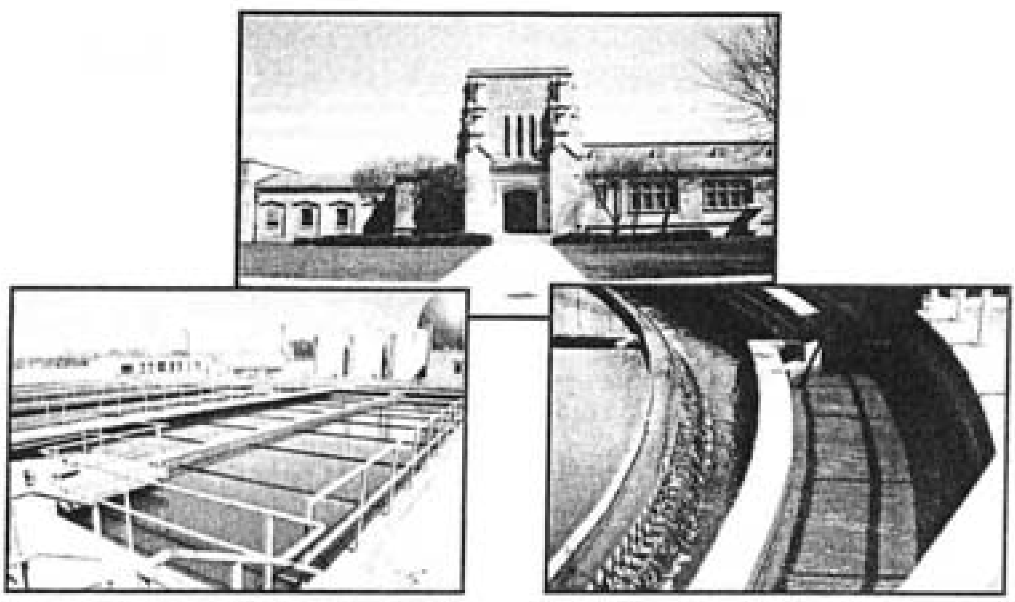
June 2003

City of Fort Wayne Water Pollution Control Plant

Preliminary Engineering Report

Primary Clarifiers and Other Plant Upgrades

The City of Fort Wayne
City Utilities



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DONOHUE & ASSOCIATES

PREFACE
PROJECT SUMMARY

Introduction

This Preliminary Engineering Report (PER) is being prepared for review and approval by the Indiana Department of Environmental Management (IDEM) as part of the City of Fort Wayne's year 2002 request for State Revolving Loan Funds (SRF). This PER is intended to summarize portions of the work included in the previously completed "Facilities Planning Study" prepared for the City of Fort Wayne Water Pollution Control Plant, dated May 1998. That study addressed the Water Pollution Control Plant modifications needed for improved operations, additional capacity of certain process units, and included facilities needed for conformance with the Long Term Control Plan (LTCP) prepared by the City and submitted to IDEM for approval. This PER is also intended to address additional issues, which were not discussed in the earlier study but are required for SRF participation in the construction of the facilities.

Project Purpose and Overview

The "Facilities Planning Study" outlined a build-out plan of seven packages to expand and upgrade the plant from 60 mgd to 85 mgd. WPCP Improvements Package No.1 Preliminary and Secondary Treatment Facilities is under construction. Package No. 1 includes improvements to the preliminary and secondary treatment facilities. The preliminary treatment facilities improvements will handle 60 mgd presently and provide space for future equipment to handle a peak flow of 85 mgd. Secondary improvements are being made to the east plant secondary clarifiers, east return activated sludge (RAS) pumps, and the RAS and WAS metering and piping system for the entire plant.

The City has decided to change the sequence of the build-out plan to meet replacement needs of the primary treatment process due to structural deterioration and poor performance. The next project is a combination of construction packages as discussed in the "Preliminary Engineering Report, Phase II Package No. 1 Preliminary and Secondary Treatment Improvements", June 2001. The project includes: new primary clarifiers, a third fine pore bar screen, new chemical phosphorus removal facilities, new disinfection (sodium hypochlorite and sodium bisulfite), new west plant RAS pumps, secondary clarifier scum channel improvements, Stamford Baffles for eight secondary clarifiers, basin drain pumping facilities, a new south primary effluent conduit, a new outfall and site improvements. The purpose of the proposed project is to rehabilitate or replace deteriorated facilities, to meet the state and federal CSO Policy minimum control and long-term control plan requirements for maximizing flow of wastewater at the wastewater treatment plant, and to meet future wastewater needs through the planning period to the year 2025.

The existing treatment plant was designed for a flow of 60 mgd. A stress test was conducted in 1995 that indicated that the secondary treatment facilities are capable of treating 85 mgd. This project is to design and construct primary treatment facilities and make other facility improvements so that 60 mgd of wastewater can reliably be treated at the plant. The primary treatment facilities will be designed to accommodate a future peak flow of 85 MGD to match the capacity of the secondary facilities. This project will not increase the capacity of the existing plant at this time.

The overall plan to expand the treatment plant capacity to handle a peak flow of 85 mgd will be designed and constructed as required by the long-term control plan. The facilities to be constructed in the future include the following:

Cover Replacement for Anaerobic Digesters 5 and 6
Installation of Mixers for Digesters 5 and 6
Heat Exchangers for Digesters 5 and 6
Effluent Pumping Station
Non-Process Facilities
Raw Wastewater Pumps 5 and 6
Septage Receiving Facilities

Plant wide instrumentation and control work will be designed and implemented concurrent with the construction of facilities.

Construction Cost Estimate

The initial cost for the recommended plan for the Primary Clarifier and Other Upgrades Project is $ 29.83 million. A breakdown of the construction costs is presented in the following table. The estimates include the total cost of construction with contingencies. The estimate is based on the April 1998 Facilities Plan Costs. The construction cost has been indexed to an Engineering News Record (ENR) Construction Cost Index of 6502 plus 6% for bidding in 2004. (Note: The ENR Construction Cost Index stood at 6502 in March 2002.)

These costs are different then the costs shown in Chapter 4 because these costs are installed costs with the common elements of the system included. The costs in Chapter 4 are for the non-common items and are for comparison purposes. Also the costs in Chapter 4 do not include indexing for the construction period unless it is noted.

To support the following construction cost estimate; supplemental breakdown information is provided at the end of this chapter. The construction cost estimates include the installed cost with the Indexing.

Construction Cost Estimate of Recommended Plan

Description	Primary Project Dollars
Preliminary Treatment Facilities	
Fine Screen	703,237
Primary Treatment Facilities	
New Primary Clarifier Facilities	17,564,990
Phosphorus Removal Facilities	522,619
Primary Effluent Conveyance Improvements	
New South 84"PE to Aeration Basins	1,671,245
New South 36" PE to West Plant Aeration Basins	833,023
Improvements to Existing 60"PE to Aeration Basins	275,795
Secondary Treatment Facilities	
West RAS Pumping Facilities	919,796
Secondary Clarifier Improvements	659,208
Disinfection Facilities	1,536,829
Other Site Improvements	
Remove Existing Screening, Grit, and Pumping Facilities	220,000
Demolish Existing Primary Clarifiers & Prep Site	1,260,000
Outfall Sewer	140,000
North Access Road Improvements	100,000
Basin Drain Facilities	311,453
Site Power Distribution	400.000
Subtotal	27,118,182
Contingency 10%	2,711,818
TOTAL	**29,830,014**

ENR Construction Cost Index = 6502 plus 6% for 2004 bidding

Selected Plan Cost Summary

The selected plan cost summary includes the Non-Construction Costs, Construction Cost and Contingency. The Administrative and Legal cost are estimated for the City to pay for legal council as a part of this project. The Design fee is for the design firm (Donohue) to design the selected plan Primary Clarifiers and Other Upgrades. Construction fee is for the design firm (Donohue) to provide services during construction such as shop drawing review, engineer site visits, response to contractor and Project Manager questions and record drawings. Other fees are for the Project Manager to provide Resident Engineering and Construction Contract Management Services. The Project Inspection fees are for the Project Manager to provide full time on-site inspection during construction. Other Related Costs to Plant Start-up fees are for the designer (Donohue) to provide programming of the automation, write the O & M manual, train the staff in the operation of the facilities, develop and deliver standard operating procedures, and assist with start-up and fine tuning of the facilities.

Item	Total Cost
Non-Construction Costs	
Administrative and Legal	$ 200,000
Land & Rights-of-way Acquisition	$ -
Relocation	$ -
Engineering Fees	
Design	$ 1,800,000
Construction	$ 600,000
Other	$ 500,000
Project Inspection	$ 1,500,000
Costs Related to Plant Start-up	$ 569,986
Non-Construction Subtotal	$ 5,169,986
Construction and Equipment Subtotal	$ 27,118,194
Contingencies	$ 2,711,820
TOTAL PROJECT COST	**$ 35,000,000**

5.0 ELIMINATION OF CSOs DURING DRY WEATHER

5.1 OVERVIEW

Overflows from the CSS add pollutants to receiving waters. The CWA's NPDES program prohibits dry weather overflows. The fifth of the nine minimum controls described in EPA's NMC Guidance addresses measures taken towards the elimination of CSOs during dry weather. By eliminating dry weather overflows from the CSS, the pollutant loadings in the receiving waters can be reduced. The City's WPCP and combined sewer interceptor sewer system (including its diversion structures and/or regulators) were designed to handle dry weather flows without overflows. Therefore, most dry weather combined sewer overflows (DWOs) can be prevented through proper monitoring, operation, and maintenance of the CSS.

Overflow control is accomplished through a cycle of activities affecting the CSS. The activities include: operation, inspection, maintenance, and modification. In this Chapter the appropriate operating, inspection, and maintenance procedures presented in Chapter 1 will be referenced and the process for analyzing past DWOs will be discussed. All DWOs, if any, will be analyzed at least annually and recommendations for improvements will be developed. All appropriate actions will be taken to eliminate a re-occurrence of a DWO.

5.2 OPERATING, INSPECTING, AND MAINTAINING

DWOs originate in sewers of the CSS. Because, in the City's experience, DWOs most frequently occur in connection with regulators, the City's efforts to continue to eliminate DWOs focus on its diversion structures and associated regulators. Table 5-1 lists overflow discharge point permit numbers, the corresponding City structure ID #'s, and upstream regulator City structure ID #'s. Figure 5-1 shows the locations of the overflow discharge points and upstream regulators. The City has a total of 51 regulators, of which 20 are mechanical (float operated). Only 9 of these are operational currently. The regulator gates of the others have been chained open to maximize flow to the WPCP. The remaining regulators are diversion type regulators (where surcharging is diverted into another pipe). One of these regulators is controlled by a pump station where the quantity of flow sent to the WPCP for treatment is determined by the capacity of the pumps. Flows in excess of the pump capacity become overflows. Additional summary information on diversion structures and regulators can be found in Table 4-1 of Exhibit A-1.

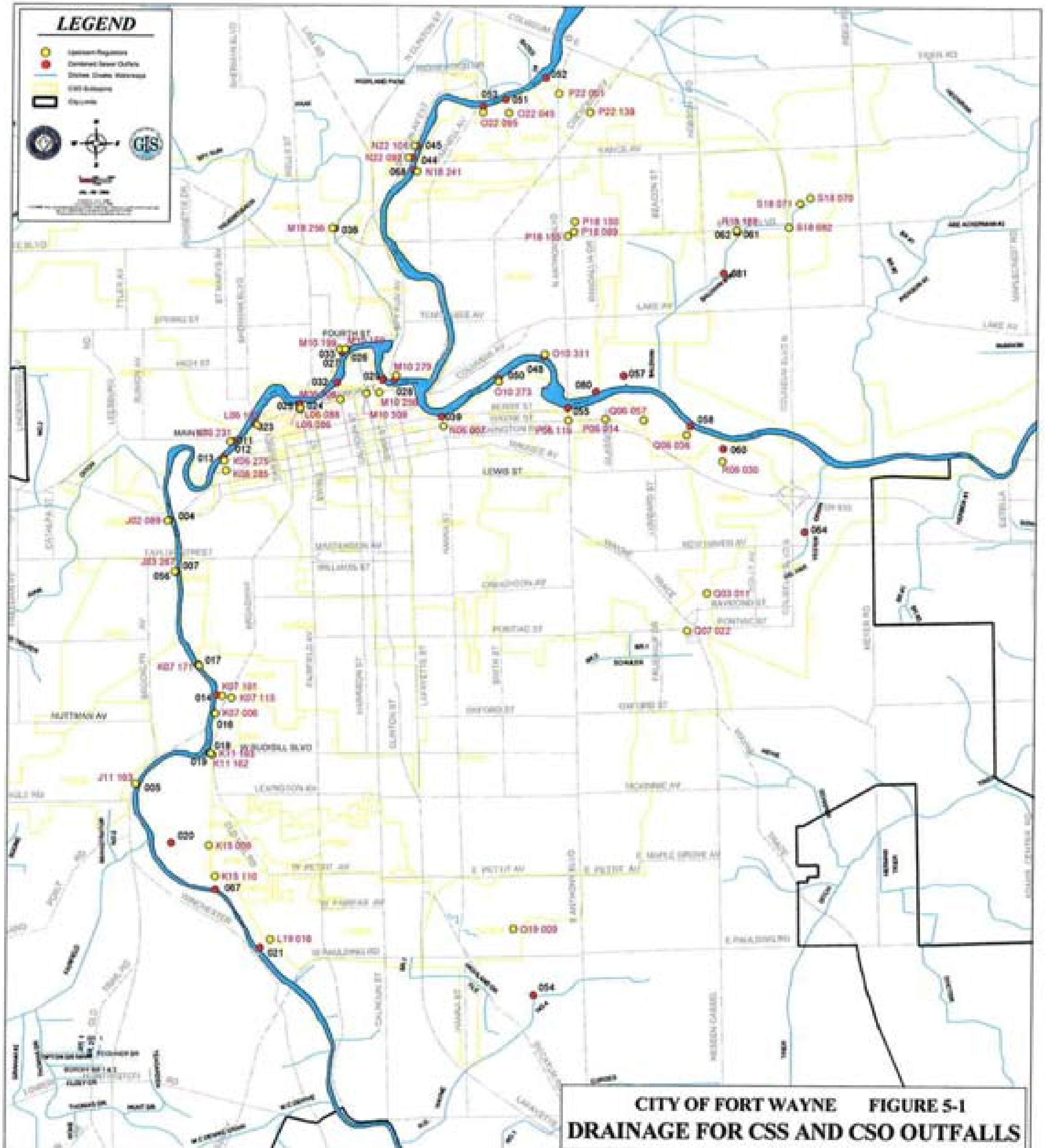

LEGEND
CITY OF FORT WAYNE FIGURE 5-1
DRAINAGE FOR CSS AND CSO OUTFALLS

TABLE 5-1
July 2006

Discharge Point	Discharge Point	Upstream Regulator
Permit #	City ID #	City ID #
004	J02-090	J02-089
005	J11-164	J11-163
007	K03-092	J03-267
011	K06-233	K06-231
012	K06-234	K06-231
013	K06-298	K06-275
		K06-285
014	K07-106	K07-101
		K07-115
016	K07-109	K07-006
017	K07-176	K07-171
018	K11-165	K11-163
019	K11-178	K11-162
020	K15-116	K15-009
021	K19-044	L19-018
023	L06-103	L06-102
024	L06-420	L06-088
025	L06-421	L06-086
026	M10-151	M10-150
		M10-199
027	M10-202	M10-199
028	M10-238	M10-279
029	M10-265	M10-256
		M10-309
032	M10-306	M06-007
033	M10-313	M10-199
036	M18-032	M18-256
039	N06-022	N06-706
044	N22-093	N22-092
045	N22-103	N22-101
048	O10-252	O10-311
050	O10-277	O10-273
051	O22-002	O22-045
052	O22-004	P22-001
		P22-139
053	O22-094	O22-095
054	O23-080	O19-009

055	P06-192	P06-119
056	J03-313	J03-267
057	P10-121	P06-014
		Q06-057
058	Q06-034	Q06-036
060	R06-031	R06-030
061	R14-137	S18-082
062	R14-138	R18-188
064	S02-035	Q07-022
		Q03-011
067	K19-077	K15-110
068	N18-254	N18-241
*080***	P10-001	P18-150
		P18-089
		P18-155
*081***	R14-032	S18-070
		S18-071

* See Exhibit E-1 of this Chapter for locations of the discharge points
***assumed number, to be determined/verified upon proposed NPDES permit modification*

5.2.1 Operation

The operation of the regulators is discussed in Chapter 1. Details, including construction drawings (when available), operating procedures and operating parameters concerning each regulator are kept in the City's Planning & Design Services library in the City/County Building

5.2.2 Inspections

Two types of inspections occur with respect to regulators. The first type is operational inspections which monitor system activities and regulator performance. Such inspections currently occur daily during on weekdays and on weekends in connection with rain events. The second type of inspections is annual structural inspections. These inspections further assess the need for repairs and replacement work.

5.2.3 Maintenance

The type of maintenance required by each regulator varies by regulator type and location. Exhibits A-1 and A-2 of Chapter 1 contain detailed maintenance procedures and schedules for each regulator in the CSS.

5.3 ANALYSIS OF PAST DWOs

5.3.1 Purpose

The purpose of analyzing past DWOs is to identify any DWO cause that can be addressed by modifying facilities or procedures.

5.3.2 Process

The steps of the DWO analysis process are:

- Gather copies of all DWO reports that have been submitted to IDEM during the period of interest
- Describe the cause of each DWO and sort the reports by cause.
- Sort the reports by DWO by time of year.
- Sort reports by location.
- Review the appropriate regulator details to identify the system components and functions.
- Identify any component that malfunctioned.
- Make recommendations to eliminate, if feasible, the cause or source of each DWO.

This process has been utilized to analyze DWOs since January 1, 1997. The report on this process for the years 1997-2004 is at Exhibit E-2. Recommendations that resulted from the report are stated within Exhibit E-3.

5.4 RECORDKEEPING

Records concerning each calendar year's DWOs will be annually assembled as outlined above and added to Exhibit E-4. .

Nine Minimum Controls – No. 5

DIRECTORY FOR APPENDIX E
(Items Presented in Order of Appearance in Appendix E)

EXHIBIT E-1

EXHIBIT E-1

ATTACHMENT A

Precipitation Related Combined Sewer Overflow Discharge Authorization Requirements

I. Discharge Requirements

A. The permittee is authorized to discharge from the outfalls listed below, subject to the requirements and provisions of this permit, including Attachment A.

Overflow Point	Location	Receiving Water
004	J02-90, 210' South of bridge at W. Jefferson & St. Mary's River Latitude 41° 04' 16" Longitude 85° 09' 44"	Saint Mary's River
005	J11-164, 210' Southeast of Manito Blvd. & Indiana Village Blvd. Latitude 41° 02' 50" Longitude 85° 09' 59"	Saint Mary's River
007	K03-92, 250' Southeast of Electric Ave. & Brown St. Latitude 41° 03' 59" Longitude 85° 09' 41"	Saint Mary's River
011	K06-233, 230' Southeast of Main St. & Camp Allen Dr. Latitude 41° 04' 42" Longitude 85° 09' 17"	Saint Mary's River
012	K06-234, 230' Southeast of Main St. and Camp Allen Dr. Latitude 41° 04' 42" Longitude 85° 09' 17"	Saint Mary's River
013	K06-298, 80' North of Thieme Dr. & Berry St. Latitude 41° 04' 37" Longitude 85° 09' 22"	Saint Mary's River
014	K07-106, 60' West of Dinnen Ave. and Packard Ave. Latitude 41° 03' 19" Longitude 85° 09' 23"	Saint Mary's River
016	K07-109, 280' Southwest of Broadway & Kinsmoor Ave. Latitude 41° 03' 13" Longitude 85° 09' 25"	Saint Mary's River
017	K07-176, 130' Southwest of St. Mary's Pkwy &Waldron Circle Latitude 41° 03' 29" Longitude 85° 09' 32"	Saint Mary's River
018	K11-165, 150' West of Broadway & Rudisill Blvd. Latitude 41° 03' 00" Longitude 85° 09' 28"	Saint Mary's River
019	K11-178, 150' West of Broadway & Rudisill Blvd. Latitude 41° 03' 00" Longitude 85° 09' 28"	Saint Mary's River

EXHIBIT E-1

020	K15-116,1300' West of Hartman Rd. & Westover Rd. Latitude 41° 02' 33" Longitude 85° 09' 41"	Saint Mary's River
021	K19-044, 850' West of Old Mill Rd. & Fairfax Ave. Latitude 41° 01' 57" Longitude 85° 09' 05"	Saint Mary's River
023	L06-103, 90' Northwest of Jackson St. & Superior St. Latitude 41° 04' 47" Longitude 85° 09' 09"	Saint Mary's River
024	L06-420, 220' North of Superior St. & Fairfield Ave. Latitude 41° 04' 54" Longitude 85° 08' 48"	Saint Mary's River
025	L06-421, 220' North of Superior St. & Fairfield Ave. Latitude 41° 04' 54" Longitude 85° 08' 49"	Saint Mary's River
026	M10-151, 310' East of Third St. & Calhoun St. Latitude 41° 05' 12" Longitude 85° 08' 28"	Saint Mary's River
027	M10-202, 200' Southeast of Third St. & Calhoun St. Latitude 41° 05' 11" Longitude 85° 08' 30"	Saint Mary's River
028	M10-238, 150' East of Saint Mary's River Bridge & Spy Run Ave. Latitude 41° 05' 02" Longitude 85° 08' 07"	Saint Mary's River
029	M10-265, 230' East of Duck St. & Barr St. Latitude 41° 05' 02" Longitude 85° 08' 13"	Saint Mary's River
032	M10-306, 120' North of Clair St. & Harrison St. Latitude 41° 05' 01" Longitude 85° 08' 33"	Saint Mary's River
033	M10-313, 200' Southeast of Third St. & Calhoun St. Latitude 41° 05' 11" Longitude 85° 08' 30"	Saint Mary's River
036	M18-032, 520' North of State Blvd. & Westbrook Dr. Latitude 41° 05' 52" Longitude 85° 08' 34"	Spy Run Creek
039	N06-022, 120' North of Hanna St. & Berry St. Latitude 41° 04' 50" Longitude 85° 07' 48"	Maumee River
044	N22-93, 150' East of Dalgreen Ave & Spy Run Ave. Latitude 41° 06' 15" Longitude 85° 08' 00"	Saint Joseph River
045	N22-103, 100' East of Penn St. & Spy Run Ave. Latitude 41° 06' 19" Longitude 85° 07' 58"	Saint Joseph River
048	O10-252, 350' West of Edgewater & Garfield Latitude 41° 05' 08" Longitude 85° 07' 54"	Maumee River

EXHIBIT E-1

050	O10-277, 100' North of Coombs St. & Herbert St. Latitude 41° 05' 03" Longitude 85° 07' 21"	Maumee River
051	O22-002, 120' Northwest of St. Joseph Dr. & Woodrow Ave. Latitude 41° 06' 41" Longitude 85° 07' 03"	Saint Joseph River
052	O22-4, 370' West of N. Anthony Blvd. & St. Joseph River Dr. Latitude 41° 06' 43" Longitude 85° 06' 32"	Saint Joseph River
053	O22-094, 200' East of Parnell Ave bridge & the St. Joseph River Latitude 41° 06' 32" Longitude 85° 07' 29"	Saint Joseph River
054	O23-080, 240' East of Mercer Ave. & Hollis Ln. Latitude 41° 01' 41" Longitude 85° 07' 07"	Natural Drain #4
055	P06-192, 430' North of N. Anthony Blvd. & Wayne St. Latitude 41° 04' 52" Longitude 85° 06' 53"	Maumee River
056	J03-313, Brown Street Pump Station Latitude 41° 05' 06" Longitude 85° 06' 32"	Saint Mary's River
057	P10-121, Stormwater Liftstation Wet Well Latitude 41° 05' 02" Longitude 85° 06' 28"	Maumee River
058	O06-34, 390' Northwest of Edsall Ave. & Dwenger Ave. Latitude 41° 04' 46" Longitude 85° 05' 59"	Maumee River
060	R06-31, 670' Northeast of Greenwalt Ave. & Maumee Ave. Latitude 41° 04' 37" Longitude 85° 05' 39"	Unnamed Ditch to Maumee River
061	R14-137, 200' West of Lavern Ave. & State Blvd. Latitude 41° 05' 50" Longitude 85° 05' 40"	Baldwin Ditch
062	R14-138, 200' West of Lavern Ave. & State Blvd. Latitude 41° 05' 50" Longitude 85° 05' 40"	Baldwin Ditch
064	S02-35, 610' Southeast of Coliseum Blvd. S. & New Haven Ave. Latitude 41° 04' 16" Longitude 85° 05' 11"	Unnamed Ditch to Maumee River
067	K19-077, 310' Southeast of Hartman Rd. & Foster Park Dr. (Lat/Long data not available)	Saint Mary's River
068	N18-254, 54' North of Northside Dr. & Glazier Ave. on east bank (Lat/Long data not available)	St. Joseph River

EXHIBIT E-1

Overflow Point	Location	Receiving Water
080	P10-001, 250' northeast of Niagra & Pemberton Latitude $41^0 04'57"$ Longitude $85^0 06'44"$	Maumee River
081	R14-032, 200' north and 710' west of Nevada and Laverne Latitude $41^0 05'37"$ Longitude $85^0 05'46"$	Baldwin Ditch

EXHIBIT E-2

Prior to 1940 when the sewage treatment plant was built, all of Fort Wayne's sewers carried sewage directly to the city's rivers. Most of the sewers built prior to this time were combined sewers. They carried both sewage and stormwater. When the treatment plant was built it was sized to treat a volume approximately equal to the sewage generated by the City at that time.

A system of interceptor sewers was built at the same time the sewage treatment plant was built. The purpose of the interceptors was to collect and transport sewage to the new treatment plant. The interceptors crossed or "intercepted" the existing sewers just before the existing sewers discharged into the City's rivers.

Structures called regulators were built at these crossings. The purpose of the regulators was to regulate the flow to the treatment plant. Each regulator was adjusted so that the maximum flow from all the regulators was equal to the flow the treatment plant could treat without damaging the treatment process. These maximum flows were high enough to direct all dry weather flows to the treatment plant for treatment. These structures allowed sewage flows to discharge to the rivers only during wet weather events when the peak flows exceeded the treatment plant's capacity.

Even today combined sewage flows will not go to the river during dry weather if the system is working as designed and built.

This infrastructure remains in place although adjustments have been made over time as the Water Pollution Control Plant's hydraulic capacity increased in the 1960's and 1970's. However, beginning in the 1960's, all new sewer construction was designed and installed as separate storm sewers and sanitary sewers.

The purpose of this study is to review past dry weather overflows (DWOs) from the CSS to categorize the causes of DWOs and identify ways to prevent or reduce the occurrences of DWOs. The study will list the location, date, cause, and actions taken to eliminate each DWO reported between 1/1/97 and 1/31/04.

1. Initial Analysis

Copies of all DWO reports were acquired from Fort Wayne's Water Pollution Control Maintenance Department. A total of 45 DWOs were reported. The report format has evolved and the authors of the reports have changed over the years so the information available varies slightly from report to report. Copies of the report are in Appendix A.

The DWO reports were sorted by location, cause, and time of the year. The total number of incidents in each category may vary slightly because of the different information contained on each report.

The causes of overflows were grouped into 5 general categories; obstructions within the regulator, obstructions in the sewer downstream of the regulator, electrical malfunction of the regulator, mechanical malfunction of the regulator, and human error. The cause group and overflow frequencies are shown in Table 1.

Table 1

Cause Group	**Overflow Occurrences**
Obstruction within regulator	19
Obstruction downstream of regulator	8
Regulator electrical malfunction	9
Regulator mechanical malfunction	3
Human error	1
Unknown	5

Overflows were also grouped by the time of year during which they occurred. Fifteen occurred during January, February, and March. Fifteen occurred during April, May, and June. Ten occurred during July, August, and September. And thirteen occurred during October, November, and December.

There are 50 regulators in Fort Wayne's combined sewer system. DWOs were reported at 16 identifiable sites during the study period. Multiple occurrences were reported at 8 identifiable sites and single occurrences were reported at 8 identifiable sites. The location and DWO frequency at the location are shown in Table 2.

Table 2

Regulator SIP #	**Overflow Occurrences**
J11-163	10
K15-009	6
P06-119	5
L19-018	4
O10-311	4
J03-267	3
O22-004 (Discharge Point)	2
M10-150	2
K11-162	1
M18-256	1
S18-082	1
K07-171	1
K06-231	1
O22-045	1
K06-285	1
O10-273	1
Unidentified	1

2. Assessment of DWO Causes

2.1. Obstructions Within The Regulator

All the obstructions within the regulators occurred in mechanical regulators with float operated regulator gates.

These obstructions appear to have been caused by debris that had become snagged on the regulator gate assemblies or at the transition from large diameter pipe to significantly smaller openings to the regulator chamber. Often the debris was not typical sewage solids. It contained bricks, lumber, fiberglass pieces, twine, wooden spools, rags, or large quantities of paper towels.

Mechanical regulators with float operated gates should be inspected frequently to determine if there is any reduction in base dry weather flow passing through the regulator. This could be a sign of debris build up. If reduced flow is seen, the regulator should be cleaned immediately.

2.2. Obstructions Downstream of The Regulator

The causes of obstructions downstream of regulators were not any different than the causes for obstructions in a typical gravity sewer. The results of obstructions downstream of regulators often are more serious than obstructions in a typical gravity sewer because an obstruction downstream of a regulator often results in an overflow to the river where an obstruction in a typical gravity sewer just results in surcharging.

The cleaning and repair of sewer segments just downstream of regulators should be given a higher priority than the cleaning and repair of typical gravity sewers.

2.3. Electrical Malfunctions

Electrical components in a sanitary sewage environment do not have a long life expectancy. They will require frequent testing and replacement.

The power feed from the local power company turned out to be the biggest factor at the 2 locations where electrical malfunctions were identified.

2.4. Mechanical Malfunctions

Like electrical components mechanical components are subject to attack in a sanitary sewage environment and require frequent maintenance and replacement.

Redundant mechanical systems are very difficult to provide. Therefore, an alternative to frequent maintenance and replacement may be conversion to a static regulator without moving parts.

2.5. Human Error

Although this has not been a major problem in the Fort Wayne system it should be taken into consideration when developing procedures for maintenance.

3. DWO Timing

There does not seem to be a clear pattern related to time of the year.

4. DWO Sites

4.1. J11-163

Ten DWOs have been reported at this site. They began in November 2001. The last DWO was reported in May of 2003. The DWO reports indicate that there have been blockages in the section of pipe that connects the diversion area with the regulator chamber, in the downstream siphon, in a downstream manhole, and in a section of downstream gravity sewer. All these components have been cleaned and put on a regular cleaning schedule.

In 2003 a grate was installed over the orifice to the regulator chamber. The purpose was to catch debris before it got into the downstream regulator gate and siphon. Since its installation the grate has become plugged with paper towels and shop rags. The City's industrial pretreatment group has been trying to find the source of this debris.

It is too early to determine if these actions are controlling the DWO problem at this site. Investigations are ongoing. If these actions do not satisfactorily control the overflows, a major reconstruction project may be necessary to reduce the number of DWOs that are occurring.

4.2. K15-009

Six DWOs have been reported at this site. This is one of two sites in Fort Wayne where the flow is regulated by a hydraulically operated gate connected to electronic float switches. From mid 1999 to mid 2000 this site was plagued by electrical problems that resulted in DWOs. These problems were traced to the power supplied by the local power company and seem to have been solved since there haven't been DWOs caused by electrical malfunctions since August 2000.

4.3. P06-119

Five DWOs have been reported at this site. This is a mechanical regulator with a float operated regulator gate. All 5 DWOs were caused by debris collecting on the regulator gate and blocking the narrow passage between the diversion chamber and the regulator gate chamber. The procedures discussed in section 2.1 above should be implemented here.

4.4. L19-018

Four DWOs were reported at this site. All were reported between May and November of 1997. All were caused by bad pipe downstream of the regulator. This pipe was replaced and no DWOs have been reported since.

4.5. O10-311

Four DWOs were reported at this site. A pump station that pumps dry weather flow to the treatment plant is located at this site. If the flow exceeds what this pump station can handle it is diverted to another set of pumps that pumps the overflow into the river. There have been 3 causes of overflows at this site:

- Faulty equipment was installed during a project designed to upgrade the site's reliability. This equipment has been replaced.
- A backup power source was run to the pump stations. There was a problem with the power supplied and the automatic switch would not work properly. The quality of electrical power has since been improved by the local power company.
- Debris such as bricks and timber is getting trough the screens and damaging the sanitary pumps. No solution has been found for this problem.

4.6. J03-267

Three DWOs have occurred at this site. Two of the overflows were a result of mechanical malfunctions. A float operated mechanical regulator at this site was completely rehabilitated in 1997. The regulator gate had been chained open prior to the rehabilitation. The third overflow was caused by a contractor who was testing pumps and accidentally pumped sewage in the wet well into the river.

The regulator gate is again chained open and the pump testing procedures have been modified.

4.7. O22-004

Two DWOs have been reported at this discharge point. The first overflow probably occurred at regulator O22-139. The cause and repair were not clearly identified in the report. The second overflow probably occurred at regulator O22-001. It appears that roots had obstructed the flow in the gravity pipe downstream of the regulator. The procedures discussed in section 2.2 above should be implemented here.

4.8. K11-162

Two DWOs have been reported at this regulator. Both were caused by debris blocking the dry weather flow though the regulator. In one case a 3' diameter wooden wire spool caused the blockage. The procedures discussed in section 2.1 above should be implemented here.

4.9. M10-150

Two DWOs, 5 years apart, have been reported at this regulator. Both were caused by debris blocking the dry weather flow though the regulator. The procedures discussed in section 2.1 above should be implemented here.

5. Summary

A little over 6 DWOs per year have been reported by Fort Wayne over the past 7 years. Where specific circumstances have been identified as the cause of DWOs the problems have been corrected. Where random conditions within the collection system have caused DWOs maintenance and inspection procedures have been modified to decrease the possibility of DWOs.

The process of preventing DWOs will have to continue as long as there are regulators in the collection system. Fort Wayne should do an analysis similar to this of any new DWOs at the end of each year.

Appendix A

CSO

Report Date: 1/27/04

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637. This report will satisfy the telephone and written letter requirements of your NPDES permit.**

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Jeffrey A. Morris	260/427-1255	1/23/04
Individual Making Report:	**Phone Number:**	**Overflow Date:**

M10-150	St Mary's River	Overflow Not Bypass
	River/Stream	**Wastewater Treatment Plant Flow**

1/23/04 at 11:15 am
Dry Weather discharge observed (date/ time)

1/23/04 at 4:40 pm
Dry Weather discharge abated (date/ time)

Reason for Dry Weather discharge:
A discharge was traced upstream from outfall #M10 151 to the dam chamber that is adjacent to regulator #M10 150. A 14"x14" gate was obstructed with bricks and a fiberglass type material causing normal flow to be diverted to the river. An estimated 1,056,000 gallons were discharged into the St. Mary's river.

Previous Dry Weather discharges from this location in the last 12 months:
Zero

Actions taken to mitigate, minimize, and prevent future overflows:
Additional investigations concerning this outfall will facilitate future identification of potential blockages.

Signature: Jeffrey A. Morris
Superintendent
W.P.C.M. Ft. Wayne, IN 46803
(260) 427-1255

CSO

Report Date: 1/27/04

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions:

Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Jeffrey A. Morris	260/427-1255	1/21/04 – 1/23/04
Individual Making Report:	**Phone Number:**	**Overflow Date:**

010-277	Maumee River	Overflow Not Bypass
	River/Stream	**Wastewater Treatment Plant Flow**

1/21/04 at 12:44 pm
Dry Weather discharge observed (date/ time)

1/23/04 at 10:48 am
Dry Weather discharge abated (date/ time)

Reason for Dry Weather discharge:
A discharge was traced down from outfall #O10 277 downstream to regulator #O10 256. Debris was found causing a blockage just upstream of the regulator (3') in the incoming pipe. Once found the blockage was removed within 2 hours. An estimated 5,520 gallons entered the Maumee river.

Previous Dry Weather discharges from this location in the last 12 months:
zero

Actions taken to mitigate, minimize, and prevent future overflows:
Additional routine inspections concerning this outfall will facilitate identification of potential blockages should one occur again.

Signature: Jeffrey A. Morris
Superintendent
W.P.C.M. Ft. Wayne, IN 46803
(260) 427-1255

CSO

Report Date: 1/22/04

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.**
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Jeffrey A. Morris	260/427-1255	1/18/04
Individual Making Report:	**Phone Number:**	**Overflow Date:**

010 - 311	Maumee River	Overflow Not Bypass
	River/Stream	**Wastewater Treatment Plant Flow**

1/18/04 at 6:30 am
Dry Weather discharge observed (date/ time)

1/19/04 at 10:48 am
Dry Weather discharge abated (date/ time)

Reason for Dry Weather discharge:
The second pump at the Morton Street pumping station failed to engage due to a faulty breaker. Because the second pump failed to engage, the flows were diverted to a pump rated at 20,000 gpm. On 1/18/04 the pump causing the discharge only ran for one minute. On 1/19/04 the same pump ran again for one minute. The total duration of discharge lasted only two minutes for both days at an estimated 40,000 gallons.

Previous Dry Weather discharges from this location in the last 12 months:
zero

Actions taken to mitigate, minimize, and prevent future overflows:
The faulty breaker causing the second pump not to engage was replaced on 1/20/04.

Signature: Jeffrey A. Morris
Superintendent
W.P.C.M. Ft. Wayne, IN 46803
(260) 427-1255

CSO

Report Date: 8-25-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions:

Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Brian W. Miller	260/427-1063	8-13-03

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
K15-116	St. Mary's	Overflow Not Bypass

8-13-03 8:47 a.m.
Dry Weather Overflow observed (date/ time)

8-21-03 1:00 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Mechanical Regulator had a debris build-up at the internal gate due to high river level and local flooding.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

Zero

Actions taken to mitigate, minimize, and prevent future overflows:

Notified WPC Plant of debris in regulator. WPC Plant took measures remove debris from gate and will continue to due regular inspections to mechanical regulators.

Signature: Brian W. Miller

Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(260)427-1063

CSO

Report Date: 5-27-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Brian Miller	260/427-5591	
Individual Making Report:	Phone Number:	Overflow Date:

P06-192	Maumee	Overflow Not Bypass
CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow

5-21-03   1:30 p.m.
Dry Weather Overflow observed (date/ time)

5-22-03   9:00 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Mechanical regulator had a debris build-up at the internal gate.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

Zero

Actions taken to mitigate, minimize, and prevent future overflows:

Notified WPC Plant of debris in regulator. WPC Plant took corrective measures to remove debris and will continue to do routine inspections to mechanical regulators.

Signature: Brian L. Miller
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 05-20-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.**
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Brian Miller	260/427-5591	05-19-03
Individual Making Report:	**Phone Number:**	**Overflow Date:**

J11-164	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

05-19-03 9:23 a.m.
Dry Weather Overflow observed (date/ time)

05-19-03 1:46 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Due to extremely high river level, we were unable to gain access to the regulator structures for our routine weekly inspections. This caused a buildup of debris in the screen and line upstream from the regulator.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
Seven

Actions taken to mitigate, minimize, and prevent future overflows:
As soon as the river level dropped, we were able to due routine maintenance to stop the overflow

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 4-17-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637. This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Johnnie Robinson	219/427-5591	4-16-03
Individual Making Report:	**Phone Number:**	**Overflow Date:**

J11-164	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

4-16-03 @ 08:16 a.m.
Dry Weather Overflow observed (date/ time)

4-16-03 @11:21 a.m
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
A large amount of rags were causing a stoppage in the sewer line. Industrial pre-treatment division is currently tracing down the rag source. Once identified we will stop the source from entering the collection system.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
six

Actions taken to mitigate, minimize, and prevent future overflows:
A crew removed stoppage and the WPC Plant is investigating for the source of the rags entering the system

Signature:____________________
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 02-20-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637. This report will satisfy the telephone and written letter requirements of your NPDES permit.**

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Johnnie Robinson	219/427-5591	02-19-03
Individual Making Report:	**Phone Number:**	**Overflow Date:**

J11-164	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

02-19-03 @08:48 a.m.
Dry Weather Overflow observed (date/ time)

02-19-03 @ 2:00 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Before we were able to fully implement a cleaning schedule for this outfall, the screen that prevents debris from entering the regulator was covered with debris and had to be cleaned.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
six

Actions taken to mitigate, minimize, and prevent future overflows:
A cleaning schedule has now been fully implemented and we expect to see positive results in the very near future. We will be monitoring this overflow closely and intend to televise this at the earliest opportunity to see if more improvements are necessary.

Signature:____________________
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 2-18-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Johnnie Robinson	219/427-5591	02-12- 03
Individual Making Report:	**Phone Number:**	**Overflow Date:**

K06-298	St. Marys	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

02-12-03 @ 2:00 p.m.
Dry Weather Overflow observed (date/ time)

02-14-03 @ 1:35 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Regulator K06-285 had a significant amount of blockage in the main line that enters the regulator.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
zero

Actions taken to mitigate, minimize, and prevent future overflows:
Bypass pumping began on 02-14-03. This stopped the overflow until we were able to remove the blockage on 02-17-03. We will be installing a screening device and will have to add this to our scheduled maintenance program to prevent future overflows.

Signature:____________________

Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 1-20-03

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	1-17-03

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
J11-164	St. Mary's	Overflow Not Bypass

1-17-03 @ 8:29 a.m.
Dry Weather Overflow observed (date/ time)

1-17-03 @ 11:45 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
A grate that was recently installed over an 18" line that goes to the regulator, was covered with debris.

Previous Dry Weather Overflows from this CSO in the last 12 months:
five

Actions taken to mitigate, minimize, and prevent future overflows:
We have installed a grate that catches debris, thus stopping the debris form plugging the line inside the regulator. The difficult location has prevented us from making radical changes to the regulator. (*The regulator is on a steep river bank with limited access for construction equipment)* The grate we have installed has minimized the overflows ,but we feel that in order to eliminate the overflows , a crew will need to clean the grate in a timely manner. We are in the process of developing a routine maintenance schedule at this time.

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803

CSO

Report Date:11-12-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	11-12-02

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
O22-002	St. Joseph River	Overflow Not Bypass

11-12-02 @ 09:58 a.m.
Dry Weather Overflow observed (date/ time)

11-12-02 @ 10:33 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
A sewer line between the regulator (O22-045) and manhole (O22-091) was partially plugged allowing flow to divert to overflow

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
NONE

Actions taken to mitigate, minimize, and prevent future overflows:
Flushed sewer line allowing flow to return to its normal state. Will continue to monitor thru routine inspections and preventative scheduled maintenance

Signature:
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 10-17-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Johnnie Robinson	219/427-5591	10-16-02
Individual Making Report:	**Phone Number:**	**Overflow Date:**

J11-164	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

10-15-02 @8:00 p.m.
Dry Weather Overflow observed (date/ time)

10-16-02 @ 12:15 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Obstruction and / or breakage in 18" line going into regulator chamber

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
five

Actions taken to mitigate, minimize, and prevent future overflows:
By opening a small hole, we were able to stop overflow. However,it is necessary to dig up this line and repair it in the near future. It is in a very difficult location and will involve extensive planning and major construction

Signature:
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

From: "John Robinson" <CU/JAROFA>
To: CU/JAMOFB
Date sent: Thu, 17 Oct 2002 08:10:03 -0500
Subject: Indian Village regulator overflow
Copies to: WPC/CACRFA, Michele Arnold <CU/MRARFA>

Jeff,
On October 17,2002 we were opening the line at the Indian Village regulator. This has been an ongoing problem for quite some time. I believe it is time to approach engineering,and the WPC Plant to come up with a plan to repair the 18" line going into the regulator.This has overflowed five times in the last twelve months,and it isn't getting any better. Maybe with cooperation from the other departments we may be able to get it permenately fixed.This is going to require alot of thought and planning just to be able to get the equipment into position to make the repairs.

Thanks,

Johnnie

CSO

Report Date: 09-30-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	09-30-02

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
303-313	St. Marys	Overflow Not Bypass

09-30-02 @ 11:30a.m.
Dry Weather Overflow observed (date/ time)

09-30-02 @ 11:31 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Contractor accidentally pumped to overflow while testing pump

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
one

Actions taken to mitigate, minimize, and prevent future overflows:
None taken (human error)

Signature: ____________
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 9-5-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	8-29 thru 9-3

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
J03-313	St. Mary's	Overflow Not Bypass

8-29-02 @ 11:43 p.m.
Dry Weather Overflow observed (date/ time)

9-3-02 @ 3:00 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Flapgate inside mechanical regulator failed to function properly

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
0

Actions taken to mitigate, minimize, and prevent future overflows:
Repairs to flapgate, and new software for computer that alerts plant of overflows.

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 6-17-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP | County: Allen | Permit Number: IN0032191

Johnnie Robinson	219/427-5591	06-14 thru 06-17-02
Individual Making Report:	**Phone Number:**	**Overflow Date:**
J11-164	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

06-14-02 @ 0800 a.m.
Dry Weather Overflow observed (date/ time)

06-17-02 @ 12:35 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
. There was a considerable amount of debris and silt in the two siphon structures, regulator chamber, and approximately 400' of 18" combination pipe. Also there is evidence of a possible cave-in on top of the line upstream of the regulator chamber

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
four

Actions taken to mitigate, minimize, and prevent future overflows: A road was built to gain access to the downstream siphon structure, and a combination unit was used to clean the structure and 700' of 18' pipe downstream. The first 400' of pipe was over half full of silt and required two days to clean. After cleaning these, an entry was made into the regulator chamber and it to was thoroughly cleaned. There was also a significant amount of dirt removed inside of the internal gate which is possibly coming from a cave-in.

Signature: [signature]
Sewer System Inspector
W.P.C.M FT.WAYNE, IN 46803
(260) 427-5591

CSO

Report Date: 06-11-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP | County: Allen | Permit Number: IN0032191

Individual Making Report: Johnnie Robinson
Phone Number: 219/427-5591
Overflow Date: 06-11-02

CSO Outfall Number: J11-164
River/Stream: St. Marys
Wastewater Treatment Plant Flow: Overflow Not Bypass

Dry Weather Overflow observed (date/ time): 06-11-02 @ 10:30 a.m.

Dry Weather Overflow abated (date/ time): 06-11-02 @ 12 :17 p.m.

Reason for Dry Weather Overflow:
Blockage in manhole downstream of siphon from the regulator.
This is scheduled to have a road built to accommodate a combination unit to properly service this problem. (Due to heavy rainfall this area has been under water until recently)

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
(three)

Actions taken to mitigate, minimize, and prevent future overflows:
Removed debris from manhole and flushed the siphon lines.

Signature:
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 5/21/02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Jeffrey A. Morris	260/427-1255	5/14/2002

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
O10 252	Maumee River	3.47 MG

5/14/02 at 6:50 am
Dry Weather Overflow observed (date/ time)

5/14/02 at 8:10 am
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Tripped circuit breaker on the #1 sanitary pump at the Morton Street Station. Pump #2 was awaiting parts from the last overflow. A private contractor installed the parts on 5/14/02 to correct the thermo overload on pump #2. The contractor is also investigating why pump #1 tripped the circuit.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
One

Actions taken to mitigate, minimize, and prevent future overflows:
The City has received the parts and installed them on pump #2. Pump #1 is being trouble-shooted to determine why it tripped.

Signature: Jeffrey A. Morris
Superintendent
W.P.C.M. Ft. Wayne, IN 46803
(260) 427-1255

From: "Cheryl Cronin" <WPC/CACRFA>
Organization: City of Fort Wayne
To: Jeff Morris <CU/JAMOFB>
Date sent: Fri, 17 May 2002 14:25:22 -0500
Subject: Dry Weather Overflow

I was just informed that a dry weather discharge occured at Morton Street pump station o 5-14-02. The start time was 6:50 a.m. and the end time was 8:10 a.m. The flow to the river in gallons is 106,495. The flow at the plant in MG in that time period was 3.47 MG. The reason for this overflow is a tripped circuit breaker on the #1 sanitary pump. Pump #2 was waiting on parts from the last overflow. The parts were installed today to correct the thermo overload on pump 2 by the contractor. The contractor is now investigating the tripped circuit today also.
Cheryl Cronin

CSO

Report Date: 5/7/02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.**
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environment-l R- -ponse at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Jeffrey A. Morris	260/427-1255	5/4/2002
Individual Making Report:	Phone Number:	Overflow Date:

O10 252	Maumee River	5.624 MGD
CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow

5/4/02 at 4:20 pm
Dry Weather Overflow observed (date/ time)

5/4/02 at 6:20 pm
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Main power source failure at the Morton Street Pump Station. When the pump station transferred the power to the secondary supply it appeared to be unbalanced causing the breakers to trip. Because of this, a storm pump activated several times before the secondary power stabilized itself enough to operate the sanitary pumps.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
None

Actions taken to mitigate, minimize, and prevent future overflows:
The WWTP is working with the power company (AEP) in getting the secondary power supply balanced enough to engage properly.

Signature: Jeffrey A. Morris
Superintendent
W.P.C.M. Ft. Wayne, IN 46803
(260) 427-1255

CSO

Report Date: 3-11-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637. This report will satisfy the telephone and written letter requirements of your NPDES permit.**

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	3-11-02

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
311-164	St. Mary's	Overflow Not Bypass

03-11-02 @ 0838 a.m.
Dry Weather Overflow observed (date/ time)

03-11-02 @ 1:00 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Debris blocking siphon line downstream of regulator.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
(Two)

Actions taken to mitigate, minimize, and prevent future overflows:
Removed debris from upstream side of siphon lines (both barrels) . We will also be cleaning the siphon lines as soon as we can make it accessible for a vehicle.

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 3-7-02

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	03-06-02

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
J11-164	St. Marys	Overflow Not Bypass

03-06-02 @ 0815 a.m.
Dry Weather Overflow observed (date/ time)

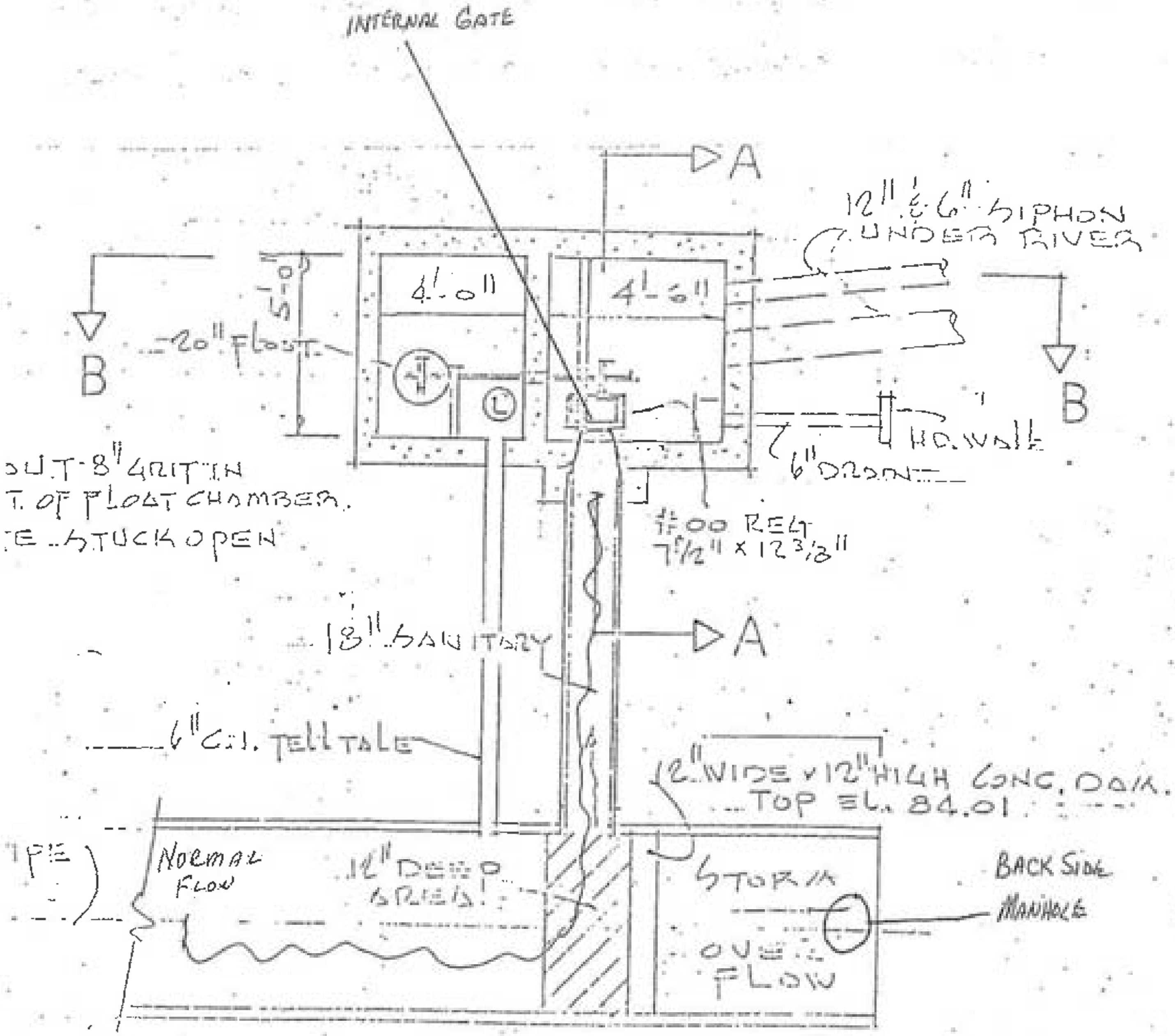
03-06-02 @ 2:09 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Blockage in line entering regulator.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
(one)

Actions taken to mitigate, minimize, and prevent future overflows:
This problem is in a very difficult location and we are in the process of trying to eliminate some equipment as noted in the previous report dated 11-06-02. We removed a small amount of roots and some debris on 3-6-02. This stopped the overflow but we need to address a long term solution.

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591



AS YOU CAN SEE THE PIPE NARROWS AT THE INTERNAL GATE. WE BELIEVE THE OPENING IS SMALLER THAN THE PIPE MAKING IT VERY DIFFICULT TO GET THROUGH FROM THE BACK SIDE. WE HAVE TRIED TO OPEN FROM THE INTERNAL GATE SIDE BUT THE GATE ITSELF PREVENTED US FROM DOING SO. COULD THE PLANT REMOVE THE GATE? THIS IS ALOT CLOSER TO THE PROBLEM AND WE COULD POSSIBLY SEE IT AND IDENTIFY THE ACTUAL PROBLEM.

From:	"Jeff Morris" <CU/JAMOFB>
To:	WPC/BSPAFA (Brian Panzer)
Date sent:	Tue, 5 Feb 2002 08:16:09 -0500
Subject:	(Fwd) INDIAN VILLAGE REGULATOR
Copies to:	CU/JAROFA (John Robinson)

Brian could you look into this and see if removing the flapgate is possible. We are in this structure on average 3 times a year removing the debris from around the gate.

Let me know if anything can be done. Thanks...

------- Forwarded message follows -------

From:	"John Robinson" <CU/JAROFA>
To:	CU/JAMOFB
Date sent:	Mon, 26 Nov 2001 13:58:57 -0500
Subject:	INDIAN VILLAGE REGULATOR

Jeff,

We are having a problem cleaning the eighteen inch line that enters the regulator.Gary assisted me the last time we cleaned it and we think that if we could get the plant to remove the gate inside of the chamber we can clean it better. It seems as though we clean it just enough to open the line but it eventually clogs back up.I'm concerned this could be a problem with IDEM in the future if we don't get it cleaned properly. The SIP number is J11-164. Could you please check with Brian Panzer and see if it is possible to do this.

Thanks,
Johnnie

------- End of forwarded message -------

CSO

Report Date: 11-06-01

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie A. Robinson Jr.	219/427-5591	11-06-01

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
J11-164	St. Mary's River	Overflow Not Bypass

11-06-01 @ 08:00 a.m.
Dry Weather Overflow observed (date/ time)

11-06-01 @ 12:00 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Blockage in line entering the regulator

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
None

Actions taken to mitigate, minimize, and prevent future overflows:
.Removed blockage with auger, also looking into possibility of removing internal flapgate that is not functioning so we can better maintain the line.

Signature:
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date:

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Cheryl Cronin	219-4271243	11-1-01

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
010-252	Maumee River	2 Million Gallons

11-1-01 12:30 a.m
Dry Weather Overflow observed (date/ time)

11-1-01 2:00a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow: Sanitary pump failure

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
none

Actions taken to mitigate, minimize, and prevent future overflows:

Contractor will install a back-up pump in the next few weeks. This is a transition period at this outfall because we are replacing the pumps.

Signature: Cheryl Cronin
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803

CSO

Report Date:

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Johnnie Robinson	219/427-5591	8-01-01
Individual Making Report:	**Phone Number:**	**Overflow Date:**

K06-234	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

08-01-01 @ 3:00 p.m.
Dry Weather Overflow observed (date/ time)

08-02-01 @10:00 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
Blockage in gate at regulator K06-275

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
0

Actions taken to mitigate, minimize, and prevent future overflows:
.Removed blockage. Will continue routine inspections

Signature:____________________
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

CSO

Report Date: 08-01-00

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Johnnie A. Robinson	219/427-5591	08-01-00
Individual Making Report:	**Phone Number:**	**Overflow Date:**

K15-116	St. Mary's	Overflow Not Bypass
CSO Outfall Number	**River/Stream**	**Wastewater Treatment Plant Flow**

08-01-00 @ 8:32 a.m.
Dry Weather Overflow observed (date/ time)

08-01-00 @ 9:46 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Loss of power to mechanical regulator *(blown fuse)*

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

'FIVE

Actions taken to mitigate, minimize, and prevent future overflows:
Cause for blown fuses is unknown at this time. Plant personnel have checked circuits and found nothing wrong. Problem may be at the utility pole. They are advising AEP of this possibility.

Signature: Johnnie Robinson
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803

CSO

Report Date: 03-09-00

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Craig Kankovsky	219/427-5591	03-07-00
Individual Making Report:	Phone Number:	*Overflow Date:

K15-116	St. Mary's River	CSO-DWO NOT BY-PASS
CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow

03-07-00 11:45 A.M.
Dry Weather Overflow observed (date/ time)

03-07-00 12:30 P.M.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow: Blown fuse in mechanical regulator.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months: FOUR

Actions taken to mitigate, minimize, and prevent future overflows: WPCP is having electrician check for poor conections (shorts) that may cause the fuses to blow.

Signature: Craig A Kankovsky .551
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803

CSO
5/ file

TX# 1947
3-9-00
9:05 am

Fax # 1662
11:35 Am
12-9-99

Report Date: 12-09-99

CSO

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Craig Kankovsky	219/427-5591	12-08-99

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
K15-116	St. Mary's River	DWO

12-08-99 9:40 a.m.
Dry Weather Overflow observed (date/ time)

12-08-99 12:45 p.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow: ELECTRICAL PROBLEM CORRECTED BY THE PLANT.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months: ONE

Actions taken to mitigate, minimize, and prevent future overflows: AS DETERMINED BY PLANT ELECTRICIAN.

Signature:________________________

FAX # 1653

12-8-99 Approx 8:20 Am

CSO

Report Date: 12-06-99

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: **Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637. This report will satisfy the telephone and written letter requirements of** your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

219/427-5591

Individual Making Report:	Phone Number:	Overflow Date:
Craig H. Kankovsky	1-219-427-5591	12-02-99

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
M10-151	St. Mary's River	CSO OVERFLOW

Dry Weather Overflow observed (date/ time)
12-02-99 10:00 a.m.

Dry Weather Overflow abated (date/ time)
12-02-99 6:00 p.m.

Reason for Dry Weather Overflow:
Blockage in Regulator, cleared by WPCP

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
NONE

Actions taken to mitigate, minimize, and prevent future overflows:
Similar situations could occur at anytime, shall continue with regular inspections.

Signature: Craig H Kankovsky

CSO
not [illegible]

Report Date: 8-2-99

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

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If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Johnnie Robinson	219/427-5591	8-2-99
Individual Making Report:	Phone Number:	Overflow Date:
P06-~~102~~ 192	Maumee River	Overflow / Not Bypass
CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow

8-2-99 @ 10:42 a.m.
Dry Weather Overflow observed (date/ time)

8-2-99 @ 11:22 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Internal flapgate clogged with debris

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
one on 2-18-99

Actions taken to mitigate, minimize, and prevent future overflows:

Routine cleaning and inspections

Signature

C50

Report Date: 7-22-99

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie Robinson	219/427-5591	7-22-99

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
K15-116	St. Marys	Overflow Not Bypass

7-22-99 @ 8:00 a.m.
Dry Weather Overflow observed (date/ time)

7-22-99 @ 9:00 a.m.
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Relay switch malfunctioning in mechanical regulator

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

6-21-99 same problem

Actions taken to mitigate, minimize, and prevent future overflows:

WPC plant replaced relay with new

Signature:

CSO

Report Date:6-29-99

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

Individual Making Report:	Phone Number:	Overflow Date:
Johnnie A. Robinson Jr.	219/427-5591	6-21-99

CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow
K115-116	St. Marys	Overflow / Not a bypass

6-21-99 at 0900 hours
Dry Weather Overflow observed (date/ time)

6-21-99 at 1235 hours
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Temporary power failure at mechanical regulator

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

0

Actions taken to mitigate, minimize, and prevent future overflows:

None taken, power failure caused by Mother Nature

Signature:____________________

CSO

CSO/PASSIVE REGULATOR INSPECTION CHECKLIST

Date: 2-18-99 Rainfall 0.00 in last 24 hours.

Sip#	Overflowing Yes	Overflowing No	Flapgate Reg.	Time	Location
R14-137		✓	N/FG	1209	25' W of Arby's lot @
R14-138		✓	FG	1210	State & Laverne Ditch
S18-082		✓	REG	1215	State & Coliseum — S.O. Rt. Stormwater
O10-097		✓	N/FG	1232	100'SE of Morton Pump Station
O10-252		✓	FG	1233	100' SW of Morton Pump Station
O10-273		✓	REG	1240	500 Coombs St.@ CAJ Food
O10-277		✓	FG	1242	50' N of REG O10-273
O10-257		✓	FG	1245	300' S at end of Griffen St.
P06-192	✓		FG	1248	Under Anthony St. Bridge N of Berry S bank
N06-022		✓	N/FG	1256	120' N of Hanna & Berry
M10-238		✓	FG	102	E of bridge @ Spy Run & Superior N bank

Comments: P06-192 - LIGHT OUTFALL - Phoned WPCP Panzer to have crew check Regulator 2-18-99 (Corrected 2-19-99, Blockage in Reg.)

C SO

Report Date: 11-17-98

Indiana Department of Environmental Management
Office of Water Management. Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745. NONE OBSERVED

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

CRAIG KANKOVSKY 219/427- 5591 11-9-98
Individual Making Report: Phone Number: Overflow Date:

PAG-192 MAUMEE OVERFLOW / NOT BYPASS
CSO Outfall Number River/Stream Wastewater Treament Plant Flow

11-9-98 10:30 AM
Dry Weather Overflow observed (date/ time)

11-16-98 1:15 P.M
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow: CSO REGULATOR LOCATED AT ANTHONY / WAYNE ST. WAS PLUGGED OBSTRUCTION WAS CLEARED BY WPC PLANT UPON ENTRY.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

0

Actions taken to mitigate, minimize, and prevent future overflows: ROUTINE INSPECTIONS BY WPCM OF OUTFALLS ROUTINE INSPECTIONS OF REGULATORS AND CLEANING

Signature: Craig W Kankovsky

CSO

Report Date: 11-10-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions:

Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

JOHWOICK ROBINSON 219/427-5591 11-9-98
Individual Making Report: Phone Number: Overflow Date:

POU-192 MAUMEE
CSO Outfall Number River/Stream Wastewater Treatment Plant Flow

11-9-98 @ 10-30 am
Dry Weather Overflow observed (date/ time)

11-10-98 11:00 am
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

DEBRIS IN FLOAT CHAMBER

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

0

Actions taken to mitigate, minimize, and prevent future overflows:

ROUTINE CLEANING OF REGULATOR CHAMBERS BY WPCP

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

Report Date: 11-9-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

CRAIG KANKOVSKY — Individual Making Report:
219/427-5591 — Phone Number:
11-9-98 — Overflow Date:

P06-192 — CSO Outfall Number
MAUMEE — River/Stream
OVERFLOW/NOT BYPASS — Wastewater Treatment Plant Flow

11-9-98 1030 AM
Dry Weather Overflow observed (date/ time)

WILL NOTIFY
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
UNKNOWN AT THIS TIME
POSSIBLE REGULATOR PROBLEM

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
-0-

Actions taken to mitigate, minimize, and prevent future overflows:
NOTIFIED PLANT MGMT. OF OVERFLOW PROBLEM.

Signature: CKankovsky

CSO

Report Date: 10-6-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

Johnnie Robinson   219/427-5591   10-5-98
Individual Making Report: Phone Number: Overflow Date:

K03-092   St Marys
CSO Outfall Number   River/Stream   Wastewater Treatment Plant Flow

10-5-98 @ 9:25 am
Dry Weather Overflow observed (date/ time)

10-6-98 @ 11:00 am
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

FLOATS NOT ADJUSTED PROPERLY IN CHAMBER CAUSING DISCHARGE TO RIVER

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
0

Actions taken to mitigate, minimize, and prevent future overflows:
FLOATS WERE ADJUSTED AND ARE FUNCTIONING PROPERLY

Signature: [signature]
Sewer System Inspector
W.P.C.M. Ft. Wayne, IN 46803
(219)427-5591

Report Date: 10-5-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

JOHNNIE ROBINSON — 219/427-5591 — 10-5-98
Individual Making Report: Phone Number: Overflow Date:

K03-092 — ST. MARYS
CSO Outfall Number River/Stream Wastewater Treatment Plant Flow

10-5-98 @ 9:25 A.M.
Dry Weather Overflow observed (date/ time)

WILL NOTIFY
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
BELIEVED TO BE PROBLEM WITH REGULATOR CONTROLS, NOTIFIED TREATMENT PLANT @ 9:31 AM.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
Ø

Actions taken to mitigate, minimize, and prevent future overflows:

Signature:

CSO

Report Date: 3-5-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

JOHNNIE ROBINSON
Individual Making Report:

219/427-5591
Phone Number:

3-5-98
Overflow Date:

K07-176
CSO Outfall Number

ST. MARYS
River/Stream

OVERFLOW NOT BYPASS
Wastewater Treatment Plant Flow

3-5-98 12:00 pm
Dry Weather Overflow observed (date/ time)

3-5-98 1:30 PM
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

FLOAT STUCK IN REGULATOR CAUSING GATE TO REMAIN SHUT

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

N/A

Actions taken to mitigate, minimize, and prevent future overflows:

NOTIFIED WWTP TO LUBRICATE APPROPRIATE FITTINGS

Signature: [signature]

Report Date: 1-29-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

CRAIG H. KANKOVSKY 219/427-5591 1-27-98
Individual Making Report: Phone Number: Overflow Date:

K 11 165 ST. MARYS CSO OVERFLOW
CSO Outfall Number River/Stream Wastewater Treatment Plant Flow

1-27-98 9:50 AM
Dry Weather Overflow observed (date/ time)

1-29-98 8:30 AM
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
3' DIA, WOODEN WIRE SPOOL BLOCKING ONE OF TWO "NORMAL" FLOW LINES TO INTERCEPTOR IN MECHANICAL REGULATOR, CLEARED BY WPC PLANT CREW

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

NONE OBSERVED

Actions taken to mitigate, minimize, and prevent future overflows:

REGULAR OUTFALL INSPECTIONS

Signature: Craig HKankovsky

CSO

Report Date: 1-28-98

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

NONE OBSERVED

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP County: Allen Permit Number: IN0032191

CRAIG H. KANKOVSKY 219/427-5591 1-27-98
Individual Making Report: Phone Number: Overflow Date:

K-11-165 St MARYS CSO OVERFLOW
CSO Outfall Number River/Stream Wastewater Treatment Plant Flow

1-27-98 9:50 AM
Dry Weather Overflow observed (date/ time)

WILL NOTIFY
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
POSSIBLE RESTRICTION IN MECHANICAL REGULATOR # K11-163, referring to PLANT (WPC) to CHECK AND CLEAN AS NECESSARY
OUTFALL IS FROM 126" LINE, SNOW MELT IS CONTRIBUTING TO SITUATION

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:

NONE OBSERVED

Actions taken to mitigate, minimize, and prevent future overflows:

Signature: Craig Kankovsky

Report Date: 12-3-97

Indiana Department of Environmental Management
Office of Water Management, Bypass/Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at (317) 232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the bypass is resulting in a fish kill or other severe environmental damage report the release to the Office of Emergency Response at: (317) 233-7745.

Facility Name: FT. WAYNE WWTP County: ALLEN 427-1255 Permit Number: IN0032191

CSO CRAIG KANKOVSKY 219-427-5591 OVERFLOW

Individual Making Report: Phone Number: ~~Bypass~~ Date:

12-2-97 1:30 PM Ø NONE NOTED

Duration, Start/Stop Time: Gallons: Aquatic Life Killed ?/Stream

OVERFLOW

Wastewater Treatment Plant Flow during ~~bypass~~ (MGD):

Reason For Release:

ROOTS IN NORMAL FLOW LINE

HAD HYDRAULIC SEWER JET RUN

ROOT SAW IN 10" LINE

STOPPED OVERFLOW

Actions Taken To Prevent, Minimize or Mitigate Damage:

HAS BEEN PUT IN JOB TICKET COMPUTER

FOR REGULAR MAINTENANCE

Signature: Craig [signature]

 CSO

Report Date: 12-1-97

Indiana Department of Environmental Management
Office of Water Management, Bypass/Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at (317) 232-8637. This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the bypass is resulting in a fish kill or other severe environmental damage report the release to the Office of Emergency Response at: (317) 233-7745.

Facility Name: FORT WAYNE WWTP County: ALLEN OR 7255 Permit Number: IN0032191

CSO CRAIG KANKOWSKI — Individual Making Report:
219-427 5591 — Phone Number:
OVERFLOW ~~Bypass~~ Date:

12-1-97 11AM — Duration, Start/Stop Time:
10 GPM — Gallons:
NONE — Aquatic Life Killed ?/Stream

OVERFLOW
Wastewater Treatment Plant Flow during bypass (MGD):

Reason For Release:

ROOTS IN NORMAL FLOW LINE - REQUESTED
ROOT SAW TO CLEAN 10" LINE ASAP
022-004

Actions Taken To Prevent, Minimize or Mitigate Damage:

CLEARING OF ROOTS IN NORMAL FLOW LINE

Signature: Craig Kankowski

742

CSO

ORIG.

Report Date: 11-19-97

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
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If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: Fort Wayne WWTP   County: Allen   Permit Number: IN0032191

CRAIG KANKOVSKY   219/427- 5591 OR 1255   11-18-97
Individual Making Report: Phone Number: Overflow Date:

K19-044   ST. MARYS
CSO Outfall Number   River/Stream   Wastewater Treatment Plant Flow

11-18-97 11:45 Am
Dry Weather Overflow observed (date/ time)

11-18-97 1 PM
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:
MALFUNCTION AT WOODHURST REGULATOR
WPC PLANT CORRECTED SITUATION
DID NOT OBSERVE ANY AQUATIC LIFE KILLED
Approx 5 gal P.m.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
Several, all reported

Actions taken to mitigate, minimize, and prevent future overflows:
Almost daily inspections

Signature: Craig H Kankovsky
CSO/SSI 1-219-427-5591

CSO

Report Date: October 31, 1997

Indiana Department of Environmental Management
Office of Water Management, Dry Weather Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at 317/232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the overflow is causing a fish kill or other severe environmental damage report the situation to the Office of Environmental Response at: 317/232-7745.

Facility Name: **Fort Wayne WWTP** County: **Allen** Permit Number: **IN0032191**

Mark R. Essex	219/427-2906	October 31, 1997
Individual Making Report:	Phone Number:	Overflow Date:

K19-044	St. Mary's River	N/A
CSO Outfall Number	River/Stream	Wastewater Treatment Plant Flow

Continuous
Dry Weather Overflow observed (date/ time)

Revised correction date is November 7, 1997
Dry Weather Overflow abated (date/ time)

Reason for Dry Weather Overflow:

Due to repeated dry weather overflows, a comprehensive inspection was undertaken during the summer. Down-pipe from the regulator, the pipe was obstructed with roots and silt. Crews were dispatched to cut through the roots. This took several days. Dry weather overflows occurred again. This time more drastic measures were taken. A "bucket" machine was used in the pipe to clean it. After nearly two weeks, the bucket jammed in the pipe creating a mostly impassable obstruction causing flows to be diverted to the river.

An emergency order was approved by the Board of Public Works to open the pipe and replace the necessary structures. After repeated delays in securing the necessary replacement structure, the contractor assures City Staff that the project will start in the middle of next week. City crews have been observing and investigating the situation daily.

Previous Dry Weather Overflows from this CSO Outfall in the last 12 months:
Several, all reported.

Actions taken to mitigate, minimize, and prevent future overflows:
See above

Signature: [signature]

CSO

Report Date: OCT 3 1997

Indiana Department of Environmental Management
Office of Water Management, Bypass/Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at (317) 232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the bypass is resulting in a fish kill or other severe environmental damage report the release to the Office of Emergency Response at: (317) 233-7745.

Facility Name: FT. WAYNE WWTP County: ALLEN Permit Number: IN0032191

Mark Essex — 219/427-2906 — OCT. 1, 1997

Individual Making Report: — Phone Number: — Bypass Date:

Stopped 11 am OCT 2, 1997
Began 3:30 pm OCT 1, 1997 — (29,250) est. 259 pm — None detected / St. Marys

Duration, Start/Stop Time: — Gallons: — Aquatic Life Killed ?/Stream

Overflow, not bypass

Wastewater Treatment Plant Flow during bypass (MGD):

Reason For Release:

Clogged regulator which diverted flow from WWTP to St. Mary's River

Actions Taken To Prevent, Minimize or Mitigate Damage:

Regular inspection & cleaning schedules are included in the CSS Operational Plan.

Signature: [signature]

CSO

Report Date: 9-25-97

C'RY I APOLOGIZE FOR
THE INCONVENIENCE. I
TRIED TO REACH YOU BY
PHONE AND COULD NOT. THE
INFORMATION YOU REQUESTED
IS ON THIS COPY.
SORRY AGAIN, JOHNNIE

...nt of Environmental Management
...ement, Bypass/Overflow Incident Report

...s form and fax it to Gary Starks, Office of Water
...ce Branch at (317) 232-8637.
...he telephone and written letter requirements of your

...g in a fish kill or other severe environmental damage
...e to the Office of Emergency Response at: (317) 233-7745.

Facility Name: FW WWTP   County: ALLEN   Permit Number: IN0032191

Johnnie Robinson   (219) 427-5591   24 SEPT 97
Individual Making Report: Phone Number: Bypass Date:

START 9-24-97 0730 HRS   10 GPM   NONE DETECTED / ST. MARYS
Duration, Start/Stop Time: Gallons: Aquatic Life Killed ?/Stream

OVERFLOW / NOT BYPASS
Wastewater Treatment Plant Flow during bypass (MGD):
OVERFLOW / NOT BYPASS

Reason For Release:

POWER BUCKET MACHINE USED TO CLEAN DOWNSTREAM
LINE IS STUCK IN LINE AND CAUSING OVERFLOW
TO RIVER. K19-044

ANY QUESTIONS POC: MARK ESSEX (219) 427-2906

Actions Taken To Prevent, Minimize or Mitigate Damage:

LINE IS BEING DUG OUT AND REPAIRED BY
PRIVATE CONTRACTOR (ESTIMATED TIME OF COMPLETION
25 OCT 97) WE WILL NOTIFY YOU WHEN CORRECTED

Signature: [signature]

Report Date: 9-5-97

C50

Indiana Department of Environmental Management
Office of Water Management, Bypass/Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at (317) 232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the bypass is resulting in a fish kill or other severe environmental damage report the release to the Office of Emergency Response at: (317) 233-7745.

Facility Name: Ft. Wayne WWTP County: ALLEN Permit Number: INC0 32191

CRAIG KANKOVSKY 219-427-5591 (OVERFLOW)

Individual Making Report: Phone Number: Bypass Date:

11:12 Am / 8:50 Am
8-11-97 / 9-5-97 5 GPM NONE DETECTED

Duration, Start/Stop Time: 9-5-97 8:50 Am Gallons: Aquatic Life Killed ?/Stream

OVERFLOW NOT BYPASS

Wastewater Treatment Plant Flow during bypass (MGD):

Reason For Release:

Heavy debri in sewer line downstream from "Woodhurst Regulator", also heavy silt and cinders in float chamber

K19-044

Actions Taken To Prevent, Minimize or Mitigate Damage:

Cleaning of two sets downstream with "Power Machines", also had WPCP cleaning in float chamber

Signature: Craig Kankovsky
SSI for CSO's

CSO

Report Date: 20 MAY 1997

Indiana Department of Environmental Management
Office of Water Management, Bypass/Overflow Incident Report

Instructions: Complete all parts of this form and fax it to Gary Starks, Office of Water Management, Compliance Branch at (317) 232-8637.
This report will satisfy the telephone and written letter requirements of your NPDES permit.

If the bypass is resulting in a fish kill or other severe environmental damage report the release to the Office of Emergency Response at: (317) 233-7745.

Facility Name: FT. WAYNE WWTP County: ALLEN Permit Number: IN0032191

JOHNNIE ROBINSON (219) 427-1255 20 MAY 1997
Individual Making Report: Phone Number: Bypass Date:

STOP 20 MAY 1530
START 19 MAY 0730 WWOF 75 GPM NONE DETECTED / ST. MARYS
Duration, Start/Stop Time: Gallons: Aquatic Life Killed ?/Stream

OVERFLOW, NOT BYPASS
Wastewater Treatment Plant Flow during bypass (MGD):

Reason For Release:

LINE CLOGGED GOING TO REGULATOR DIVERTED FLOW TO ST. MARY'S K19-044

Actions Taken To Prevent, Minimize or Mitigate Damage:

COMBINATION FLUSH & VACTOR LINES GOING TO AND FROM REGULATOR

Signature: [signature]

Date: 4-23-97 Rainfall 0.00 in last 24 hours.

CSO#	Overflowing Yes	Overflowing No	Flapgate	Time	Location
M18-032	&	X	Y	945	520' N of State Bl. & Westbrook Dr. Intersection on W bank.
N22-103		X	Y	1045	100' E of Penn Place & Spy Run intersection on W bank.
N22-093		X	Y	1040	130' E of Dalgren & Spy Run intersection on W bank.
022-094		X	Y	1050	200' E of Parnell Av. Bridge on S bank.
022-002		X	Y	1052	120 NNW of St. Joe River Rd. & Woodrow Av. on S bank.
022-004	c		Y	1055	370' W on N. Anthony Bl. & St. Joe River Rd. on E bank.
022-071		X	Y	1055	50' N. of 022-004
M18-014		X	Y	1035	200' E of Northside Dr. & Curdes Av. intersection
M18-167		X	Y	1030	150' W of Charlotte Av. & Northside Dr. intersection on E bank. on E bank.
R14-137	Y		Y	11	200' West of Lavern Av. & State St. intersection.
R14-138		X	Y	11	

Comments: 2315 Westbrook - overflowing - 130 to correct

* Finished Westbrook @ 1035 Am - Restored proper flow

022004 - It clean outflow - dribble

R14 137 It clean outflow

EXHIBIT E-3

Recommendations to Eliminate or Reduce DWOs

Procedures

1. Review and revise as necessary the inspection procedures for float operated mechanical regulators. These regulators should be inspected frequently to determine if base flows are obstructed as they pass through the regulator.

2. Review and revise as necessary the inspection and maintenance procedures for the gravity sewers just downstream of regulators. The frequency of inspection and cleaning at these locations should be higher than that for typical gravity sewers.

Studies

1. Study the possibility of converting mechanical regulators to static regulators.

2. TV the section of 18” pipe between the diversion section and regulator chamber of regulator J11-163. Continue looking for the source of shop rags.

3. Develop alternatives for screening debris at regulator O10-311.

Capital Projects – None are recommended at this time.

EXHIBIT E-4

6.0 CONTROL OF SOLID AND FLOATABLE MATERIALS IN CSOs

6.1 OVERVIEW

CSOs can contain solid and floatable material that are easily seen and can be the source of pollutants in receiving waters. The sixth of the nine minimum controls contemplates the reduction, if not elimination, of visible floatables and solids using relatively simple measures. Based on the City's experience with its CSS, including that gained through daily visual inspections and via the assessment described below, solids and floatables are not frequently observed at CSO discharge sites. This is perhaps due to the significant pollution prevention measures (e.g. street cleaning, leaf collection, catch basin cleaning, etc.) long undertaken by the City (such measures are described more fully in Chapter 7) and the City's use of catch basins. Nonetheless, the City has identified three sites at which it intends to conduct pilot studies to further ensure adequate solid and floatable controls.

Catch basins are structures used to collect storm water entering the City's CSS. Catch basins are modified inlets where the invert of the outlet pipe is several feet above the bottom of the structure and where a 90 degree trap is installed on the end of the outlet pipe. See Figure 6-1. This configuration causes some storm water to be retained in the structure. This reduces velocity and allows larger solids to collect in the bottom of the structure. This also traps floatable material in the structure and prevents sewer gasses from exiting the structure. Therefore, most of the floatable and solid materials in the storm water can be removed from the combined sewer system by preventing entry into the system through the proper monitoring, operation, and maintenance of the catch basins. There are no similar structures to remove solids and floatable material from the sanitary sewage flows.

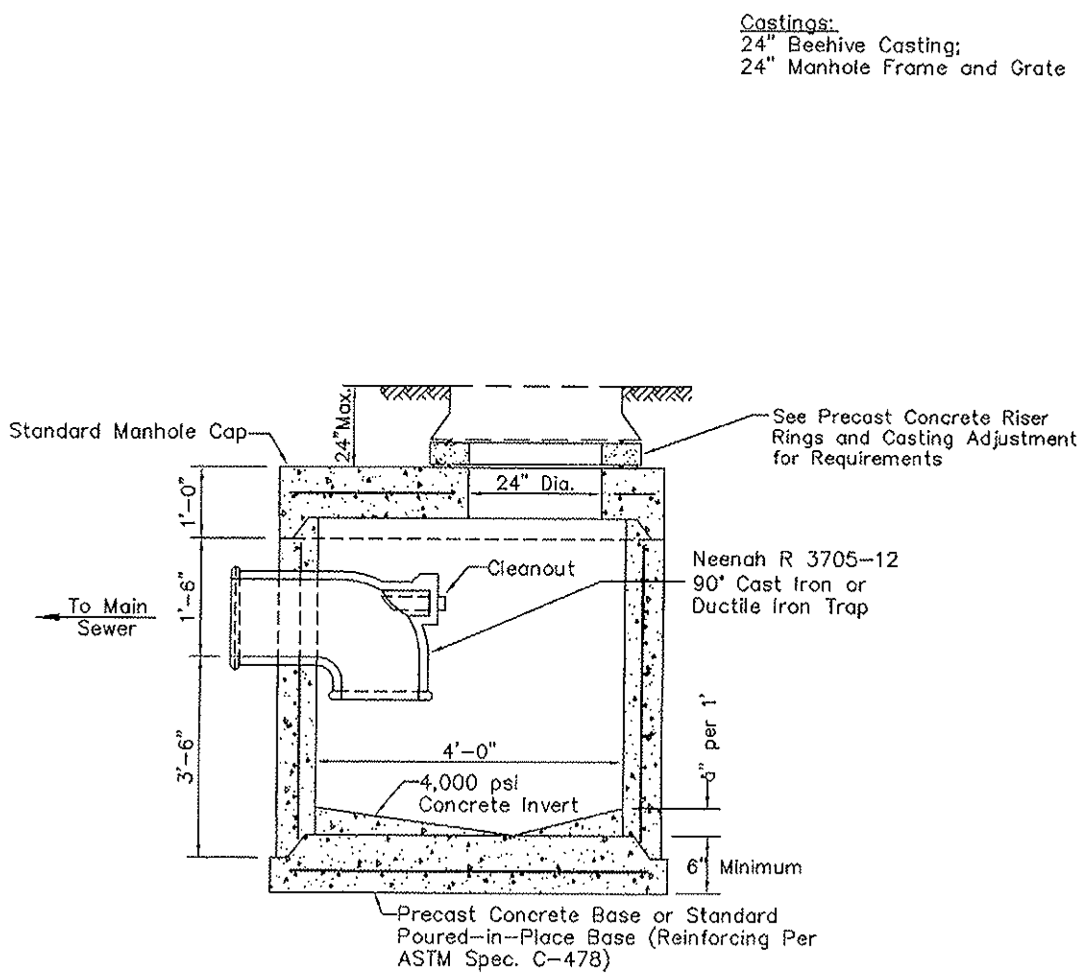
In this Chapter the appropriate operating, inspection, and maintenance procedures presented in Chapter 1 will be referenced, the investigation of existing floatable and solid material discharges discussed, and goals for future changes and improvements will be presented. The exhibits of this chapter contain a copy of the investigation of existing floatable and solid material discharges, recommendations for future improvements, and records of annual activities.

6.2 OPERATING, INSPECTING, AND MAINTAINING

The primary method for controlling the discharge of visible solid and floatable material is the use of catch basins in the CSS. There are more than 4,957 of these structures located throughout the City's CSS area. Each catch basin has a unique identification number with information about its location stored in the City's GIS. The locations of catch basins can be retrieved in a number of ways with GIS tools.

Figure 6-1

City Utilities Department of Water Resources	STANDARD CATCH BASIN
	Created: January 1, 2002 Revised:



Note:
General Construction Requirements Same as Standard 48" Manhole
Structure Base Alternatives Same as Standard 48" Manhole

STR-34

6.2.1 Operation

Catch basins do not have any moving parts or adjustable features. Therefore, no effort is required to operate them. The most important thing is to make sure they are installed where appropriate.

6.2.2 Inspections

Catch basins are routinely inspected for damage approximately once every 2.5 years. Additionally, catch basins are further inspected whenever street or yard flooding is reported to or observed by the City. When that occurs, inspectors are dispatched to make sure catch basins are neither damaged nor plugged.

6.2.3 Maintenance

Chapter 1 contains detailed procedures and schedules for catch basin maintenance. Table 2 in Exhibit F-2 contains information on reported tons of material collected from 1998 to 2003. Additional information on catch basin cleaning can be found in Chapter 7. Catch basin cleaning has been tracked in the City's GIS database since 2005. Catch basins identified as problematic based on experience are identified in GIS and cleaned with greater frequency.

6.3 INVESTIGATION OF EXISTING SOLID AND FLOATABLE MATERIAL DISCHARGES

6.3.1 Purpose

The purpose of investigating existing solid and floatable material discharges from CSOs is to identify the extent of the problem and the type of material that needs to be controlled.

6.3.2 Process

The steps of the discharge investigation are:

- Conduct and document visual surveys of each CSO discharge point
- Develop criteria for selecting sampling sites
- Sample and characterize solids/floatables discharged
- Summarize solids/floatables control methods currently used
- Identify other suitable solids/floatables control methods not previously identified
- Recommend pilot improvements

This process was utilized to investigate solid and floatable material discharges in the summer of 2004. The report on this investigation consists of 3 documents. "City of Fort Wayne Recommended CSO Sites for Further Solids and Floatables Investigation" dated July 23, 2004 documents the visual survey and information gathered from City staff on 44 CSO discharge points after a 0.2" rain event and is located in Exhibit F-1. The findings summarized in the report are consistent with daily outfall inspections performed by WPCM staff. Consistent with the City's experience, the study concluded that floatables are not frequently observed at CSO discharge sites. Nonetheless, through the aforementioned study the City has identified three areas that are recommended for further solids and floatables control investigation. In addition to floatables information, the report also contained details on the observed CSO discharge point site conditions. Exhibit F-4 contains an update on recommended follow ups to some of the site conditions observed.

"CSO Solids and Floatables Control Plan for Selected Sites" dated November, 2004 discusses control methods and recommends pilot improvements and is located in Exhibit F-2. The report generally recommends that the City should continue its effective non-structural source control best management practices. It also recommends that a pilot structural facility be constructed for evaluation of floatables control technologies and documentation of their effectiveness in the City.

The "Report Clarification" dated November 22, 2004 shows how this investigation follows the guidance on the sixth of the nine minimum controls and is found in Exhibit F-3.

6.3.3 Pilot Projects – Further Investigation

It is the City's intent to pilot structural floatable controls at three different outfalls and utilize at least two different technologies. The design goal will be the removal (at a minimum) of solids and floatables ½ inch diameter and larger. These pilot locations will be monitored for approximately 2 years and the results of these pilot facilities will be utilized in confirming the design goal for future LTCP floatables control construction, as specified in the LTCP.

6.4 INTERGRATION WITH LONG TERM CSO CONTROL PLAN

The controls proposed by City's CSO LTCP generally consist of constructing a new parallel interceptor that will convey overflows from a majority of the regulators to the WPCP and CSO Storage Ponds. The remaining regulators and associated overflow points would be improved with either satellite storage or satellite disinfection facilities. All untreated overflows to receiving waters would be reduced to a specified level of control of a few activations in a typical year. The reduction of overflow events to receiving waters will greatly reduce the introduction of floatables and solids into the receiving waters.

In addition to the reduction in number of overflow events, the City's proposed CSO LTCP includes provisions for construction of structural floatables control (e.g. screens, baffles, seperators or trash racks) at CSO outfalls that currently do not have structural floatables control.

The City has been advised by IDEM that such controls, if installed with respect to existing CSO outfalls, will not be subject to the setback requirements presented at 327 IAC 3-2-6. To the extent such setback requirements are applicable to other types of controls or facilities, the City recognizes that a variance application could be filed with IDEM under IC 13-14-8-8. Whether IDEM would deem the circumstances surrounding the sitting of the facilities then in question to constitute an "undue burden or hardship" under IC 13-14-8-8 is unclear at this time. Moreover, even if IDEM were to find an "undue burden or hardship " to exist, IDEM is not required to grant a variance - IC 13-14-8-8 plainly provides that IDEM has the discretion to grant or deny a variance request even if it finds an undue burden or hardship to exist. Perhaps most significant is the fact that Indiana law expressly limits the duration of variances to a maximum of one year. To obtain permanent regulatory relief via a variance for a structure constructed within a 500-foot setback, an applicant would need to apply annually (and perpetually) for 1 year renewals of that variance. Under IC 13-14-8-8, IDEM would be able to annually revisit both its undue burden or hardship determination and its decision to grant or deny the requested renewal. In short, Indiana law contemplates a variance as a temporary means of regulatory relief of little value to applicants seeking to construct permanent structures. The City intends to construct its pilot facilities between 2008 and 2009. IDEM confirmation that setback requirements to floatables control will not apply will need to be obtained before any floatables control can be constructed.

6.5 RECORD KEEPING

Following the end of each calendar year, information on the catch basin maintenance and repair along with reports on the progress on recommendations and piloting work shall be gathered and added as Exhibit F-4 of this Chapter.

DIRECTORY FOR APPENDIX F
(Items Presented in Order of Appearance in Appendix F)

Item	Description
Exhibit F-1	CITY OF FORT WAYNE RECOMMENDED CSO SITES FOR FURTHER SOLIDS AND FLOATABLES INVESTIGATION
Exhibit F-2	CSO SOLIDS AND FLOATABLES CONTROL PLAN FOR SELECTED SITES
Exhibit F-3	REPORT CLARIFICATION
Exhibit F-4	RECORDKEEPING

EXHIBIT F-1

City of Fort Wayne Recommended CSO Sites for Further Solids and Floatables Investigation

TO: Pat Callahan/City of Fort Wayne

COPIES: Kurt Hellerman/CH2M HILL Milwaukee
Rita Fordiani/CH2M HILL Boston
Todd Webster/CH2M HILL Fort Wayne

FROM: Phil Blonn/CH2M HILL Milwaukee

DATE: July 23, 2004

Introduction

To assist the City of Fort Wayne in its ongoing long term control plan for minimizing CSOs, 44 CSO sites within the City were observed by CH2M HILL staff during the week of May 10th, 2004. The purpose of this effort was to identify CSO locations with potential solids and floatables (SF) issues and determine which sites are the best candidates for further investigation into these issues through additional site monitoring/research.

CSO Monitoring Site Evaluations and Recommendations

Data were gathered from 1) City CSO subbasin files; 2) discussions with City staff; and 3) in the field during site visits. Data collected are summarized on the attached CSO Data Forms. Photos taken at each site are also attached. Attachments are ordered by ascending CSO Overflow Point number as presented in the NPDES Permit. CSO activity information was collected from the subbasin reports and assembled into attached Table A. Table 1 presents a summary of the evaluation of each site.

TABLE 1
Summary of Evaluation of CSO Site Solids and Floatables Evaluation and Selection (in **BOLD**) for Further Investigation

Count	Overflow Point	Location Number	Receiving Water	Comment
1	004	J02-090	Saint Mary's River	Clean site and low CSO volume; outfall is submerged and river water flows back into system at a high rate; therefore, SF control is not recommended. Suggest reviewing/ correcting operation of tide flex.
2	005 (Adjacent to 006)	J11-164	Saint Mary's River	Heavy duty paper towels, rags, and sewer-related solids and floatables are regularly observed at this location according to city staff and high CSO activity; therefore, further investigation into SF control is suggested after closure of 006.

Count	Overflow Point	Location Number	Receiving Water	Comment
3	006 (Adjacent to 005)	J11-222	Saint Mary's River	Plans are currently in place to eliminate the 6" diameter outfall; therefore, SF control is not recommended.
4	007 (Adjacent to 056)	K03-092	Saint Mary's River	Sewer-related solids and floatables have been noted here in the past; non-sewer-related material observed during site visit, and there is low CSO activity; therefore, SF control is not recommended. Discharge pipe was completely submerged; suggest reviewing tide gate operation.
5	011 (Adjacent to 012)	K06-233	Saint Mary's River	Clean site at discharge location; however, regulator manhole had surcharged, lifting manhole lid and dumping sewage solids and floatables in area prior to pump station; area around manhole eroded, has occurred in past; high CSO activity. Suggest first researching and correcting the cause and then revisiting this site to determine if SF control is needed.
6	012 (Adjacent to 011)	K06-234	Saint Mary's River	Clean site at discharge location; however, regulator manhole had surcharged, lifting manhole lid and dumping sewage solids and floatables in area prior to pump station; area around manhole eroded, has occurred in past; high CSO activity. Suggest first researching and correcting the cause and then revisiting this site to determine if SF control is needed.
7	013	K06-298	Saint Mary's River	Non-sewer-related material observed during site visit (i.e., beer bottles, litter); high CSO activity staff believes to be due to plugged-up sewer lines; suggest review of sewer maintenance practices, but SF control is not recommended.
8	014	K07-106	Saint Mary's River	Non-sewer-related material observed during site visit (i.e., litter); low CSO activity; therefore, SF control is not recommended.
9	016	K07-109	Saint Mary's River	Headwall completely collapsed, several sections of pipe broken; non-sewer-related material observed during site visit (i.e., litter, household garbage); low CSO activity - never has been observed overflowing; therefore, SF control is not recommended. Suggest looking into closing off CSO.
10	**017**	**K07-176**	**Saint Mary's River**	**Sewer-related and non-sewer related (i.e., litter and garbage) solids and floatables have been noted here in the past and during site visit and there is moderate CSO activity; therefore, further investigation into potential SF control is recommended.**
11	018 (Adjacent to 019)	K11-165	Saint Mary's River	Sewer-related and non-sewer related (i.e., litter and garbage) solids and floatables have been noted here in the past and during site visit; significant CSO activity; other CSO control plans are in place; therefore, SF control is not recommended.

Count	Overflow Point	Location Number	Receiving Water	Comment
12	019 Adjacent to 018)	K11-178	Saint Mary's River	Sewer-related and non-sewer related (i.e., litter and garbage) solids and floatables have been noted here in the past and during site visit; significant CSO activity; other CSO control plans are in place; therefore, SF control is not recommended.
13	020	K15-116	Saint Mary's River	Clean site and high CSO activity; outfall is submerged and river water flows back into system; therefore, SF control is not recommended. Suggest reviewing/correcting operation of flap gate.
14	**021**	**K19-044**	**Saint Mary's River**	**Plume of sewage and solids and floatables observed during visit; high CSO activity; therefore, further investigation into SF control is recommended.**
15	023	L06-103	Saint Mary's River	Clean site and low CSO activity; outfall is submerged and river water occasionally flows back into system; therefore, SF control is not recommended. Suggest reviewing/ correcting operation of flap gate.
16	024 (Adjacent to 025)	L06-420	Saint Mary's River	Clean site and moderate CSO activity; outfall is sometimes submerged and river water occasionally flows back into system; therefore, SF control is not recommended. Suggest reviewing/correcting operation of flap gate.
17	025 (Adjacent to 024)	L06-421	Saint Mary's River	Clean site and low CSO activity; outfall is sometimes submerged and river water occasionally flows back into system; therefore, SF control is not recommended. Suggest reviewing/correcting operation of flap gate.
18	**026** **(Adjacent to 027 and 033)**	**M10-151**	**Saint Mary's River**	**Sewer-related and non-sewer related (i.e., litter) solids and floatables have been noted here in the past and during the site visit and there is high CSO activity; therefore, further investigation into potential SF control is recommended.**
19	**027** **(Adjacent to 026 and 033)**	**M10-202**	**Saint Mary's River**	**Sewer-related and non-sewer related (i.e., litter) solids and floatables have been noted here in the past and during the site visit and there is high CSO activity; therefore, further investigation into potential SF control is recommended.**
20	028	M10-238	Saint Mary's River	Sewer-related solids and floatables have been noted here in the past (believed to occur only when pumps at adjacent pump house have been active) and during the site visit but there is low CSO activity; therefore, SF control is not recommended. Suggest reviewing pump operation/type.
21	029	M10-265	Saint Mary's River	Some sewer-related but mostly non-sewer related (i.e., litter) solids and floatables have been noted here in the past and during the site visit and there is low CSO activity; therefore, SF control is not recommended.

Count	Overflow Point	Location Number	Receiving Water	Comment
22	032	M10-306	Saint Mary's River	Non-sewer related (i.e., litter) solids and floatables have been noted here in the past and during the site visit and there is low CSO activity; therefore, SF control is not recommended. Outfall submerged, exact location and condition unknown. Suggest reviewing whether river water intrusion is an issue and condition of any back flow prevention.
23	**033** **(Adjacent to 026 and 027)**	**M10-313**	**Saint Mary's River**	**Sewer-related and non-sewer related (i.e., litter) solids and floatables have been noted here in the past and during the site visit and there is high CSO activity; therefore, further investigation into potential SF control is recommended.**
24	036	M18-032	Spy Run Creek	Clean site and low-moderate CSO activity; therefore, SF control is not recommended.
25	039	N06-022	Maumee River	Clean site and low-moderate CSO activity; therefore, SF control is not recommended.
26	044	N22-093	Saint Joseph River	Minor sewer-related solids and floatables were noted during the site visit and there is low CSO activity; therefore, SF control is not recommended at this time.
27	045	N22-103	Saint Joseph River	Non-sewer related (i.e., litter) solids and floatables were noted during the site visit and there is low CSO activity; therefore, SF control is not recommended.
28	048	O10-252	Maumee River	Clean site/discharge even with high CSO activity; therefore, SF control is not recommended.
29	049	O10-257	Maumee River	Did not visit; considered eliminated by staff; suggest permanently removing from permit list.
30	050	O10-277	Maumee River	Clean site and low-moderate CSO volume; outfall is submerged and river water was observed flowing back into system; therefore, SF control is not recommended. Suggest reviewing/ correcting operation of flap gate.
31	051	O22-002	Saint Joseph River	Minor sewer-related solids and floatables and more non-sewer-related litter were noted during the site visit and there is low-moderate CSO activity; therefore, SF control is not recommended at this time.
32	**052**	**O22-004**	**Saint Joseph River**	**Solids and floatables (i.e., paper towels) were stuck in the flap gate during the site visit and there is low-moderate CSO activity; therefore, further investigation into SF control is recommended.**
33	053	O22-094	Saint Joseph River	Non-sewer related (i.e., litter) solids and floatables were noted during the site visit; low CSO activity; therefore, SF control is not recommended.
34	054	O23-080	Natural Drain #4, then St. Mary's River	Non-sewer related (i.e., litter) solids and floatables were noted during the site visit; low-moderate CSO activity; therefore, SF control is not recommended.

Count	Overflow Point	Location Number	Receiving Water	Comment
35	055	P06-192	Maumee River	Clean site; however, sewer-related solids and floatables have been observed in the past; high CSO activity. This site would be considered for further SF control investigation, however, city staff indicated that this would be a difficult site and should not be considered further at this time.
36	056	J03-313	Saint Mary's River	Sewer-related solids and floatables have been noted here in the past; non-sewer-related material observed during site visit, and there is low CSO activity; therefore, SF control is not recommended.
37	057	P10-121	Maumee River	Plans are already in place for CSO control; therefore, SF control is not recommended.
38	058	Q06-034	Maumee River	Non-sewer-related (i.e., litter) solids and floatables; low CSO activity; therefore, SF control is not recommended.
39	060	R06-031	Unnamed Ditch to Maumee River	Non-sewer-related (i.e., litter, garbage) solids and floatables; low CSO activity; therefore, SF control is not recommended. Water often discolored; suggest further investigation into surrounding site and potential implementation of best management practices.
40	061 (Adjacent to 062)	R14-137	Baldwin Ditch to stormwater ponds to Maumee River	Clean site; low-moderate CSO activity; therefore, SF control is not recommended.
41	062 (Adjacent to 061)	R14-138	Baldwin Ditch to stormwater ponds to Maumee River	Clean site; low-moderate CSO activity; therefore, SF control is not recommended.
42	064	S02-035	Unnamed Ditch to Maumee River	Non-sewer related (i.e., litter) solids and floatables were noted during the site visit; moderate CSO activity; therefore, SF control is not recommended.
43	067	K19-077	Saint Mary's River	Clean site; low-moderate CSO activity; therefore, SF control is not recommended.
44	068	N18-254	Saint Joseph River	Some sewer-related solids and floatables and some non-sewer-related litter were noted during the site visit; CSO activity is unknown at this time; therefore, SF control is not recommended at this time.
45		P10-001	Maumee River	Clean site; CSO activity unknown at this time; therefore, SF control is not recommended at this time.

In addition to recommending sites for further solids and floatables control investigation, Table 1 also identifies other sewer-related and public nuisance issues along the waterfront areas for informational purposes. For ease of review, Table 2 presents the locations where additional solids and floatables control is recommended for further investigation through additional research/monitoring.

TABLE 2
CSO Sites Recommended for Further Solids and Floatables Control Investigation

Overflow Point	Location Number	Street Location	Receiving Water	Discharge Size:
017	K07-176	Waldron Circle	St. Mary's River	42"
021	K19-044	Old Mill & Fairfax	St. Mary's River	66"
026/027/033	M10-151/M10-202/M10-313	3rd Street and Calhoun	St. Mary's River	2 – 72" / 1- 72" / 4 - 42"
052	O22-004	St. Joseph River Drive behind Concordia Lutheran High School	St. Joseph River	48"

TABLE A

CSO Characterization Based on Subbasin Reports and Staff Comment

Overflow Point	Annual Model Results: CSO Volume (cubic feet)	CSO Volume (million gallons)	CSO Frequency (times/year)	CSO Duration (hours)	Jan. - Apr. Data Frequency (no. of occurrences)	CSO Discharge Diameter	CSO Duration (hours/ event)	Comments
004	677,841	5.1	53	151	4	30"	3	
005	3,562,952	26.7	69	248	7	66"	4	
006	248	0.0	N/A	248	7	6"	N/A	
007	63,215	0.5	10	10	N/A	60"	1	
011	3,721,544	27.8	41	111	N/A	72"	3	
013	5,830,632	43.6	52	211	N/A	72"	4	
014	73,187	0.5	63	104	0	12"	2	
016	6,621	0.0	9	4	0	N/A	0	
017	963,279	7.2	32	88	8	N/A	3	
018	51,159,119	382.7	84	470	8	126"	6	
019	data included with 018					42"	N/A	
020	2,457,734	18.4	72	249	8	6'x6' box	3	
021	1,425,564	10.7	56	344	10	66"	6	
023	267,138	2.0	54	20	6	48"	0	
024	1,195,116	8.9	16	40	6	N/A	3	
025	48	0.0	1	1	5	60"	1	
026	data included with 033					72"	N/A	
028	471,877	3.5	15	24	4	30"	2	
029	604,752	4.5	70 / 26	34 / 2	13	48"	N/A	
032	183,098	1.4	5	44	7	N/A	9	
033	17,562,363	131.4	66	328	N/A	var. ~72"	5	
036	1,864,615	13.9	83	727	4	24"	9	
039	3,051,243	22.8	40	269	N/A	60"	7	
044	9,510	0.1	3	13	4	12"	4	
045	8,680	0.1	3	2	4	10"	1	
048	11,305,463	84.6	63	256	N/A	4 - 30", 5"	4	
050	1,621,933	12.1	52	294	2	36"	6	
051	291,092	2.2	10	26	5	18"	3	
052	782,402	5.9	45 / 17	231 / 27	7	48"	N/A	
053	134,659	1.0	9	19	5	42"	2	
054	511,038	3.8	27	100	5	48"	4	
055	2,959,476	22.1	62	515	7	48"	8	
056	63,215	0.5	10	10	N/A	2 - 36"	1	some data are for both 056 and 007
057	8,673,828	64.9	45	128	4	96"	3	
058	47,734	0.4	3	4	2	24"	1	
060	255,572	1.9	47	218	5	42"	5	
061	295,426	2.2	6	20	8	42"	3	
062	834,303	6.2	7	21	6	60"	3	
064	697,941	5.2	94	588	7	120"	6	
067	215,375	1.6	96	527	0	24"	5	
068	N/A	N/A	N/A	N/A	2	36"	N/A	

CSO Site Data Sheets and Photos

Combined Sewer Overflow Solids/Floatables Control Data Sheet

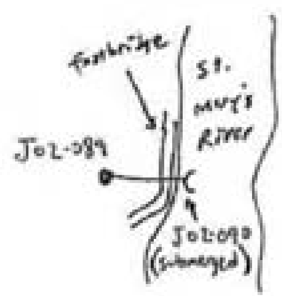
Overflow Point #: 004	Location#: J02-090
Street Location: Rolling Mill Regulator; 1998 Taylor St.	Receiving Water: St. Mary's River
Subbasin: J02-089	Immediate Area Land Use (describe): Industrial
CSO Annual Volume (cf): 677,841 (model)	CSO Annual Frequency (times/year): 53 (model); 4 (Jan.-Apr. data)
CSO Annual Overflow (hours):151 (model)	Tide Gate Type: tide flex, records indicate it is chained open
Discharge Size: 30" diameter	Discharge Invert: N/A; submerged
River Elevation: 738+/- (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

No identifiables have been observed at this location, no flow has ever been observed toward river at this location, river water flows into system at this point at a high rate

Draw site/describe conditions:

Outfall is submerged even when water level is low



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/12 11:59 a.m.	Name: Phil Blonn

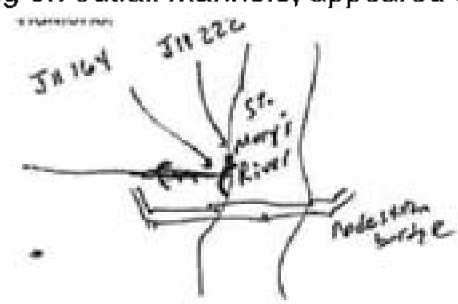
J02-090

Combined Sewer Overflow Solids/Floatables Control Data Sheet

<table>
<tr><td>Overflow Point #: ~~006~~ 005</td><td>Location #: J11-164, ~~J11-222~~</td></tr>
<tr><td>Street Location: Indian Village East of 4400 Bluffton Road</td><td>Receiving Water: St. Mary's River</td></tr>
<tr><td>Subbasin: K11-004</td><td>Immediate Area Land Use (describe):

Park</td></tr>
<tr><td>CSO Annual Volume (cf): 3,562,952 (model)</td><td>CSO Annual Frequency (times/year): 69 (model); 7 (Jan.-Apr. data)</td></tr>
<tr><td>CSO Annual Overflow (hours): 248 (model)</td><td>Tide Gate Type: J11-164: flapgate; ~~J11-222: duckbill~~</td></tr>
<tr><td>Discharge Size: J11-164: 66" diameter; ~~J11-222:~~ 6"</td><td>Discharge Invert: ≈745+/-</td></tr>
<tr><td>River Elevation: 740+/- (low water elev.)</td><td>Last Precipitation: 5:00 p.m. yesterday</td></tr>
<tr><td colspan="2">Summarize site history:

Heavy duty paper towels; heavy rags noted in the past; City trying to track source; identifiables observed in past; leaves</td></tr>
<tr><td colspan="2">Draw site/describe conditions:

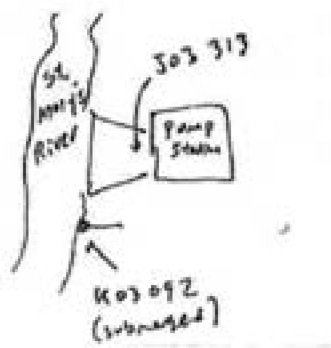
Individual observed sitting on outfall manhole; appeared to be intoxicated

</td></tr>
<tr><td colspan="2">Noted debris in water (type, size, quantify):

None</td></tr>
<tr><td colspan="2">Noted debris on land (type, size, quantify):

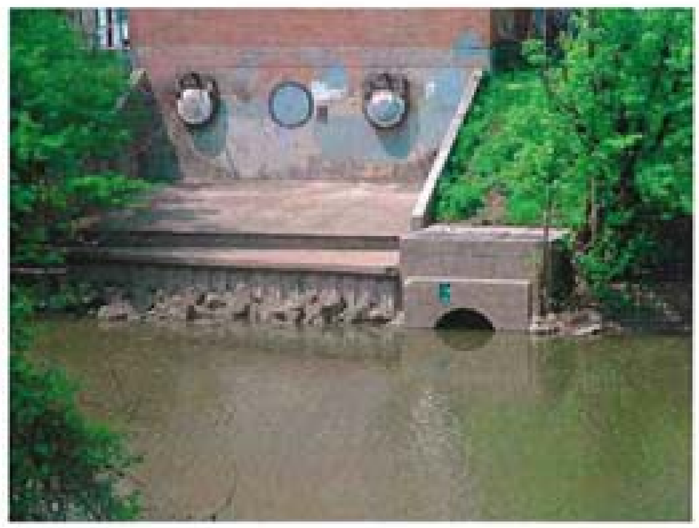
None</td></tr>
<tr><td>Date of Visit: 5/12 9:45 a.m.</td><td>Name: Phil Blonn</td></tr>
</table>

J11-164, J11-22

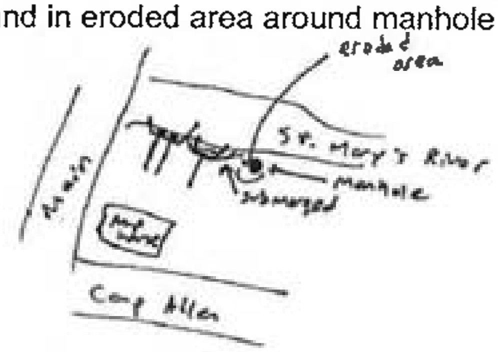
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 007	Location #: K03-092
Street Location: Brown Street Pump Station Regulator; 1800 Brown Street South Side of Brown Street just east of Electric Avenue	Receiving Water: St. Mary's River
Subbasin: J03-012	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 63,215 (model)	CSO Annual Frequency (times/year): 10 (model) no Jan.-Apr. data
CSO Annual Overflow (hours): 10 (model)	Tide Gate Type: flapgate
Discharge Size: K03-092: 60" diameter	Discharge Invert: 740.31
River Elevation: 735.0 (normal)	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: Identifiable residential sanitary sewage observed at this site in the past, not on this visit	
Draw site/describe conditions: Adjacent to Overflow Point 056, Location # J03-313	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): Small amount of litter	
Date of Visit: 5/12 11:45 a.m.	Phil Blonn

K03-092, J03-313



Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 011 & 012	Location #: K06-233 (two from pump station, K06-234 (large submerged one)
Street Location: just east of Nebraska pump station on west bank of St. Mary's River; Camp Allen and Main	Receiving Water: St. Mary's River
Subbasin: K06-290B	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 3,721,544 (model)	CSO Annual Frequency (times/year): 41 (model)
CSO Annual Overflow (hours): 111 (model)	Tide Gate Type: flap gates
Discharge Size: 72" diameter	Discharge Invert: N/A
River Elevation: N/A	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: Pumphouse with two CSO outfalls 1. One large submerged outfall 2. Two directly from pump station Problem with river water entering submerged outfall	
Draw site/describe conditions: Manhole (downstream of pump station of upstream siphon structure) surcharged; toilet paper, other identifiables at that location and in eroded area around manhole  	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): Very little, identifiables at surcharged manhole, not at outfalls	
Date of Visit: 5/12 1:05 p.m.	Name: Phil Blonn

K06-233, K06-234

K06-233, K06-234

Combined Sewer Overflow Solids/Floatables Control Data Sheet

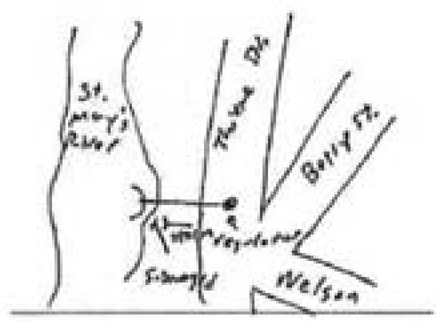
Overflow Point #: 013	Location #: K06-298
Street Location: St. Mary's River at Thieme Dr., Nelson St. and Berry St.	Receiving Water: St. Mary's River
Subbasin: K06-090 A	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 5,830,632 (model)	CSO Annual Frequency (times/year): 52 model; no Jan.-Apr. data
CSO Annual Overflow (hours): 211 (model)	Tide Gate Type: tide gate
Discharge Size: 72"	Discharge Invert: N/A submerged
River Elevation: N/A	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Has overflowed in past due to plugged up sewer lines; no identifiables observed going into river

Draw site/describe conditions:

No identifiables observed; some leaves; stormwater runoff debris; beer bottles; litter



Noted debris in water (type, size, quantify):

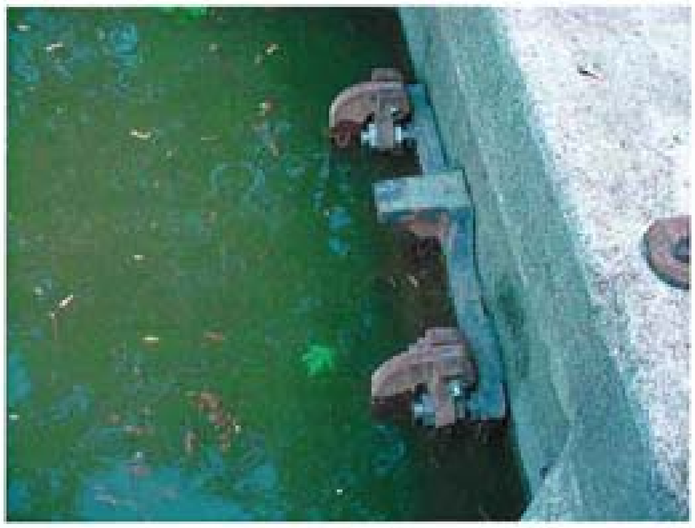
A few leaves

Noted debris on land (type, size, quantify):

Beer bottles

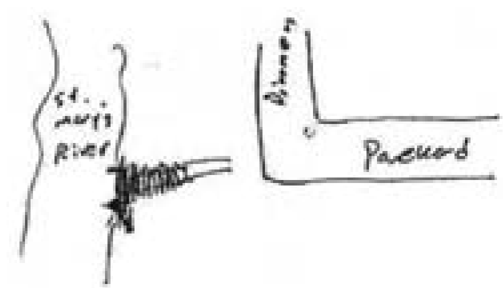
Date of Visit: 5/12 12:45 p.m.	Name: Phil Blonn

K06-298



Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 014	Location #: K07-106
Street Location: Packard and Dinnen	Receiving Water: St. Mary's River
Subbasin: K07-026	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 73,187 (model)	CSO Annual Frequency (times/year): 63 (model); 0 Jan.-Apr. data
CSO Annual Overflow (hours): 104 (model)	Tide Gate Type: None
Discharge Size: 12"	Discharge Invert: 743.3
River Elevation: 743+/- (low flow elev.)	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: Most of the basin served by combined sewers, a few separate storm sewers along southern sections of Broadway	
Draw site/describe conditions:	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): Significant amount of litter; stormwater runoff material, leaves, etc. right below outfall before river	
Date of Visit: 5/12 9:45 a.m.	Name: Phil Blonn



K07-106

Combined Sewer Overflow Solids/Floatables Control Data Sheet

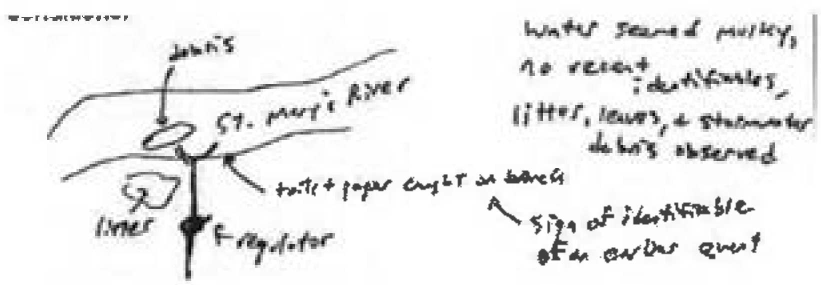
Overflow Point #: 016	Location #: K07-109
Street Location: 3418 Broadway	Receiving Water: St. Mary's River
Subbasin: K07-026	Immediate Area Land Use (describe): Commercial and residential
CSO Annual Volume (cf): 6,621 (model)	CSO Annual Frequency (times/year): 9 (model); 0 (Jan.-Apr. data)
CSO Annual Overflow (hours): 4 (model)	Tide Gate Type: none
Discharge Size: 12"	Discharge Invert: unknown
River Elevation: 743+/- (low flow elev.)	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: Never has been observed overflowing	
Draw site/describe conditions: Headwall completely collapsed; several sections of pipe broken and disconnected; severe erosion at current outfall point; no signs of identifiable sewage; debris at outfall looks like stormwater runoff debris; a lot of leaves, sediment	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): Large amounts (piles) of household garbage and litter among trees on shore of river	
Date of Visit: 5/12 11:00 a.m.	Name: Phil Blonn

K07-109

K07-109

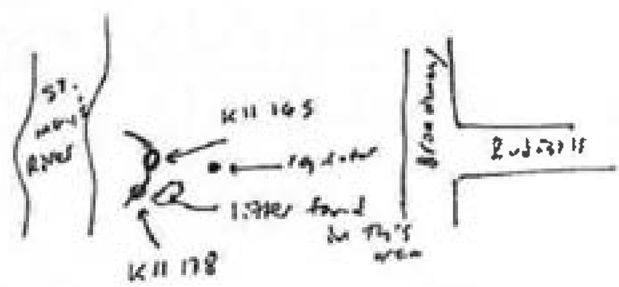
 

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 017	Location #: K07-176
Street Location: 2904 Wildmere	Receiving Water: St. Mary's River
Subbasin: K07-026	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 963,279 (model)	CSO Annual Frequency (times/year): 32 (model); 8 (Jan.-Apr. data)
CSO Annual Overflow (hours): 88 (model)	Tide Gate Type: flapgate
Discharge Size: 42" diameter	Discharge Invert: unknown
River Elevation: 743 +/- (low flow elev.)	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: There has been observed overflow with identifiable debris in the past	
Draw site/describe conditions:  	
Noted debris in water (type, size, quantify): Litter caught on dead tree in water	
Noted debris on land (type, size, quantify): Litter, pile of trash	
Date of Visit: 5/12 11:30 a.m.	Name: Phil Blonn

K07-176

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 018	Location #: K11-165
Street Location: near Broadway and Rudisill	Receiving Water: St. Mary's River
Subbasin: K11-010	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 51,159,119 (model)	CSO Annual Frequency (times/year): 84 (model); 8 (Jan.-Apr. data)
CSO Annual Overflow (hours): 470 (model)	Tide Gate Type: 12' x 12' tidegate
Discharge Size: 126"	Discharge Invert: 744.06'
River Elevation: 743+/-	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: This is about 40% of the total CSO volume for the city. See also data sheet 019 (K11-178).	
Draw site/describe conditions:  	
Noted debris in water (type, size, quantify): See also data sheet 019 (K11-178).	
Noted debris on land (type, size, quantify): See also data sheet 019 (K11-178).	
Date of Visit: 5/12 10:20 a.m.	Name: Phil Blonn

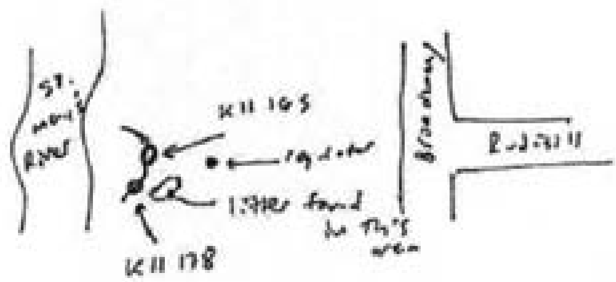
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 019	Location #: K11-178
Street Location: Near Broadway and Rudisill	Receiving Water: St. Mary's River
Subbasin: K11-010	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): included w/K11-165	CSO Annual Frequency (times/year): see K11-165; 5 (Jan.-Apr. data)
CSO Annual Overflow (hours):	Tide Gate Type: flapgate
Discharge Size: 42"	Discharge Invert: 745.75'
River Elevation: 743+/- (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Debris observed in past during heavy rains; bottles, toilet paper, leaves; a lot of storm hooked into this

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

Small amount of leaves

Noted debris on land (type, size, quantify):

Small amount of litter; pop cans, bags, etc.

Date of Visit: 5/12 10:20 a.m.	Name: Phil Blonn

K11-165, K11-178

Combined Sewer Overflow Solids/Floatables Control Data Sheet

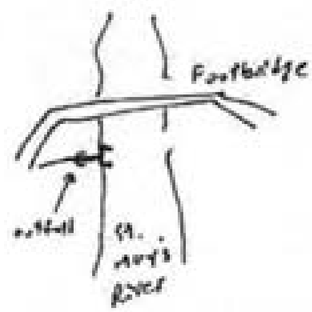
Overflow Point #: 020	Location #: K15-116
Street Location: near foot bridge to Foster Park West a couple of thousand feet west of this regulator on the east bank of St. Mary's River	Receiving Water: St. Mary's River
Subbasin: K15-009	Immediate Area Land Use (describe): Park
CSO Annual Volume (cf): 2,457,734 (model)	CSO Annual Frequency (times/year): 72 (model); 8 (Jan.-Apr. data)
CSO Annual Overflow (hours): 249	Tide Gate Type: internal flapgate u/s of outfall
Discharge Size: 6' x 6' box culvert	Discharge Invert: ≈744+/-
River Elevation: 744+/- (low flow elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

River often backs up into system at this point, debris often gets clogged at internal flapgate

Draw site/describe conditions:

No sign of debris at flapgate or regulator or outfall at time of visit



Noted debris in water (type, size, quantify):

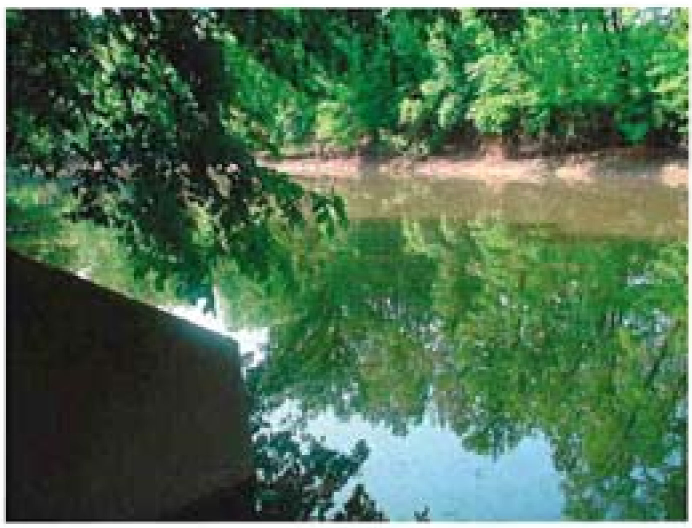
Small amount of leaves, plant debris

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/12 10:00 a.m.	Name: Phil Blonn

K15-116



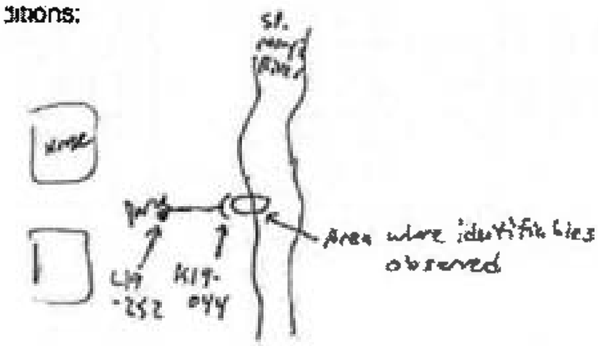
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 021	Location #: K19-044
Street Location: 5340 Century Court	Receiving Water: St. Mary's River
Subbasin: L19-252	Immediate Area Land Use (describe): Residential, park
CSO Annual Volume (cf): 1,425,564 (model)	CSO Annual Frequency (times/year): 56 (model); 10 (Jan.-Apr. data)
CSO Annual Overflow (hours): 344 (model)	Tide Gate Type: flapgate
Discharge Size: 66"	Discharge Invert: less than 1' above water level
River Elevation: 745 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Most combined sewers constructed in 1950s

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

Plume of sewage; identifiables, toilet paper, waste etc. on concrete and in water spillway; right at discharge point

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/12 9:00 a.m.	Name: Phil Blonn

K19-044

K19-044

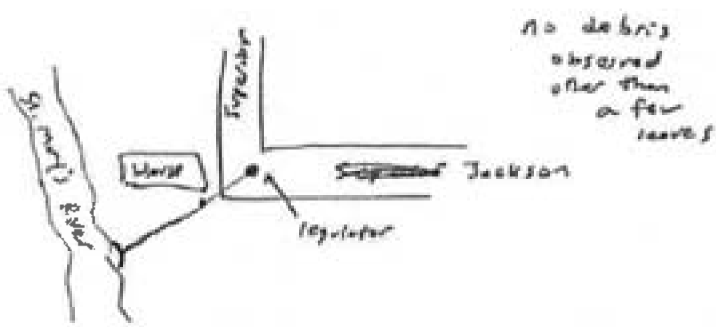
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 023	Location #: L06-103
Street Location: Jackson and Superior	Receiving Water: St. Mary's River
Subbasin: L06-078	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 267,138 (model)	CSO Annual Frequency (times/year): 54 (model); 6 (Jan.-Apr. data)
CSO Annual Overflow (hours): 20 (model)	Tide Gate Type: flapgate
Discharge Size: 48" diameter	Discharge Invert: unknown, bottom is submerged
River Elevation: 733 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Overflows with murky water have been observed, usually no identifiables; occasional river intrusion when water is real high and outfall is submerged

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/12 1:15 p.m.	Name: Phil Blonn

L06-103




Combined Sewer Overflow Solids/Floatables Control Data Sheet

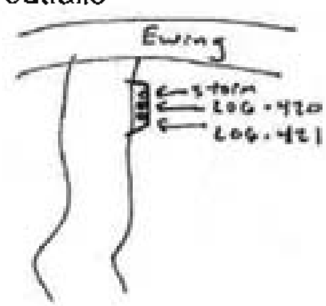
Overflow Point #: 024	Location #: L06-420
Street Location: Ewing and Superior	Receiving Water: St. Mary's River
Subbasin: L06-087	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 1,195,116 (model)	CSO Annual Frequency (times/year): 16 (model); 6 (Jan.-Apr. data)
CSO Annual Overflow (hours): 40	Tide Gate Type: flapgate
Discharge Size: 72" diameter	Discharge Invert: ≈733+/-
River Elevation: 733 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Identifiables observed in river during one event last year; submerged ≈ 50% of the time; leaks back into system when 50% submerged or more

Draw site/describe conditions:

No debris observed in area; water level at bottom of outfalls



Noted debris in water (type, size, quantify):

One pop bottle in water

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/12 1:30 p.m.	Name: Phil Blonn

Combined Sewer Overflow Solids/Floatables Control Data Sheet

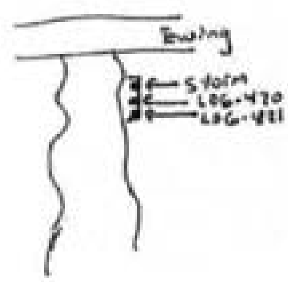
Overflow Point #: 025	Location #: L06-421
Street Location: Ewing and Superior	Receiving Water: St. Mary's River
Subbasin: L06-086	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 48 (model)	CSO Annual Frequency (times/year): 1 (model); 5 (Jan.-Apr. data)
CSO Annual Overflow (hours): 1 (model)	Tide Gate Type: flapgate
Discharge Size: 60"	Discharge Invert: ≈ 733+/-
River Elevation: 733 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Identifiables observed in river during one event last year; submerged ≈ 50% of the time; leaks back into system when 50% submerged or more

Draw site/describe conditions:

No debris observed in area; water level at bottom of outfalls



Noted debris in water (type, size, quantify):

One pop bottle in water

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/12 1:30 p.m.	Name: Phil Blonn

L06-420, L06-421

Combined Sewer Overflow Solids/Floatables Control Data Sheet

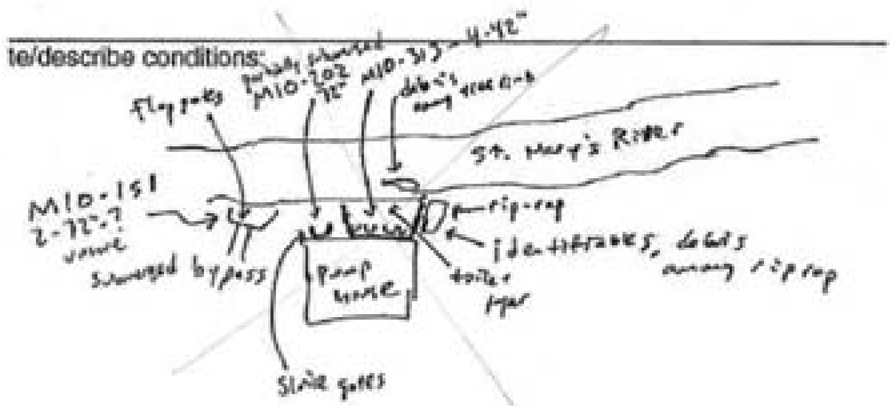
Overflow Point #: 026	Location #: M10-151
Street Location: 3rd Street and Calhoun	Receiving Water: St. Mary's River
Subbasin: M10-120	Immediate Area Land Use (describe): Residential and abandoned commercial/industrial
CSO Annual Volume (cf): 17,562,363 (model)	CSO Annual Frequency (times/year): 66 (model); no Jan.-Apr. data
CSO Annual Overflow (hours): 328 (model) 4 - 6'x6' openings	Tide Gate Type: flapgates
Discharge Size: ~~2 ≈~~ 72" diameter	Discharge Invert: unknown
River Elevation: 738 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Most sewers built 1893-1930, rest in 1950; toilet paper, fecal, identifiables observed litter, stormwater runoff observed coming out when pumps are on

Draw site/describe conditions:

Adjacent to Overflow Point #027 (Location # M10-202) and Overflow Point #033 (M10-313)



Noted debris in water (type, size, quantify):

Some identifiables, more on rip-rap

Noted debris on land (type, size, quantify):

Identifiables, toilet paper on spillway, in rip-rap

Date of Visit: 5/12 1:45 p.m.	Name: Phil Blonn

Combined Sewer Overflow Solids/Floatables Control Data Sheet

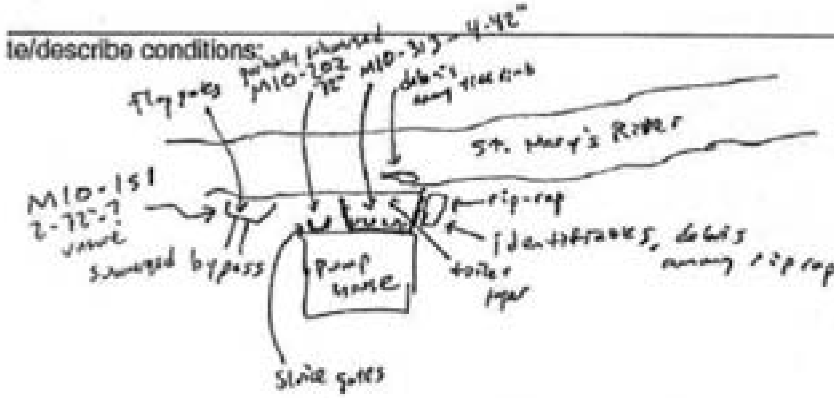
Overflow Point #: 027	Location #: M10-202
Street Location: 3rd Street and Calhoun	Receiving Water: St. Mary's River
Subbasin: M10-120	Immediate Area Land Use (describe): Residential and abandoned commercial/industrial
CSO Annual Volume (cf): ~~17,562,363~~ (model) SEE 026	CSO Annual Frequency (times/year): 66 (model); no Jan.-Apr. data SEE 026
CSO Annual Overflow (hours): 328 (model) SEE 026	Tide Gate Type: sluice gate + FLAP GATE
Discharge Size: 1 ≈ 72" diameter	Discharge Invert: 734.77
River Elevation: 738 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Most sewers built 1893-1930, rest in 1950; toilet paper, fecal, identifiables observed litter, stormwater runoff observed coming out when pumps are on

Draw site/describe conditions:

Adjacent to Overflow ~~Point #026 (Location # M10-151)~~ ~~and~~ Overflow Point #033 (M10-313)



Noted debris in water (type, size, quantify):

Some identifiables, more on rip-rap

Noted debris on land (type, size, quantify):

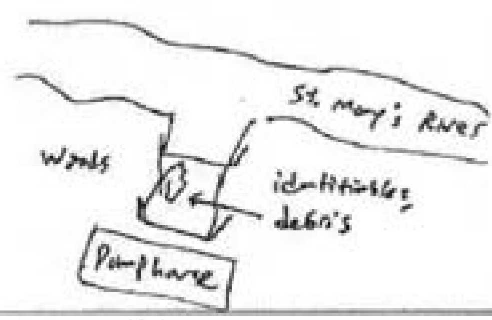
Identifiables, toilet paper on spillway, in rip-rap

Date of Visit: 5/12 1:45 p.m.	Name: Phil Blonn

M10-202, M10-313, M10-151

M10-202, M10-313, M0-151

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 028	Location #: M10-238
Street Location: Griswald pump station	Receiving Water: St. Mary's River
Subbasin: M10-237	Immediate Area Land Use (describe): Commercial; Institutional
CSO Annual Volume (cf): 471,877 (model)	CSO Annual Frequency (times/year): 15 (model); 4 (Jan.-Apr. data)
CSO Annual Overflow (hours): 24 (model)	Tide Gate Type: flapgate
Discharge Size: 30"	Discharge Invert: unknown
River Elevation: 738' (low water elev.)	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: Remnants of identifiable debris usually found after pumps go on	
Draw site/describe conditions:  	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): Toilet paper caught in branches; 20 sq. ft. area of toilet paper caught on spillway	
Date of Visit: 5/12 2:25 p.m.	Name: Phil Blonn

M10-238

Combined Sewer Overflow Solids/Floatables Control Data Sheet

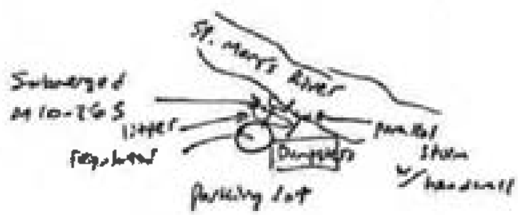
Overflow Point #: 029	Location #: M10-265
Street Location: Duck Street and Bass Street	Receiving Water: St. Mary's River
Subbasin: M10-250	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 604,752 (256) (model); 29,491 (309) (model)	CSO Annual Frequency (times/year): 70 (256) (model); 26 (309) (model); 13 (Jan.-Apr. data);
CSO Annual Overflow (hours): 34 (256); 2 (309) (model)	Tide Gate Type: unknown
Discharge Size: 48"	Discharge Invert: 734.79'
River Elevation: 744-746 normal elev.	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Some observed identifiables, toilet paper seen passing through regulator

Draw site/describe conditions:

Submerged outfall, could not see it



Noted debris in water (type, size, quantify):

Some litter, a few bottles; large amount of litter, bottles, a volleyball in standing water inside regulator manhole

Noted debris on land (type, size, quantify):

Miscellaneous litter

Date of Visit: 5/12 2:10 p.m.	Name: Phil Blonn

M10-265

Combined Sewer Overflow Solids/Floatables Control Data Sheet

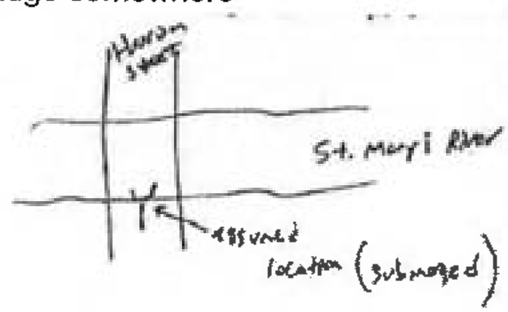
Overflow Point #: 032	Location #: M10-306
Street Location: Harrison St. Bridge	Receiving Water: St. Mary's River
Subbasin: M06-711	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 183,098 (model)	CSO Annual Frequency (times/year): 5 (model); 7 (Jan.-Apr. data)
CSO Annual Overflow (hours): 44 (model)	Tide Gate Type: flapgate (?)
Discharge Size: 60" or 30" - ?	Discharge Invert: cannot locate, submerged
River Elevation: 738 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

No observed identifiables, but some bubbles observed during an overflow near where location is assumed to be

Draw site/describe conditions:

Outfall submerged, not found under bridge somewhere



Noted debris in water (type, size, quantify):

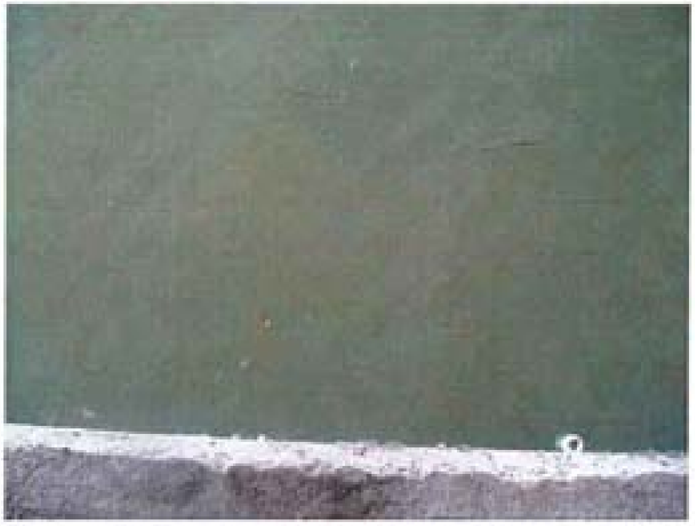
1 beer can

Noted debris on land (type, size, quantify):

Cardboard, clothing

Date of Visit: 5/12 1:35 p.m.	Name: Phil Blonn

M10-306



Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 033	Location #: M10-313
Street Location: 3rd Street and Calhoun	Receiving Water: St. Mary's River
Subbasin: M10-120	Immediate Area Land Use (describe): Residential and abandoned commercial/industrial
CSO Annual Volume (cf): ~~17,562,363 (model)~~ SEE 026	CSO Annual Frequency (times/year): ~~66 (model)~~; no Jan.-Apr. data SEE 026
CSO Annual Overflow (hours): ~~328 (model)~~ SEE 026	Tide Gate Type: flapgates
Discharge Size: 4 - 42" diameter	Discharge Invert: 752.07
River Elevation: 738 (low water elev.)	Last Precipitation: 5:00 p.m. yesterday

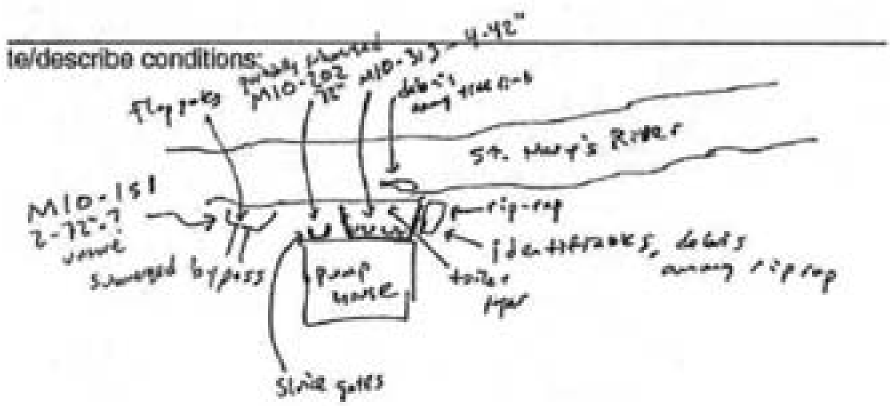
Summarize site history:

Most sewers built 1893-1930, rest in 1950; toilet paper, fecal, identifiables observed litter, stormwater runoff observed coming out when pumps are on

Draw site/describe conditions:

Adjacent to ~~Overflow Point #026 (M10-151) and~~ Overflow Point #027 (Location # M10-202)

Photos follow data sheet 027.



Noted debris in water (type, size, quantify):

Some identifiables, more on rip-rap

Noted debris on land (type, size, quantify):

Identifiables, toilet paper on spillway, in rip-rap

Date of Visit: 5/12 1:45 p.m.	Name: Phil Blonn

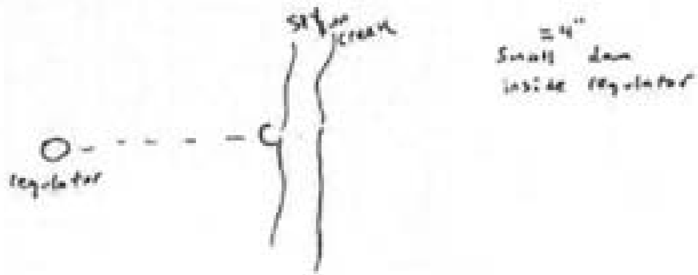
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 036	Location #: M18-032
Street Location: 2315 Westbrook	Receiving Water: Spy Run Creek to St. Mary's River
Subbasin: M18-256	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 1,864,615 (model)	CSO Annual Frequency (times/year): 83 (model); 4 (Jan.-Apr. data)
CSO Annual Overflow (hours): 727 (model)	Tide Gate Type: flapgate
Discharge Size: 24"	Discharge Invert: 747.54
River Elevation: 740 (low water elev.)	Last Precipitation: 7:40 a.m.

Summarize site history:

No identifiables observed

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

None, water looked very murky

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 12:40 p.m.	Name: Phil Blonn

M18-032

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 039	Location #: N06-022
Street Location: 721 Edgewater (we stopped); Hannah and Wayne; outfall at Hannah and Berry	Receiving Water: Maumee River
Subbasin: N06-007	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 3,051,243 (model)	CSO Annual Frequency (times/year): 40 (model)
CSO Annual Overflow (hours): 269 (model)	Tide Gate Type: N/A
Discharge Size: 60"	Discharge Invert: 761.5+/-
River Elevation: 740+/-	Last Precipitation: 7:40 a.m.

Summarize site history:

Most sewage is collected by combination sewers. The Wayne Street interceptor serves this subbasin.

Draw site/describe conditions:

Outfall location not accessible

Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 11:06 a.m.	Name: Phil Blonn

N06-022

Combined Sewer Overflow Solids/Floatables Control Data Sheet

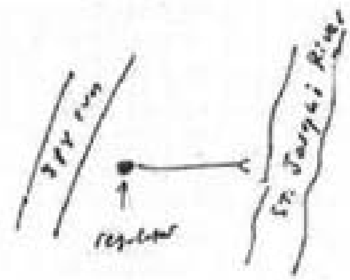
Overflow Point #: 044	Location #: N22-093
Street Location: Dalgren and Spy Run	Receiving Water: St. Joseph's River
Subbasin: M18-261	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 9,510 (model)	CSO Annual Frequency (times/year): 3 (model); 4 (Jan.-Apr. data)
CSO Annual Overflow (hours): 13 (model)	Tide Gate Type: flapgate
Discharge Size: 12"	Discharge Invert: ≈ 745 +/-
River Elevation: 743.5' (low water elev.)	Last Precipitation: 7:40 a.m.

Summarize site history:

Has not seen many overflows

Draw site/describe conditions:

Regulator builds up about 1' before overflowing



Noted debris in water (type, size, quantify):

Identifiables, toilet paper, minimal amount on rip rap immediately d/s of outfall

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 2:00 p.m.	Name: Phil Blonn

N22-093

Combined Sewer Overflow Solids/Floatables Control Data Sheet

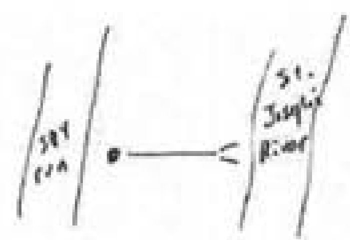
Overflow Point #: 045	Location #: N22-103
Street Location: Spy Run, 400' East of Dalgren	Receiving Water: St. Joseph's River
Subbasin: M18-261	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 8,680 (model)	CSO Annual Frequency (times/year): 3 (model); 4 (Jan.-Apr. data)
CSO Annual Overflow (hours): 2 (model)	Tide Gate Type: flapgate
Discharge Size: 10"	Discharge Invert: ≈ 745 +/-
River Elevation: 743.5' (low water elev.)	Last Precipitation: 7:40 a.m.

Summarize site history:

Has not seen many overflows; some groundwater flow into system

Draw site/describe conditions:

Regulator builds up about 1" before overflowing



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

Small amount of general litter; a few wrappers; green sludge on rip rap d/s of outfall

Date of Visit: 5/11 2:07 p.m.	Name: Phil Blonn

N22-103

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 048	Location #: O10-252
Street Location: Morton Street Pump Station	Receiving Water: Maumee River
Subbasin: O10-101	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 11,305,463 (model)	CSO Annual Frequency (times/year): 63 (model); no Jan.-Apr. data
CSO Annual Overflow (hours): 256 (model)	Tide Gate Type: shut off valve
Discharge Size: 5", 30" discharges	Discharge Invert: 745.0'
River Elevation: 742+/- (low water elev.)	Last Precipitation: 7:40 a.m.

Summarize site history:

Overflows during large rain events; overflows are typically clear-looking sewage

Draw site/describe conditions:

Pump station, 4 pumps, 5 gates, 4 were open

Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 11:15 a.m.	Name: Phil Blonn

O10-252

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 050	Location #: O10-277
Street Location: Coombs and Herbert	Receiving Water: Maumee River
Subbasin: O06-017	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 1,621,933 (model)	CSO Annual Frequency (times/year): 52 (model); 2 (Jan.-Apr. data)
CSO Annual Overflow (hours): 294 (model)	Tide Gate Type: 4'-5' wide flapgate in regulator MH and 36" flapgate at outfall
Discharge Size: 36" diameter brick	Discharge Invert: N/A, submerged
River Elevation: 738.0	Last Precipitation: 7:40 a.m.

Summarize site history:

No identifiables observed.

Draw site/describe conditions:

Regulator overtops small dam in MH and then flapgate, but river water was flowing in at this point during visit; outfall site is not accessible

Noted debris in water (type, size, quantify):

None

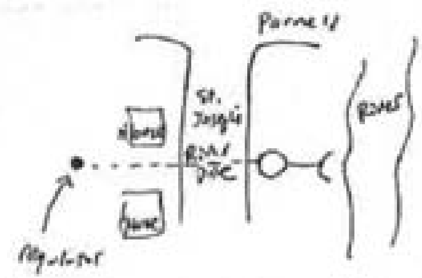
Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 10:55 a.m.	Name: Phil Blonn

O10-277

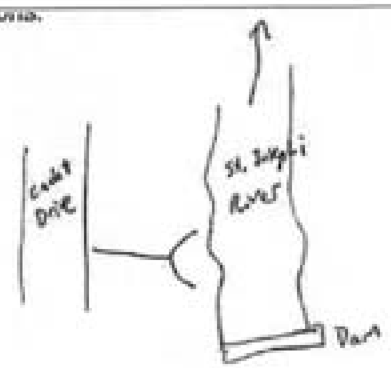
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 051	Location #: O22-094
Street Location: 1124 St. Joseph's River Drive	Receiving Water: St. Joseph's River
Subbasin: O22-092	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 291,092 (model)	CSO Annual Frequency (times/year): 10 (model); 5 (Jan.-Apr. data)
CSO Annual Overflow (hours): 26 (model)	Tide Gate Type: tide flex valve
Discharge Size: 18" diameter	Discharge Invert: 746.68
River Elevation: unknown ≈ 3-4' below invert	Last Precipitation: 7:40 a.m.
Summarize site history: Sewers first constructed in area in 1945	
Draw site/describe conditions: Some identifiable debris on rocks immediately d/s of outfall 	
Noted debris in water (type, size, quantify): Litter, cigarette butts, toilet paper, toilet paper on rip-rap immediately downstream of outlet port	
Noted debris on land (type, size, quantify): Some street litter	
Date of Visit: 5/11 2:45 p.m.	Name: Phil Blonn

O22-094

O22-094

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 052	Location #: O22-004
Street Location: Cadet Drive behind Concordia Lutheran High School	Receiving Water: St. Joseph's River
Subbasin: O22-0618	Immediate Area Land Use (describe): Residential, school
CSO Annual Volume (cf): 453,625 (model); 328,777 (model)	CSO Annual Frequency (times/year): 45,17 (model); 7 (Jan.-Apr. data)
CSO Annual Overflow (hours): 231 (model); 27 (model)	Tide Gate Type: flapgate
Discharge Size: 48"	Discharge Invert: 749.58
River Elevation: 738.50	Last Precipitation: 7:40 a.m.
Summarize site history: Sewers built in area in 1945	
Draw site/describe conditions: 	
Noted debris in water (type, size, quantify): Paper towels stuck in flapgate	
Noted debris on land (type, size, quantify): None	
Date of Visit: 5/11 2:30 p.m.	Name: Phil Blonn

O22-004

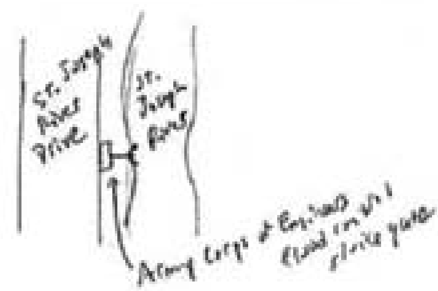
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 053	Location #: O22-002
Street Location: 1324 St. Joseph's River Drive	Receiving Water: St. Joseph's River
Subbasin: O22-092	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 134,659 (model)	CSO Annual Frequency (times/year): 9 (model); 5 (Jan.-Apr. data)
CSO Annual Overflow (hours): 19 (model)	Tide Gate Type: flapgate
Discharge Size: 42" diameter	Discharge Invert: unknown
River Elevation: unknown ≈ 5' below discharge invert	Last Precipitation: 7:40 a.m.

Summarize site history:

No indications of overflows

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

General litter; no identifiable sewer debris

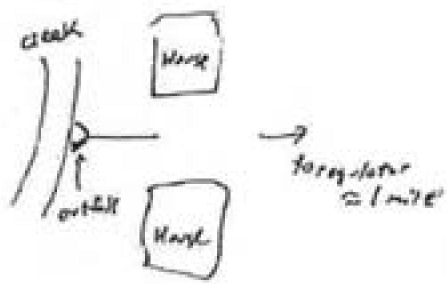
Noted debris on land (type, size, quantify):

Small pile of litter; pile of litter from storm runoff; see photo

Date of Visit: 5/11 2:30 p.m.	Name: Phil Blonn

O22-002

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 054	Location #: O23-080
Street Location: 1274 Farwood	Receiving Water: ditch, then St. Mary's River
Subbasin: N23-078	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 511,038 (model)	CSO Annual Frequency (times/year): 27 (model); 5 (Jan.-Apr. data)
CSO Annual Overflow (hours): 100 (model)	Tide Gate Type: none
Discharge Size: 48" diameter	Discharge Invert: 772.2
River Elevation: 744 +/-	Last Precipitation: 5:00 p.m. yesterday
Summarize site history: Area built in two sections in 1950 and 1951	
Draw site/describe conditions: 	
Noted debris in water (type, size, quantify): None; some identifiables in brush downstream of outflow	
Noted debris on land (type, size, quantify): None	
Date of Visit: 5/12 8:30 a.m.	Name: Phil Blonn

O23-080

Combined Sewer Overflow Solids/Floatables Control Data Sheet

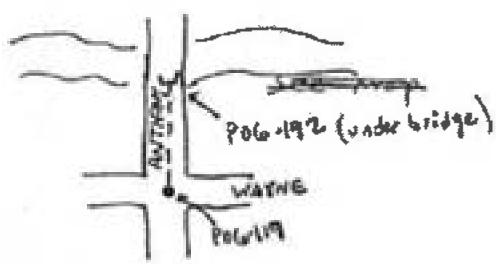
Overflow Point #: 055	Location #: P06-192
Street Location: Anthony and Wayne	Receiving Water: Maumee River
Subbasin: P06-119	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): 2,959,476 (model)	CSO Annual Frequency (times/year): 62 (model); 7 (Jan.-Apr. data)
CSO Annual Overflow (hours): 515 (model)	Tide Gate Type: flapgate
Discharge Size: 48" diameter	Discharge Invert: unknown, ≈ 2-3' above water level
River Elevation: 731.5 (normal water elevation)	Last Precipitation: 7:40 a.m.

Summarize site history:

Solids and identifiables have been observed by staff during overflows; was not overflowing during visit

Draw site/describe conditions:

Overflow water usually clear, some groundwater, stormwater gets in past regulator, flapgate was discharging a trickle of flow during visit, regulator in system of MH's at Anthony and Wayne intersection.



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 10:40 a.m.	Name: Phil Blonn

P06-192

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 056	Location #: J03-313
Street Location: Brown Street Pump Station Regulator; 1800 Brown Street South Side of Brown Street just east of Electric Avenue	Receiving Water: St. Mary's River
Subbasin: J03-012	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): ~~63,215 (model)~~ SEE 007 SEE 007	CSO Annual Frequency (times/year): ~~10 (model)~~ no Jan.-Apr. data
CSO Annual Overflow (hours): ~~10 (model)~~	Tide Gate Type: flapgate
Discharge Size: 2-36" diameter	Discharge Invert: 752.75
River Elevation: 735.0 (normal)	Last Precipitation: 5:00 p.m. yesterday

SEE 007

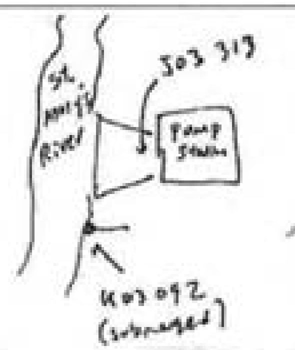
Summarize site history:

Identifiable residential sanitary sewage observed at this site in the past, not on this visit

Draw site/describe conditions:

Adjacent to Overflow Point 007,
Location # K03-092

Photos follow data sheet 007.



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

Small amount of litter

Date of Visit: 5/12 11:45 a.m.	Phil Blonn

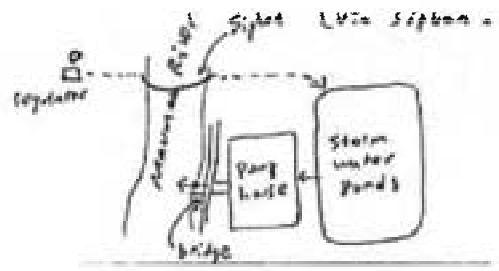
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 057	Location #: P10-121
Street Location: Wayne and Glasgow Regulator	Receiving Water: Storm Pond, then Maumee River
Subbasin: P06-014	Immediate Area Land Use (describe): Stormwater ponds, school, residences
CSO Annual Volume (cf): 8,673,828 (model)	CSO Annual Frequency (times/year): 45 (model); 4 (Jan. – Apr. data)
CSO Annual Overflow (hours): 128 (model)	Tide Gate Type: heavy duty flapgates
Discharge Size: 96" dia; 3 – 84" x 84" boxes	Discharge Invert: 734.25
River Elevation: 732 +/-	Last Precipitation: 7:40 AM

Summarize site history: Identifiable debris can be observed in water, but difficult to know if source is the overflow point

Draw site/describe conditions:

Mechanical regulator gate, chained permanently open, doesn't work, small dam, if overtopped, flow goes to stormwater pump station on other side of river (via siphon under river). Flow can then either be pumped into pond or allowed to flow in to the river through openings in wet well.



Noted debris in water (type, size, quantify):

Condom, floatable biosolids, organic matter

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 10:00 a.m.	Name: Phil Blonn

P10-121

P10-121

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 058	Location #: Q06-034
Street Location: Dwenger and Edsall 300' west of Edsall	Receiving Water: Maumee River
Subbasin: Q06-049	Immediate Area Land Use (describe): Industrial
CSO Annual Volume (cf): 47,734	CSO Annual Frequency (times/year): 3 (model); 2 (Jan.-Apr. data)
CSO Annual Overflow (hours): 4 (model)	Tide Gate Type: flapgate at Q06-035
Discharge Size: 24" diameter	Discharge Invert: ? several feet above river
River Elevation: ? ≈733+/-	Last Precipitation: 7:40 a.m.
Summarize site history: Older industrial area; no indication of overflows	
Draw site/describe conditions: CSO regulator at street, connects to MH with flapgate, then open system to river, outfall located at river behind industrial building in wooded, steeply declining area, employees taking a break behind building, smoking, eating	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): Several pop cans, bottles	
Date of Visit: 5/11 8:45 a.m.	Name: Phil Blonn

Q06-034





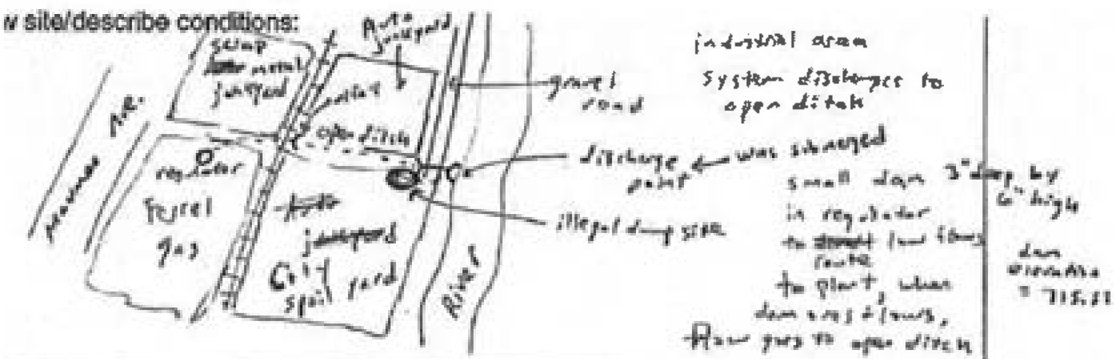
Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 060	Location #: R06-031
Street Location: 3333 Maumee Avenue North of Maumee between Edsall and Kitch	Receiving Water: Open ditch to Maumee River
Subbasin: Q06-002	Immediate Area Land Use (describe): Industrial, dumps
CSO Annual Volume (cf): 255,572 (model)	CSO Annual Frequency (times/year): 47 (model); 5 (Jan.-Apr. data)
CSO Annual Overflow (hours): 218 (model)	Tide Gate Type: flapgate
Discharge Size: 42" diameter	Discharge Invert: unknown
River Elevation: 731.50	Last Precipitation: 7:40 a.m.

Summarize site history:

Discharge water is often rusty color, possibly due to auto junkyard

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

Large dump of miscellaneous garbage on land next to ditch

Date of Visit: 5/11 9:10 a.m.	Name: Phil Blonn

R06-031

R06-031

Combined Sewer Overflow Solids/Floatables Control Data Sheet

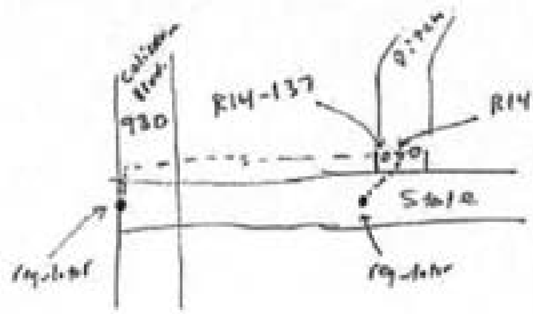
Overflow Point #: 061	Location #: R14-137
Street Location: Laverne and State	Receiving Water: open ditch to stormwater ponds to Maumee River
Subbasin: R14-033	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 295,426 (model)	CSO Annual Frequency (times/year): 6 (model); 8 (Jan.-Apr. data)
CSO Annual Overflow (hours): 20 (model)	Tide Gate Type: none
Discharge Size: 42"	Discharge Invert: ≈ 765+/-
River Elevation: 733' (low water elevation)	Last Precipitation: 7:40 a.m.

Summarize site history:

No identifiables observed.

Draw site/describe conditions:

Draw site/describe conditions:



≈3"
Small dam inside regulator

Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 11:45 a.m.	Name: Phil Blonn

Combined Sewer Overflow Solids/Floatables Control Data Sheet

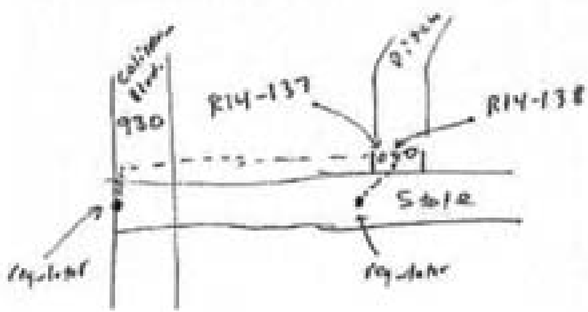
Overflow Point #: 062	Location #: R14-138
Street Location: Laverne and State	Receiving Water: Maumee River via Baldwin Ditch
Subbasin: R14-075	Immediate Area Land Use (describe): Commercial
CSO Annual Volume (cf): 834,303 (model)	CSO Annual Frequency (times/year): 7 (model); 6 (Jan.-Apr. data)
CSO Annual Overflow (hours): 21 (model)	Tide Gate Type: flapgate
Discharge Size: 60"	Discharge Invert: 762.66+/-
River Elevation: 733+/- (low water elev.)	Last Precipitation: 7:40 a.m.

Summarize site history:

Seldomly overflows

Draw site/describe conditions:

Draw site/describe conditions:



≈3"
Small dam inside regulator

Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

None

Date of Visit: 5/11 11:45 a.m.	Name: Phil Blonn

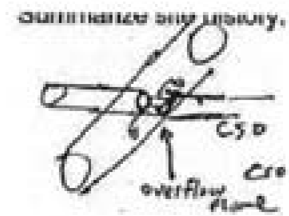
R14-137, R14-138

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #: 064	Location #: S02-035
Street Location: New Haven Avenue and Coliseum Boulevard	Receiving Water: Unnamed ditch, then Maumee River
Subbasin: Q06-202	Immediate Area Land Use (describe): Commercial/Residential, Industrial, open space
CSO Annual Volume (cf): 697,941 (model)	CSO Annual Frequency (times/year): 94 (model); 7 (Jan.-Apr. data)
CSO Annual Overflow (hours):588 (model)	Tide Gate Type: None
Discharge Size: 120" diameter	Discharge Invert: ≈ 747.0'
River Elevation: unknown	Last Precipitation: 5:00 p.m. yesterday

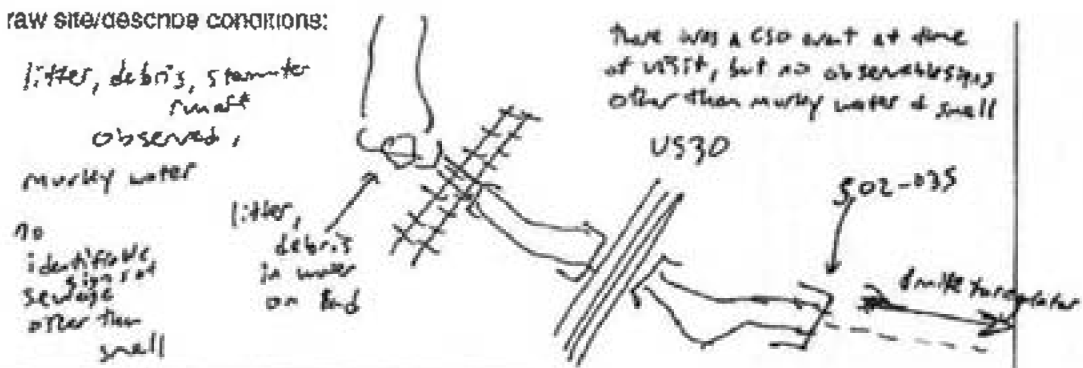
Summarize site history:

A lot of stormwater in this part of system, CSO water gets in through connection where CSO is a half-pipe line crossing through storm and spilling over (see diagram)



Draw site/describe conditions:

There was a CSO event at the time of visit, but no observable signs other than murky water and smell.



Noted debris in water (type, size, quantify):

Some litter

Noted debris on land (type, size, quantify):

Some litter

Date of Visit: 5/12 2:30 p.m.	Name: Phil Blonn

Combined Sewer Overflow Solids/Floatables Control Data Sheet

S02-035

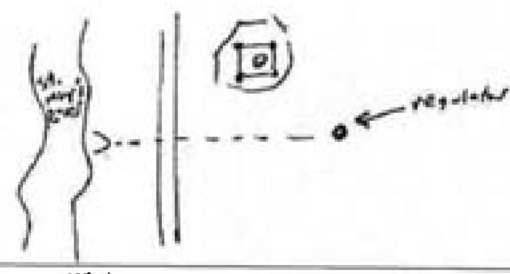
S02-035

Overflow Point #: 067	Location #: K19-077
Street Location: Foster Park at Hartman Road	Receiving Water: St. Mary's River
Subbasin: K15-112	Immediate Area Land Use (describe): Park, ball fields
CSO Annual Volume (cf): 215,375 (model)	CSO Annual Frequency (times/year): 96 (model) (likely high); 0 (Jan.-Apr. data)
CSO Annual Overflow (hours): 527 (model)	Tide Gate Type: flapgate
Discharge Size: 24"	Discharge Invert: N/A; guess ≈ 748-752+/-
River Elevation: ≈744+/-	Last Precipitation: 5:00 p.m. yesterday

Summarize site history:

Observed at regulator that it had overflowed, likely during last night's rain event; no sign of debris at outfall; small trickle at flow coming out of it; according to city; groundwater gets into system and flows out at this point

Draw site/describe conditions:



Noted debris in water (type, size, quantify):

None

Noted debris on land (type, size, quantify):

Some loose bricks

Date of Visit: 5/12 9:30 a.m.	Name: Phil Blonn

K19-077

Combined Sewer Overflow Solids/Floatables Control Data Sheet

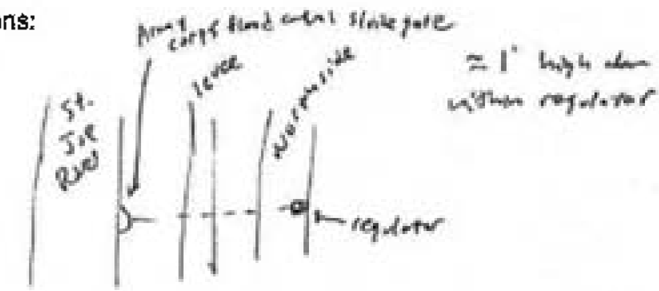
Overflow Point #: 068	Location #: N18-254
Street Location: Northside and Glazier	Receiving Water: St. Joseph River
Subbasin: N22-005	Immediate Area Land Use (describe): Residential
CSO Annual Volume (cf): no model info	CSO Annual Frequency (times/year): 2 (Jan.-Apr. data)
CSO Annual Overflow (hours):	Tide Gate Type: sluice gate
Discharge Size: 36" diameter	Discharge Invert: 743.7'
River Elevation: 737.50' (normal water elev.)	Last Precipitation: 7:40 a.m.

Summarize site history:

Overflows in past

Draw site/describe conditions:

nditions:



Noted debris in water (type, size, quantify):

Identifiables, toilet paper, etc.; solids on rip-rap immediately d/s of outfall

Noted debris on land (type, size, quantify):

None; couch on top of levee

Date of Visit: 5/11 1:30 p.m.	Name: Phil Blonn

N18-254

Combined Sewer Overflow Solids/Floatables Control Data Sheet

Overflow Point #:	Location #: P10-011
Street Location: Northeast of intersection of Pemberton and Niagara at the Maumee River	Receiving Water: Maumee River
Subbasin: residential school	Immediate Area Land Use (describe): Residential; school
CSO Annual Volume (cf): N/A	CSO Annual Frequency (times/year): 5 (Jan.-Apr. data)
CSO Annual Overflow (hours): N/A	Tide Gate Type: tidegate at headwall, sluice gate at MH P10-173
Discharge Size: 60" x 66" concrete sewer	Discharge Invert: 734.06
River Elevation: 732.23	Last Precipitation: 7:40 a.m.
Summarize site history: Overflows several times a year	
Draw site/describe conditions: About one mile from regulators to outfall, a lot of stormwater tapped into system	
Noted debris in water (type, size, quantify): None	
Noted debris on land (type, size, quantify): None	
Date of Visit: 5/11 10:15 a.m.	Name: Phil Blonn

P10-001

EXHIBIT F-2

CSO Solids and Floatables Control Plan for Selected Sites

Prepared for

City of Fort Wayne
Board of Public Works

Prepared by
CH2MHILL
November 2004

City of Fort Wayne
CSO Solids and Floatables Control Plan for Selected Sites

Final Report

Prepared for

The City of Fort Wayne Board of Public Works
920 City-County Building, One Main Street
Fort Wayne, IN 46802

Prepared by

CH2MHILL

2225 Dwenger Avenue
Fort Wayne, Indiana 46803

November 2004

Contents

Appendixes

Figures

Tables

1. Introduction

1. Introduction

To assist the City of Fort Wayne in its ongoing long term control plan for minimizing CSOs, 44 CSO sites within the City were observed by CH2M HILL staff during the week of May 10th, 2004. As a result of this effort, four CSO locations (presented in Table 1) were identified as having a possible near-term need for solids and floatables control.

TABLE 1
CSO Sites Recommended for Further Investigation of Solids and Floatables Control

Overflow Point	Location Number	Street Location	Receiving Water	Discharge Size (in.)
017	K07-176	Waldron Circle/ Wildwood Avenue	St. Mary's River	42
021	K19-044	Old Mill & Fairfax/ Foster Park	St. Mary's River	66
026 027 033	M10-151 M10-202 M10-313	3rd Street and Calhoun/ Third Street Pump Station	St. Mary's River	One 72 and one 84 One 72 Four 42
052	O22-004	St. Joseph River Drive/ Concordia High School Access Road	St. Joseph River	48

Available technologies and approaches to CSO control are numerous and a broad initial list of candidate CSO technologies was developed to encompass many potential control objectives.

1.1 CSO Program Overview

CSO control technologies can be grouped into five general classifications:

- Sewer system optimization (regulator modifications; in-system storage)
- Inflow reduction (upstream stormwater storage; stormwater sumps; sewer separation; flow slippage; infiltration reduction)
- Storage (tanks; conduits; flow balancing)
- Source control (street sweeping; catch basin cleaning; sewer flushing; improved land use; public education programs)
- Treatment (booms; nets; baffles; screens; vortex separators; sedimentation)

Selecting the most appropriate technology or mix of technologies for a site or a sewer system depends on a variety of technical, environmental, and implementation factors. Sewer system optimization, inflow reduction, and storage are focused primarily around CSO quantity reduction where as source control and treatment are focused primarily around improving CSO quality.

The City of Fort Wayne is currently developing a long-term CSO control plan for its combined sewer system which includes technologies from the above groups. Additional wet weather conveyance is planned to convey the southern CSOs (along the Saint Mary River) and the CSOs along the Maumee River to the City of Fort Wayne water pollution control facility (WPCF). The drainage areas tributary to the northern CSOs along the Saint Joseph River may be scheduled for separation. A separate project is currently reviewing maximization of the existing system for storage and conveyance of flows to the WPCF. This project, the solids and floatables control project, will focus on source controls and treatment to physically remove solids and floatables from CSOs.

1.2 Site Descriptions

CSO 017 (Location #K07-176, Subbasin #K07-026, (Waldron Circle/Wildwood Avenue)

The 110-acre subbasin tributary to CSO 017 is 86 percent residential and 14 percent commercial. Residential property (¼ to ½ acre in size) is in close proximity to the regulator (#K07-171) and CSO. The regulator and CSO are located in the northwestern corner of the subbasin on the St. Mary's River. A City of Fort Wayne Sewer Utility Map of the area (Map No. K07, 2001) identifies the subbasin as 100 percent combined sewers.

A 42-inch combined sewer parallels the access road before it enters the regulator chamber. There is a weir inside the chamber which diverts dry weather flow away from the 42-inch CSO and toward the double barrel (10-inch and 8-inch) siphon under the St. Mary's River. There is a float-operated mechanical gate inside the structure that can be adjusted to open/close the gate at a specific water elevation in the chamber. There is about a 20-foot wide multiple resident driveway that serves as an access road to the regulator and CSO. The CSO discharges about 50 feet from the regulator.

CSO 021 (Location #K19-044, Subbasin #L19-252, Fairfax Avenue/Foster Park)

The 330-acre subbasin tributary to CSO 021 is 68 percent residential, 14 percent commercial, and 10 percent open space. The regulator (#L19-018) is located in a small grove of trees in between two residential properties (¾ acre in size). The regulator and CSO are located on the western edge of the subbasin on the St. Mary's River. The CSO is located roughly 450 feet southwest of the regulator at the southern end of Foster Park. A City of Fort Wayne Sewer Utility Map of the area (Map No. L19, 2001) identifies the subbasin as predominantly combined sewers with some separated sewers in the southern and eastern portions of the subbasin.

A 66-inch combined sewer parallels Fairfax Avenue before it enters the regulator chamber. There is a weir inside the chamber which diverts dry weather flow away from the 66-inch CSO and toward a 24-inch interceptor sewer. There is a float-operated mechanical gate on the regulator discharge that can be adjusted to open/close the gate at a specific water elevation in the chamber.

CSO 026/027/033 (Location #M10-151, #M10-202, #M10-303, Subbasin #M10-150, Third Street Pump Station)

The 833-acre subbasin tributary to CSOs 026/027/033 is 73 percent residential, 10 percent commercial, 10 percent institutional/industrial, and 10 percent open space. The overflow from regulator M10-150 goes to CSO 026/M10-151. The overflow from regulator M10-199 goes to CSO 027/M10-202 and CSO 033/M10-303. The regulators and CSOs are located on the west bank of the St. Mary's River on city-owned property. A residential neighborhood is across the street. A paved greenway recreation trail parallels the river.

CSO 026 / M10-151

Of these three CSOs, CSO 026 is the northeasternmost. CSO 026 is a submerged discharge and consists of two 4-foot-square head wall openings with flap gates and two 4.5- by 6-foot head wall openings with flap gates. CSO 026 receives the overflow from regulator M10-150. Regulator M10-150 receives flow from regulator M10-148 through an 84-inch pipe and regulator M10-199 through a 72-inch pipe. Both the 84- and 72-inch pipes have hydraulic sluice gates located between upstream regulators M10-148 and M10-199 and downstream regulator M10-150. The sluice gates are maintained in the open position.

CSO 027 / M10-202

CSO 027 is a submerged discharge, just southwest of CSO 026. Regulator M10-199 diverts wet weather flows over a weir through a 108-inch pipe to structure M10-201, where the flow is discharged through either a 72-inch pipe to CSO 027 or through the Third Street Pump Station. A hydraulic sluice gate on the 72-inch pipe is maintained in the closed position. Therefore, CSO 027 is maintained to have zero discharge and functions as an emergency bypass for the pump station.

CSO 033 / M10-313

CSO 033/M10-313 is a pump station discharge, just southwest of CSO 027. Regulator M10-199 diverts wet weather flows over a weir through a 108-inch pipe to structure M10-201, where the flow is discharged through either a 72-inch pipe or through the Third Street Pump Station to CSO 033. The pump station has bar screens with 2-inch spacing. CSO 033 consists of four 42-inch outfall pipes.

CSO 052 (Location #O22-004, Subbasin # O22-061B, Concordia High School Access Road)

The 176-acre subbasin tributary to CSO 052 is 62 percent residential, 15 percent commercial, 15 percent institutional, and 8 percent open space. Institutional and commercial properties are in the immediate vicinity. The regulator and CSO are located in the northwestern corner of the subbasin. A City of Fort Wayne Sewer Utility Map of the area (Map No. P22, 2001) identifies the subbasin as mixed combined and separate sewers.

Regulator P22-001 diverts wet weather flow from the east side of Anthony Boulevard to the west side of Anthony Boulevard through a 30-inch pipeline. Regulator P22-139 divers wet weather flow from the east side of Crescent Avenue to the west side of Crescent Avenue through a 24-inch pipe. The 24-inch pipe runs along St. Joe River Drive to Anthony Boulevard, where it combines with a 48-inch separate storm sewer. The combined sewer flows then run north along Anthony Boulevard through a 54-inch pipe that combines with the 30-inch overflow pipe from Regulator P27-001 at Manhole 027-005. A 42-inch pipeline exits manhole 022-005 and flows roughly 500 feet northwest to CSO 052. CSO 052 is located on the northwest side of Concordia Lutheran High School Access Road and the southern side of the St. Joseph River.

2. Solids and Floatables Control Alternatives

2. Solids and Floatables Control Alternatives

2.1 Non-structural Source Control Best Management Practices

Source controls are characterized by nonstructural techniques and programs that aim to reduce pollutant loading by intercepting or preventing the accumulation of contaminants before they enter the overflow stream. Although this strategy would not reduce or eliminate the solids and floatables associated with the sanitary sewage, it could help control the discharge of the considerable amounts of debris resulting from surface wash during storms. Studies in New York City have shown that street litter and debris can make up as much as 95 percent of the volume of CSO solids and floatables. Thus, this technique may be applicable for reducing the overall mass of solids and floatables and thus reduce the aesthetic problems and nuisances associated with this waste stream.

Because the techniques are not "end-of-pipe" solutions, this control strategy is not associated with particular outfalls. However, it is possible that the level of effort can be adapted for particular drainage areas to ensure that outfalls, which typically are problematic with respect to solids and floatables, are provided with more intensive efforts to relieve the problem.

The City of Fort Wayne has several source control programs in place:

- Street sweeping program
- Catch basin and inlet cleaning program
- Recycling program
- "Great America Clean Up" program
- "Tox-Away" program
- Hazardous spill response team
- Industrial pretreatment program
- Combined sewer flushing
- Trash collection and public education

Each program is described briefly below with estimates of its performance as provided by the Division of Sewer Maintenance.

Street Sweeping Program

Street sweeping reduces the amount of debris entering combined and storm sewers by collecting it prior to entry. This type of control is applicable to highly developed and established urban areas with curbed streets. Added benefits of street sweeping are the reduction of grit and heavy metals that can be easily transported to the receiving stream. Fort Wayne utilizes vacuum sweepers which have higher efficiency than mechanical sweepers.

In addition to the vacuum sweepers, Fort Wayne has a downtown "clean team" created in 1999 to clean alleys, sidewalks, and streets of solid and floatable materials to beautify the downtown area. The effort also helps prevent these items from entering the combined and storm collection systems. Table 2 summarizes the curb miles swept and 33-gallon trash bags collected filled from clean team.

TABLE 2
Clean Team Street Sweeping Program Annual Collection Summary

Year	Curb Miles Swept	33-Gallon Trash Bags Collected	Amount Collected (gal.)
1997	15,068		
1998	12,002		
1999	15,924		
2000	15,900		
2001	15,614	45	1,485
2002	14,375	37	1,221
2003	15,600	16	528
Annual Average	**14,926**	**33**	**1,078**

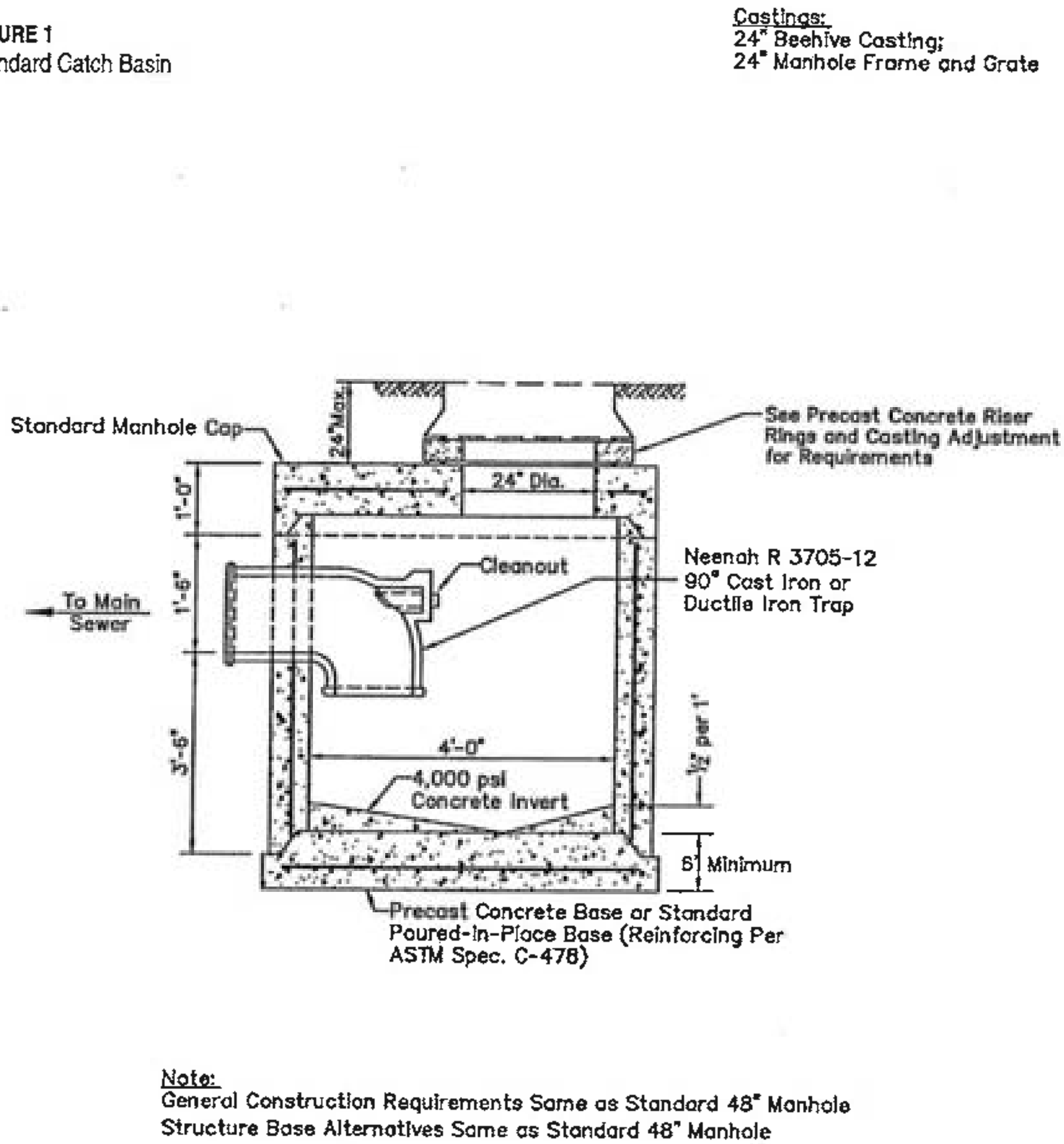
Catch Basin and Inlet Cleaning Program

Frequent removal of accumulated catch basin deposits is a method often proposed in CSO control programs to reduce the heavy "first flush" effect of deposited solids from stormwater flows and to help reduce sediment buildup accumulating in the catch basins. Although determining the effectiveness of this control strategy is difficult, it is relatively easy to implement and requires minimal capital cost. This program addresses cleaning of roughly 15,500 known structures within a 2½-year cleaning cycle. Figure 1 depicts the standard design used in 90 percent of Fort Wayne's catch basins. The remaining 10 percent are an inlet grate. Removing the sediment and debris from the catch basin structures on a scheduled basis helps control floatables that might enter a waterway. Table 3 lists the amount of sediment and debris removed annually since 1998.

TABLE 3
Catch Basin and Inlet Cleaning Program Annual Collection Summary

Year	Amount Collected (tons)
1998	1,567
1999	1,164
2000	1,828
2001	1,662
2002	1,450
2003	889
Annual Average	**1, 427**

FIGURE 1
Standard Catch Basin



Recycling Program

During household garbage collection each home is given a recycling bin so recyclable items can be collected separately. In 1999 the City added the collection of cardboard and fiberboard and each household received two recycling bins to promote recycling. Table 4 presents the actual tons of recyclable material collected each year.

Great America Clean Up Program (known as "Bag-A-Thon" prior to 2001)

Activities include neighborhood trash pickups and riverbank cleanups. The items collected have included discarded furniture, appliances, plastic bottles, Styrofoam, tires, and so on. Table 5 lists the volume of trash collected each year.

TABLE 4
Recycling Program Annual Collection Summary

Year	Amount Collected (tons)
1997	7,300
1998	7,400
1999	7,400(+)
2000	9,462
2001	9,000
2002	8,973
2003	9,317
Annual Average	**8,407**

TABLE 5
Great America Clean Up Program Annual Collection Summary

Year	Amount Collected (lb)	Amount Collected (tons)
1998	93,000	46.5
1999	306,000	153.0
2000	253,180	126.6
2001	108,320	54.2
2002	124,228 + 6,460 (from 3 additional river cleanups) = 130,688	65.3
2003	153,260	76.6
Annual Average	**174,075**	**87.0**

Tox-Away Program

Tox-Away Day gives residents the opportunity to discard various toxic products in an environmentally safe way. This is held annually and consists of one full weekend at one given location. This is fully implemented but without data.

Hazardous Spill Response Team

The hazardous spill response team responds to potential hazardous spills and performs the appropriate methods of cleanup. Every precaution is taken to contain the spill from entering a waterway. Most hazardous spill incidences relate to traffic accidents.

Industrial Pretreatment Program

Significant industrial users, contract customers and non-major dischargers are monitored from strategic sampling points four times per year. This helps ensure that industrial waste to restaurant grease is discharged into the combined collection system within acceptable levels.

Combined Sewer Flushing

Combined sewer flushing is most applicable to flat sewers where pollutants accumulate and enough water can be surged to produce a significant "first flush" effect. The City of Fort Wayne flushes 500,000 feet of pipe annually.

Trash Collection and Public Education

The City of Fort Wayne reported collection of 88,177 tons of garbage in 2003. Public efforts can reduce the amount of solids and floatables by reducing litter in the streets, properly disposing of leaves and other debris from yards before they are washed to the storm sewers, and paying attention to the types of material that are disposed of in toilets. Each of these areas can be affected to varying degrees by public education and change of behavior.

2.2 Structural Solids and Floatables Control Technologies

Structural CSO solids and floatables control technologies provide physical separation of solids and floatables in the overflow stream before discharge to the receiving water. Due to aesthetic issues along the riverfront , end-of-pipe technologies such as booms and end-of-pipe netting facilities are not being considered. Baffles may be considered with some of the technologies below, but they are not very effective alone. Technologies include the following:

- Baffles
- Booms
- In-line Nets
- Screens (microscreens, mechanical screens, and coarse screens)
- Vortex separation
- Plain sedimentation (primary treatment)
- Flocculation and sedimentation
- High-rate filtration

Table 6 summarizes the attributes of these technologies .

2.3 Design Criteria

The 1992 Rainfall Frequency Atlas of the Midwest by Floyd A. Huff and James R. Angel identifies Fort Wayne in climatic section 3 in Figure 1 which corresponds to a rainfall of 0.56 inch for the 2-month, 1-hour storm in Table 2 (see Appendix A). Estimated Single-Event Overflow Volume graphs were provided by the City of Fort Wayne for each of the four CSO sites and included in Appendix B. Using these graphs, the rainfall depth of 0.56 inch was plotted on the 1-hour curves to determine an overflow volume in million gallons. The results are tabulated in Table 7. CSO peak rates assume the overflow volume duration is 1 hour. This short duration was selected as a conservative approach to equipment design.

TABLE 6
Advantages and Disadvantages of Structural Solids and Floatables Controls

Technology	Advantages	Disadvantages and Limitations	Applicability
Baffles	Inexpensive High floatables capture Low equipment maintenance Relatively small land requirements	Low solids capture Can be unreliable in effectiveness	Applicable to all Fort Wayne sites; consider further in combination with other technologies
Booms	Inexpensive and cost-effective High floatables capture Moderate implementation period No land requirements	Low solids capture Needs to be cleaned after each overflow event Potential for odors and an aesthetic nuisance if near high-use waterfront areas Potential high capital and maintenance costs for skimmer boats	Not applicable to Fort Wayne CSOs due to proximity of the rivers to high-use public areas; do not consider further
In-line Nets	Inexpensive and cost effective High capture of floatables Relatively inexpensive Moderate implementation period Relatively small land requirements	Moderate capture of solids Nets need to be replaced approximately 18 times per year Net replacement can potentially produce odors and be an aesthetic nuisance Potential high maintenance costs for nets	Although the maintenance duration is relatively short, maintenance may be an aesthetic issue at Fort Wayne sites; consider further
Bar Screens	Moderate capture of floatables Uses conventional technology Relatively small land requirements	Limited capture of solids Needs to be cleaned after each overflow event Potential for odors	Applicable to all Fort Wayne sites; consider further
Microscreens	High floatables and solids capture Uses conventional technology Relatively small land requirements	Need to be cleaned after each overflow event Potential for odors and clogging	Applicable to all Fort Wayne sites; consider further
Vortex separator	Moderate solids capture No moving parts Accepts a wide range of flow rates Relatively small land requirements Good cost-effectiveness for TSS removal	Limited floatables capture Influent pumping may be required Solids handling may be required Limited technology success	Applicable to all Fort Wayne sites; consider further

TABLE 6
Advantages and Disadvantages of Structural Solids and Floatables Controls

Technology	Advantages	Disadvantages and Limitations	Applicability
Plain sedimentation (primary treatment)	High capture of solids and floatables Proven, well-understood technology Sedimentation basins will provide some storage	Large land area requirements High cost; moderate cost-effectiveness	One Fort Wayne site (CSO #021) has sufficient space and greater need for more significant pollutant removal; consider further r
Flocculation/ sedimentation	High capture of solids and floatables Proven, well-understood technology Sedimentation basins will provide some storage	Large land area requirements High cost; moderate cost-effectiveness Additional O&M requirements (chemical handling) Additional sludge handling	One Fort Wayne site (CSO #021) has sufficient space and greater need for more significant pollutant removal; however, chemical handling may not be desired at a remote location
High-rate filtration	High capture of floatables and moderate capture of solids Moderate land requirements (about the same as microscreens)	High O&M requirements High cost Limited CSO control experience	Applicable to all Fort Wayne sites; however, not worth the cost in comparison to other more cost-effective technologies

TABLE 7
Calculations for Solids and Floatables Control for Four Selected Sites

CSO #	Geographic Location	Location #	Discharge Size	Tide Gate	Design Rainfall Criteria: 2-month, 1-hour Storm (in./hr)	CSO Volume (MG)	CSO Peak Rate (cfs)	CSO Annual Volume (ft^3)	CSO Annual Frequency	Annual (LTCP CSO Volume (ft^3)	LTCP CSO Annual Frequency	S/F Contol
017	Waldron Circle/ Wildwood	K07-176	42"	flap	0.56	0.5	19	963,279	32	848,473	13	Small footprint screen
021	Avenue/Foster Park Fairfax	K19-044	66"	flap	0.56	0.59	22	1,425,564	56	270,000	10	85% TSS & Particulate BOD; >90% Turbidity removal; 85% P removal
026*	Third Street Pump Station	M10-151	72" & 84"	flap	0.56	1.95	72	8,781,182	66	1,150,000	13	screen; reconstruct outfall
027	Third Street Pump Station	M10-202	72"	flap	sluice gate always closed; does not overflow			0	0	0	0	none needed
033*	Third Street Pump Station	M10-313	4 @ 42" each	flap	2" spacing on bar screens in pump station; therefore, no additional control needed			8,781,182	66	1,150,000	13	2" bar screen already in place
052	Concordia High School Access Road	O22-004	48"	flap	0.56	0.21	8	782,402	45	0	0	Screen that can also be used for stormwater long term
Information Source:		*Fort Wayne Basin Reports*	*Site Visits and Fort Wayne Sewer Utility Maps*	*Site Visits*	*per Pat Callahan and Rainfall Frequency Atlas of the Midwest (1992)*	*Estimated Single Event Overflow Volume Charts from Fort Wayne*	*Calculated*	*Long-Term Water Quality Control Plan excerpts by Pat Callahan*	*Long-Term Water Quality Control Plan excerpts by Pat Callahan*	*Long-Term Water Quality Control Plan excerpts by Pat Callahan*	*Long-Term Water Quality Control Plan excerpts by Pat Callahan*	

* Flows are divided between CSO 026 and CSO 033.

2.4 Vendor Overview

A variety of vendors were contacted and provided with the calculated peak flow rates presented in Table 7. Table 8 summarizes the vendors contacted regarding specific technologies. Additional information regarding these technologies is provided in Appendix C.

TABLE 8
Summary of Vendor Technologies

Vendor	Technology	Removal Effectiveness
CDS Alternative 1 (Appendix C-1)	4-mm raked bar screen	Removes trash and debris greater than 4 mm
CDS Alternative 2 (Appendix C-1)	1-mm gross solids screening	Removes all particles to 200 microns
CDS Alternative 3 (Appendix C-3)	Chemical flocculation with 1mm gross solids screening	Removes all particles to 200 microns and essentially all suspended solids and 90% phosphorus removal
Krüger (Appendix C-2)	Physical-chemical ACTIFLO high rate treatment process	4 mm pre-screening followed by 90% removal of suspended solids
Grande (Appendix C-3)	ACU-screen with 3/16" openings automatically cleaned by brush to return debris to sewer; may require ACU-bend (bending weir) to ensure sufficient head	Removes trash and debris greater than 3/16"
Fresh Creek (Appendix C-4	Net system with ½" mesh	Removes trash and debris greater than 1/2"
Parkson (Appendix C-5)	ROMAG bar screen with 4-mm spacing automatically cleaned by combs to return debris to sewer	Removes large trash and debris greater than 4 mm
Hydro International[a]	Various screens with 4- to 6-mm spacing	Removes trash and debris greater than 4 mm

Note:
Technology descriptions and removal effectiveness information is per vendor information.
[a]Requested but did not receive Fort Wayne-specific information from Hydro International.

Vendors provided equipment costs. Order-of-magnitude construction costs were developed by CH2M HILL and are summarized in Table 9. Operation and maintenance cost information supplied by vendors was inconsistent and subjective as to frequency of inspection, repair, and replacement; therefore, the order-of-magnitude operation and maintenance costs provided in Table 9 is preliminary at this time. Backup documentation on cost estimate development is provided in Appendix D. Table 9 also lists the preferred structural alternatives.

TABLE 9
Cost Estimate Summary of Technologies at Each Site

CH2MHILL

Estimator:	Wm. Griffith / MKE
Project Mgr:	Webster, Todd/MKE
Project #:	316657
Estimate #:	Conceptual / Alternatives
Rev. #:	# 4
Est. Date :	11/29/2004

Order-of-Magnitude Estimate

		/	$849,000 High Value +50 %
Combined	**Engineer's Estimate**	**$566,000.00**	
		\	$396,200 Low Value - 30%

Facility			Alternate Vendor CDS	Equipment Footprint	Alternate Vendor KRUGER[1]	Alternate Vendor GRANDE	Alternate Vendor Fresh Creek Tech	Alternate Vendor Parkson Corp	Comments	Preferred Structural Alternative
Site # 17	Alt #1	Waldron	$81,000	3.5' x 4.33'	$1,797,223	$125,000	$176,049	$217,922		$81,000
Site # 17	Alt #2	Circle/	$273,000	10' x 15'					select smallest unit	
Site # 17	Alt #3	Wildwood	$776,000	22' x 45'	43.2' x 15.1'	8.5' x 10'	4' x 16'	12.6'		
Site # 21	Alt #1	Fairfax Avenue/	$85,000	4.25' x 4.33'	$1,878,122	$131,000	$224,497	$231,060	select highest	
Site # 21	Alt #2	Foster	$273,000	10' x 15'					quality screening	$273,000
Site # 21	Alt #3	Park	$813,000	30' x 50'	44.9' x 16.1'	8' x 8'	7.5' x 17'	12.6'	alternative	
Site # 26	Alt #1	Third Steet	$131,000	3.5' x 17.33'	$4,230,509	$197,624	$395,775	$337,366		$131,000
Site # 26	Alt #2	Pump	$739,000	30' x 18'					select smallest unit	
Site # 26	Alt #3	Station	$1,743,000	61' x 70'	52.8' x 20.8'	20' x 10'	13.33' x 19.33	25.7'		
Site # 52	Alt #1	Concordia High	$77,000	2' x 4.33'	$1,423,040	$118,918	$182,175	$180,442		$77,000
Site # 52	Alt #2	School	$235,000	10' x 12'					select smallest unit	
Site # 52	Alt #3	Access	$560,324	21' x 30'	31.9' x 10.7'	6' x 8'	4'x 16'	12.6'		
Subtotal -	**Base Capital Construction Costs**									**$562,000**

Operations & Maintenance Costs

Frequency	CDS - Raked Bar Annual Based on trips	CDS - GSS Annual Based on trips	CDS - FSS Annual Based on trips	Est 3 days	Alternate Vendor KRUGER1 Based per Day Quote	Alternate Vendor GRANDE	Alternate Vendor Fresh Creek Tech One trip replacement / 3 maint	Alternate Vendor Parkson Corp 4 annual Trips, elec. inspect, replace fluids	
Site # 17	$372	$2,630	$4,419	$5,083	annual	$2,086	$4,961	$335	**$372**
Site # 21	$372	$2,630	$4,419	$5,899	annual	$2,086	$4,961	$335	**$2,630**
Site # 26	$372	$2,630	$4,419	$20,140	annual	$2,086	$4,961	$335	**$372**
Site # 52	$372	$2,630	$4,419	$2,127	annual	$2,086	$4,961	$335	**$372**
Subtotal -	**Operations & Maintenance Costs**								**$3,746**

Total CCC & O-M **$566,000**
Rounded (3)

[1] Kruger's ACTIFLO process will likely require additional pre-screening best determined by site-specific analysis; therefore, it is likely that the construction price will increase to include some amount of pre-screening should this alternative move forward in selection.

Order-of-Magnitude Estimate

An order-of-magnitude estimate is made without detailed engineering data. Some examples include:

> An estimate from cost capacity curves
> An estimate using scale-up or scale-down factors
> An approximate ratio estimate, base on technologies

Typically, an order-of-magnitude estimate is prepared *at the end of the schematic design phase* of the design delivery process. It is normally expected that an estimate of this type would be accurate within **plus 50 percent to minus 30 percent of the estimated cost.** The cost estimates shown have been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. The final costs of the project will depend on actual labor and material costs, competitive market conditions, final project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimates presented herein. Because of this, project feasibility and funding needs must be carefully reviewed prior to making specific financial decisions to help ensure proper project evaluation and adequate funding.

2.5 Indiana Department of Environmental Management Setback Requirement

Indiana has a 500-foot setback requirement relating to construction of wastewater treatment facilities (327 IAC 3-2-6; where IAC is Indiana Administrative Code). The requirement and a August, 13, 2004, draft interpretation of the requirement prepared by IDEM's Wet Weather Section on how the requirement applies to combined sewer overflow projects is provided in Appendix E. 327 IAC 3-2-6b states that the separation distances may be shortened if the affected dwelling owners agree to a shortened separation. The 500-foot setback requirement precludes the selection of structural controls at CSO 017 (Waldron Circle/Wildwood Avenue), CSO 021 (Fairfax Avenue/Foster Park), and CSO 026 (Third Street Pump Station) unless the affected dwelling owners agree to a shortened distance. CSO 017 is adjacent to dwellings; CSO 021 is physically separated from dwellings by a fence and separate access road; and CSO 026 already has many wastewater control structures in place. Construction permits are granted through IDEM's Facilities Construction & Engineering Support Section.

2.6 Proposed Long Term CSO Controls

The ongoing progress of Fort Wayne's other CSO-related programs (long-term control plan development, monitoring, stream characterization, operational plan update) is connected to solids and floatables decisionmaking. The current draft of the long-term plan indicates the following:

TABLE 10
Fort Wayne's Draft CSO Long-Term Control Plan for the Four Selected Sites

Site	Draft CSO Long-Term Control Plan
CSO 017: Waldron Circle/ Wildwood	Proposed tunnel system
CSO 021: Fairfax/Foster Park	Proposed tunnel system
CSO 026: Third Street Pump Station	Proposed tunnel system
CSO 056: Concordia High School Access Road	Proposed sewer separation

2.7 Proposed Short-Term Solids and Floatables Control

Given the effectiveness of the current non-structural programs, Indiana's 500-foot setback requirement for construction, and the long-term CSO control plans and implementation schedule, short-term solids and floatables controls are proposed in Table 11 for the following reasons:

TABLE 11
Comments on Proposed Short-Term Controls

Site	Proposed Short-Term Control	Comments
CSO 017 Waldron Circle/ Wildwood	Non-structural programs	Small, constrained site, in close proximity to residences
CSO 021 Fairfax/Foster Park	Non-structural programs and best piloting option for short-term structural control	End of proposed tunnel system; ample construction space and access; separated from residences; most visible solids and floatables issues; adjacent to well-used parkland; easiest location to incorporate a structural short-term control with a structural long-term control[a]
CSO 026 Third Street Pump Station	Non-structural programs	Congested, visible site in close proximity to residences; existing regulator needs complete rebuild which should be incorporated with long-term plan plans
CSO 056 Concordia High School Access Road	Non-structural programs	Reasonable construction space and access; however, long-term control may include sewer separation rendering a structural control at this site potentially obsolete

[a]CSO 021 structure is within the 500-foot Indiana set-back requirement for construction and would require agreement to a shortened distance by the affected dwelling owners.

3. Conclusions and Recommendations

3. Conclusions and Recommendations

There are several conclusions and recommendations as a result of this study. The order of the conclusions and recommendations do not necessarily reflect their degree of importance.

3.1 Conclusions

1. Out of 44 CSO locations reviewed for solids and floatables nuisances, only 6 sites were recommended for further investigation at this time (CH2M HILL. July 23, 2004. *City of Fort Wayne Recommended CSO Sites for Further Solids and Floatables Investigation*).
2. Of the 6 CSO sites recommended for further solids and floatables investigation at this time, 3 CSO sites are adjacent to each other at the Third Street Pump Station.
3. Of the 3 CSO sites adjacent to each another at the Third Street Pump Station, CSO 027 has a sluice gate maintained in the closed position, resulting in a zero discharge; and CSO 033 includes a 2-inch bar rack, resulting in a screened discharge.
4. Indiana's 500-foot setback requirement for construction of wastewater treatment facilities impacts 3 of the 4 remaining selected sites (CSO 017 Waldron Circle/ Wildwood Avenue, CSO 021 Fairfax Avenue/Foster Park, and CSO 026 Third Street Pump Station) unless the affected dwelling owners agree to a shortened distance.
5. Several effective non-structural solids and floatables control programs are currently in place throughout the City.
6. The ongoing progress of Fort Wayne's other CSO-related programs (long-term control plan development, monitoring, stream characterization, operational plan update) is connected to solids and floatables decisionmaking.
7. Given the effectiveness of the current non-structural programs, the long-term CSO control plans and implementation schedule, and Indiana's 500-foot setback requirement for construction, the solids and floatable controls listed in Table 12 are recommended.

TABLE 12
Proposed Solids and Floatables Control for the Four Selected Sites

CSO	Proposed Solids and Floatables Control
CSO 017 Waldron Circle/ Wildwood	Non-structural programs
CSO 021 Fairfax/Foster Park	Non-structural programs and best piloting option for short-term structural control
CSO 026 Third Street Pump Station	Non-structural programs
CSO 056 Concordia High School Access Road	Non-structural programs

3.2 Recommendations

1. Continue documentation of the non-structural programs currently in place. Consider developing a cost-benefit estimate for each of the programs and recording implementation of the programs by sewer system tributary area. Developing cost-benefit estimates can be achieved by accurate tracking of costs of the program versus quantities and volumes of materials collected. Documentation by sewer system tributary area can be achieved by working closely with the City's geographic information system (GIS) staff.

2. Begin discussions with neighborhood groups in the affected residential areas regarding the possibility of them agreeing to shortened setback distances. Discuss precedence of granting construction permits in similar situations with IDEM's Facilities Construction & Engineering Support Section.

3. Consider only non-structural solids and floatables controls at this time for CSO 017, 026, an 056, and consider integrating structural controls with the long-term controls (that is, include structural solids and floatables control as part of the long-term plan).

4. Consider piloting a structural solids and floatables control at CSO 021 (Fairfax/Foster Park) for the following reasons: (1) it is an upstream site which will have less interference with a long term control; (2) there has been evidence of finer solids discharged at this CSO location; and (3) there is adequate construction space with some physical separation from the public. To pursue this action, the next steps include:

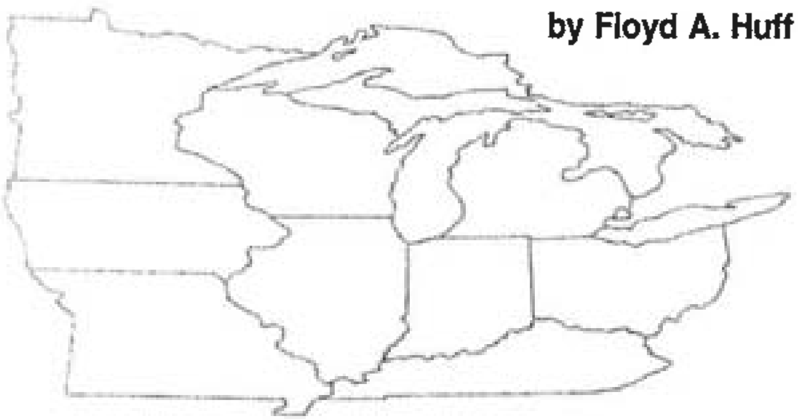
    - Revisiting the 2-month, 1-hour design criteria in concert with the design criteria for the long-term control plan solution at each specific site
    - Refining the design and costs with the preferred vendor
    - Obtaining approval of a shorter set-back requirement from the affected residences
    - Confirming regulatory agency approval prior to any construction

Appendix A

Excerpt from *Rainfall Frequency Atlas of the Midwest* (1992)

Bulletin 71
(MCC Research Report 92-03)

RAINFALL FREQUENCY ATLAS OF THE MIDWEST



by Floyd A. Huff and James R. Angel

Midwestern Climate Center
Climate Analysis Center
National Weather Service
National Oceanic and Atmospheric Administration

and

Illinois State Water Survey
A Division of the Illinois Department of Energy and Natural Resources

1992

(MCC) with Stanley Changnon and Peter J. Lamb as the co-principal investigators. The work was continued and completed under the general direction of Kenneth Kunkel, present MCC Director.

Special appreciation goes to Stan Changnon for his foresight, guidance, and encouragement in establishing and accomplishing the program objectives. He and Ken Kunkel reviewed the report and made useful comments and suggestions. Special thanks go to Richard Katz, National Center for Atmospheric Research; Tibor Farago, Hungarian Meteorological Service; and J.R.M. Hosking, IBM Research Division, for providing software for some of the extreme rainfall analyses. Fred Nurnberger, Michigan State Climatologist, provided valuable long-term precipitation data for his state as well as comments on the manuscript. We also thank the following state climatologists for their review and comments on this project: Wayne Wendland, Illinois; Ken Scheeringa, Indiana; Harry Hillaker, Iowa; Glen Conner, Kentucky; Jim Zandlo, Minnesota; Wayne Decker, Missouri; Jeff Rogers, Ohio; and Pam Naber-Knox, Wisconsin.

John Brother and Linda Hascall supervised the extensive drafting work required for the report. Jean Dennison typed and assembled the report, which Eva Kingston edited and formatted.

Figure 1. Climatic sections for the Midwest

Table 2. Sectional Mean Frequency Distributions for Storm Periods of 5 Minutes to 10 Days and Recurrence Intervals of 2 Months to 100 Years in Indiana

Sectional code (see figure 1 on page 4)

01- Northwes	*06 - East Central*
02 - North Central	*07 - Southwest*
03 - Northeast	*08 - South Central*
04 - West Central	*09- Southeast*
05 - Central	

Rainfall (inches) for given recurrence interval

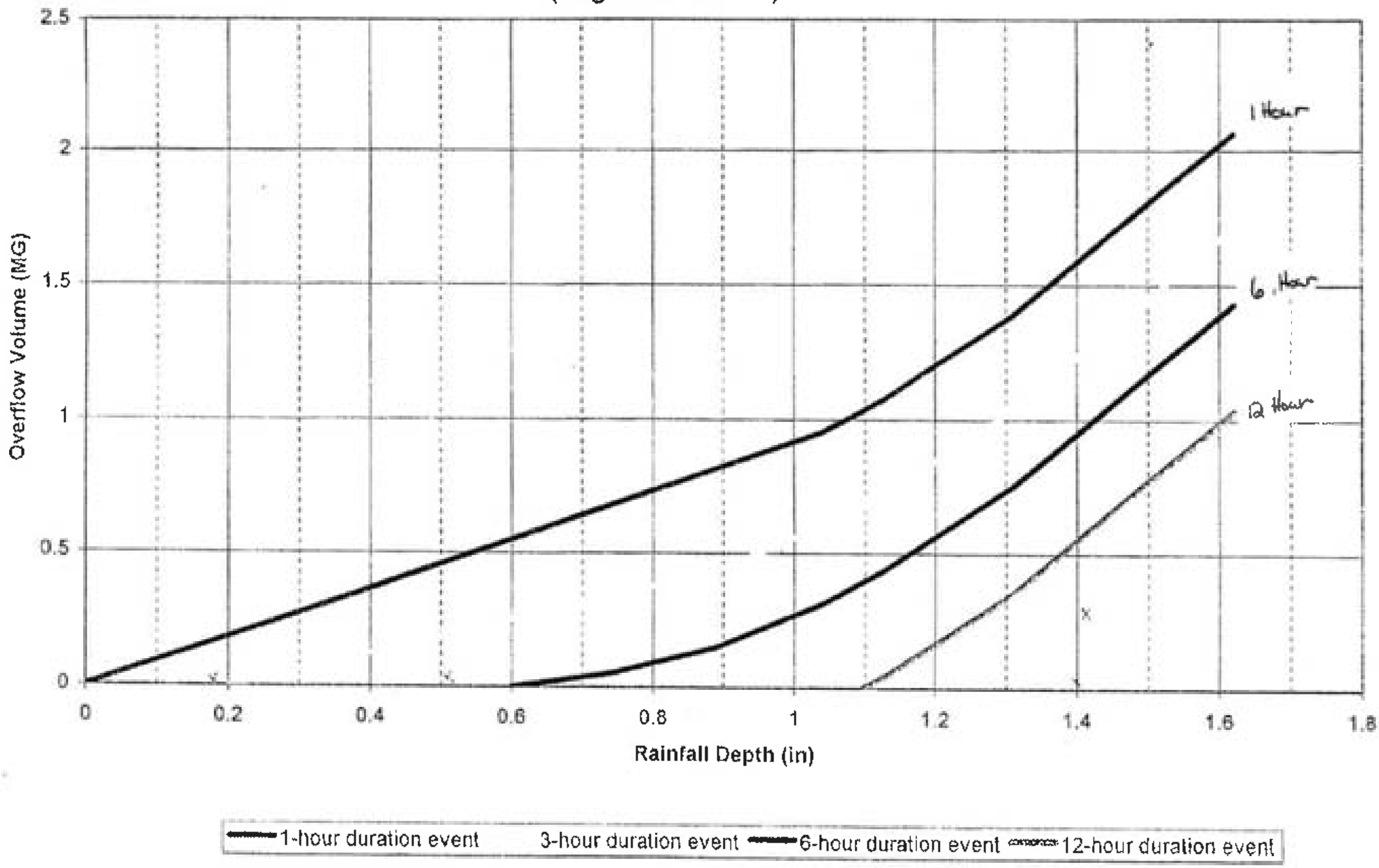
Section	*Duration*	*2-month*	*3-month*	*4-month*	*6-month*	*9-month*	*1-year*	*2-year*	*5-year*	*10-year*	*25-year*	*50-year*	*100-year*
01	10-day	2.07	2.50	2.88	3.38	3.89	4.23	4.84	5.79	6.67	8.03	9.23	10.58
01	5-day	1.68	2.01	2.27	2.63	3.03	3.29	3.84	4.70	5.50	6.81	7.99	9.37
01	72-hr	1.53	1.80	2.04	2.36	2.71	2.95	3.46	4.24	4.97	6.10	7.17	8.38
01	48-hr	1.40	1.64	1.83	2.12	2.44	2.65	3.12	3.87	4.56	5.58	6.52	7.58
01	24-hr	1.33	1.55	1.69	1.96	2.23	2.42	2.89	3.61	4.22	5.22	6.10	7.12
01	18-hr	1.25	1.45	1.59	1.84	2.09	2.27	2.72	3.39	3.97	4.91	5.73	6.69
01	12-hr	1.16	1.35	1.48	1.71	1.94	2.11	2.51	3.14	3.67	4.54	5.31	6.19
01	6-hr	1.00	1.16	1.27	1.47	1.67	1.82	2.17	2.71	3.16	3.91	4.57	5.34
01	3-hr	0.85	0.99	1.08	1.26	1.43	1.55	1.85	2.31	2.70	3.34	3.90	4.56
01	2-hr	0.77	0.90	0.98	1.13	1.29	1.40	1.68	2.09	2.45	3.03	3.54	4.13
01	1-hr	0.63	0.73	0.80	0.92	1.05	1.14	1.36	1.70	1.98	2.45	2.87	3.35
01	30-min	0.50	0.58	0.63	0.73	0.83	0.90	1.07	1.34	1.56	1.93	2.26	2.63
01	15-min	0.36	0.42	0.45	0.53	0.60	0.65	0.78	0.97	1.14	1.41	1.65	1.92
01	10-min	0.28	0.33	0.36	0.41	0.47	0.51	0.61	0.76	0.89	1.10	1.28	1.50
01	5-min	0.16	0.19	0.20	0.23	0.27	0.29	0.35	0.43	0.51	0.63	0.73	0.85
02	10-day	2.04	2.45	2.83	3.33	3.83	4.16	4.75	5.64	6.45	7.69	8.80	10.03
02	5-day	1.68	2.01	2.28	2.64	3.04	3.30	3.80	4.62	5.38	6.57	7.63	8.85
02	72-hr	1.48	1.74	1.97	2.28	2.62	2.85	3.33	4.10	4.79	5.88	6.86	8.00
02	48-hr	1.37	1.60	1.78	2.06	2.37	2.58	3.02	3.73	4.36	5.36	6.25	7.28
02	24-hr	1.30	1.51	1.65	1.91	2.17	2.36	2.78	3.43	4.00	4.90	5.67	6.54
02	18-hr	1.22	1.42	1.55	1.80	2.04	2.22	2.61	3.22	3.76	4.61	5.33	6.15
02	12-hr	1.13	1.31	1.43	1.66	1.89	2.05	2.42	2.98	3.48	4.26	4.93	5.69
02	6-hr	0.97	1.13	1.24	1.43	1.63	1.77	2.09	2.57	3.00	3.68	4.25	4.90
02	3-hr	0.83	0.97	1.06	1.22	1.39	1.51	1.78	2.20	2.56	3.14	3.63	4.19
02	2-hr	0.75	0.88	0.96	1.11	1.26	1.37	1.61	1.99	2.32	2.84	3.29	3.79
02	1-hr	0.61	0.71	0.78	0.90	1.02	1.11	1.31	1.61	1.88	2.30	2.66	3.07
02	30-min	0.48	0.56	0.61	0.70	0.80	0.87	1.03	1.27	1.48	1.81	2.10	2.42
02	15-min	0.35	0.41	0.45	0.52	0.59	0.64	0.75	0.93	1.08	1.32	1.53	1.77
02	10-min	0.28	0.32	0.35	0.41	0.46	0.50	0.58	0.72	0.84	1.03	1.19	1.37
02	5-min	0.15	0.18	0.20	0.23	0.26	0.28	0.33	0.41	0.48	0.59	0.68	0.78
03	10-day	1.81	2.18	2.52	2.96	3.40	3.70	4.25	5.12	5.84	6.96	8.01	9.16
03	5-day	1.52	1.82	2.06	2.38	2.74	2.98	3.46	4.18	4.81	5.83	6.76	7.80
03	72-hr	1.35	1.59	1.79	2.08	2.39	2.60	3.01	3.68	4.27	5.21	6.06	7.01
03	48-hr	1.27	1.48	1.65	1.91	2.20	2.39	2.77	3.38	3.92	4.78	5.57	6.45
03	24-hr	1.19	1.38	1.51	1.75	1.99	2.16	2.52	3.04	3.52	4.29	5.02	5.77
03	18-hr	1.12	1.30	1.42	1.64	1.87	2.03	2.37	2.86	3.31	4.03	4.72	5.42
03	12-hr	1.03	1.20	1.32	1.52	1.73	1.68	2.19	2.64	3.06	3.73	4.37	5.02
03	6-hr	0.89	1.04	1.13	1.31	1.49	1.62	1.89	2.28	2.64	3.22	3.76	4.33
03	3-hr	0.76	0.88	0.97	1.12	1.27	1.38	1.61	1.95	2.25	2.75	3.21	3.69
03	2-hr	0.69	0.80	0.88	1.01	1.15	1.25	1.46	1.76	2.04	2.49	2.91	3.35
03	1-hr	0.56	0.65	0.71	0.83	0.94	1.02	1.18	1.43	1.65	2.02	2.36	2.71
03	30-min	0.44	0.51	0.56	0.65	0.74	0.80	0.93	1.12	1.30	1.59	1.86	2.13
03	15-min	0.32	0.37	0.41	0.47	0.53	0.58	0.68	0.82	0.95	1.16	1.36	1.56
03	10-min	0.25	0.29	0.31	0.36	0.41	0.45	0.53	0.64	0.74	0.90	1.05	1.21
03	5-min	0.14	0.17	0.18	0.21	0.24	0.26	0.30	0.36	0.42	0.51	0.60	0.69

Appendix B

Estimated Single-Event Overflow Volume Graphs

Discharge Point
K07-176

Estimated Single-Event Overflow Volumes
Discharge Point K07176
(Regulator K07171)



Estimated Single-Event Overflow Duration
Discharge Point K07176
(Regulator K07171)

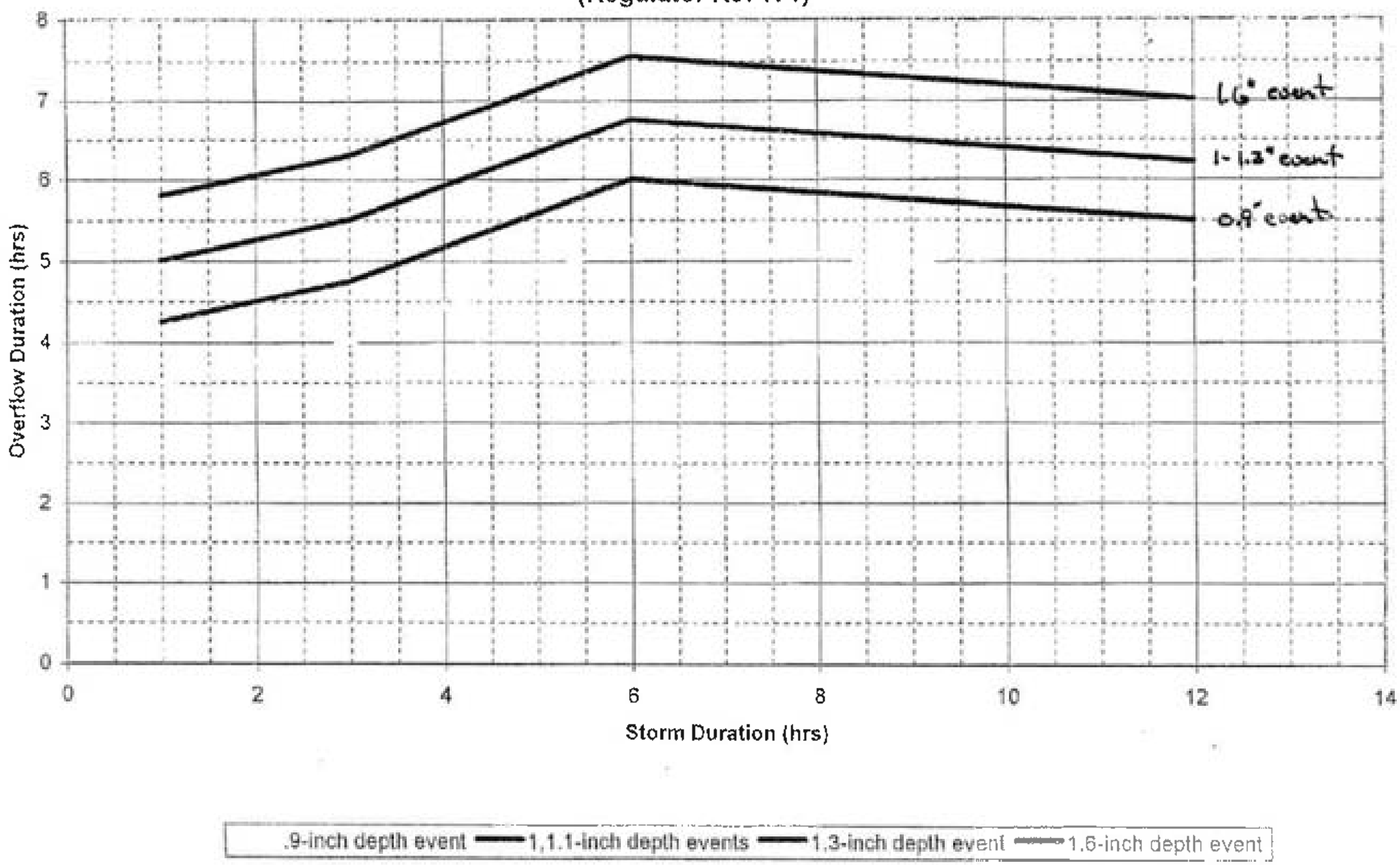
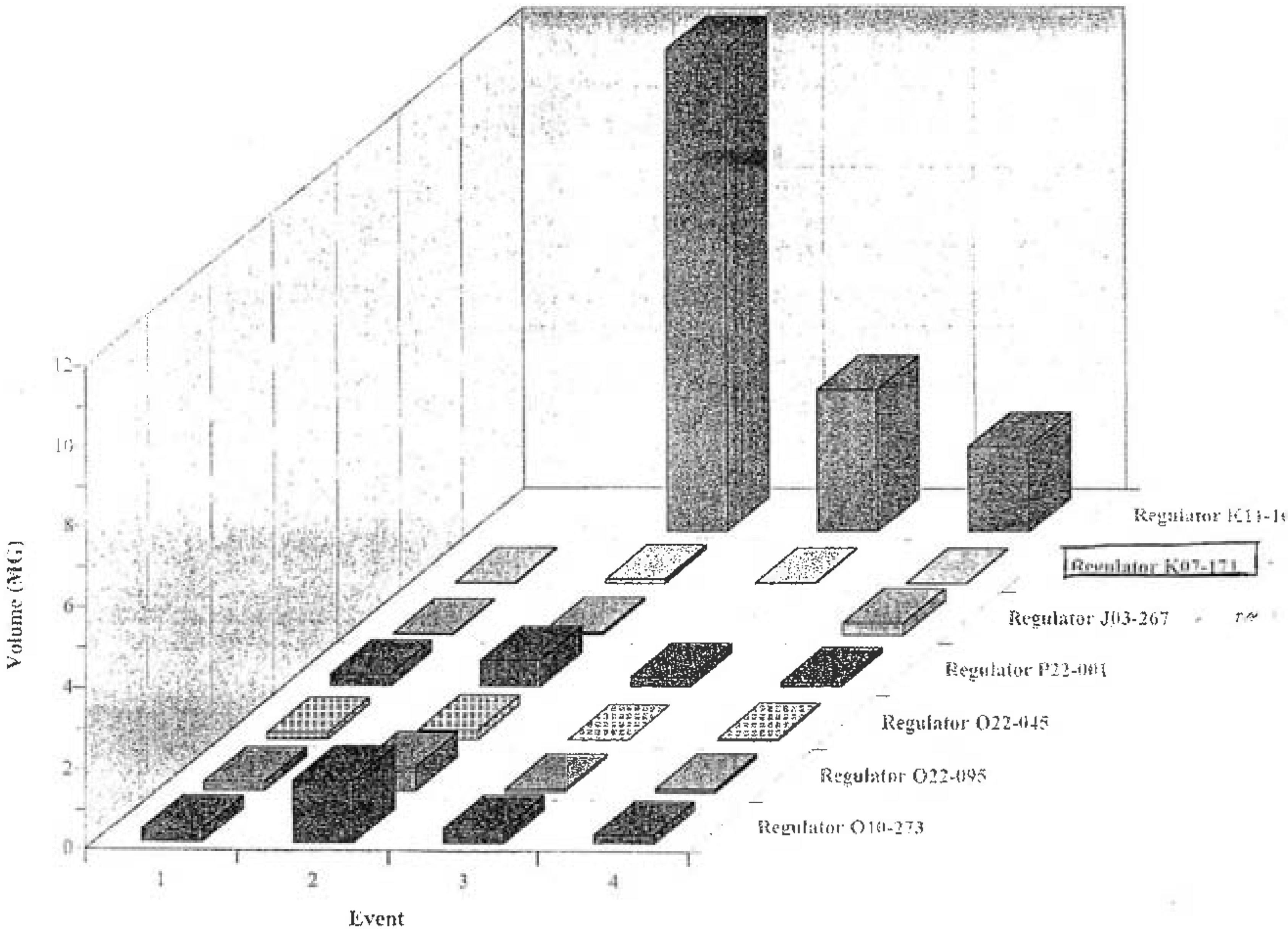


FIGURE 4-1
CSO DISCHARGE VOLUMES



Note: Flow Meters did not work at Regulator K11-163 during Event 1 and Regulator J03-267 during Event 3.

LONG TERM WATER QUALITY PLAN

KO7 171

CURRENT

ANNUAL OVERFLOW VOLUME 743,279 cf (18

ANNUAL OVERFLOW EVENTS 32 EA (12

PLANNED

ANNUAL OVERFLOW VOLUME 548,473 cf

ANNUAL OVERFLOW EVENTS 13 EA

KO7 -.102 (KO7 115)

CURRENT

ANNUAL OVERFLOW VOLUME 73,187 CF

ANNUAL OVERFLOW EVENTS 63 EA

PLANNED

ANNUAL OVERFLOW VOLUME 3,467 CF

ANNUAL OVERFLOW EVENTS 1 EA

KO7-006

CURRENT

ANNUAL OVERFLOW VOLUME 6,621 CF

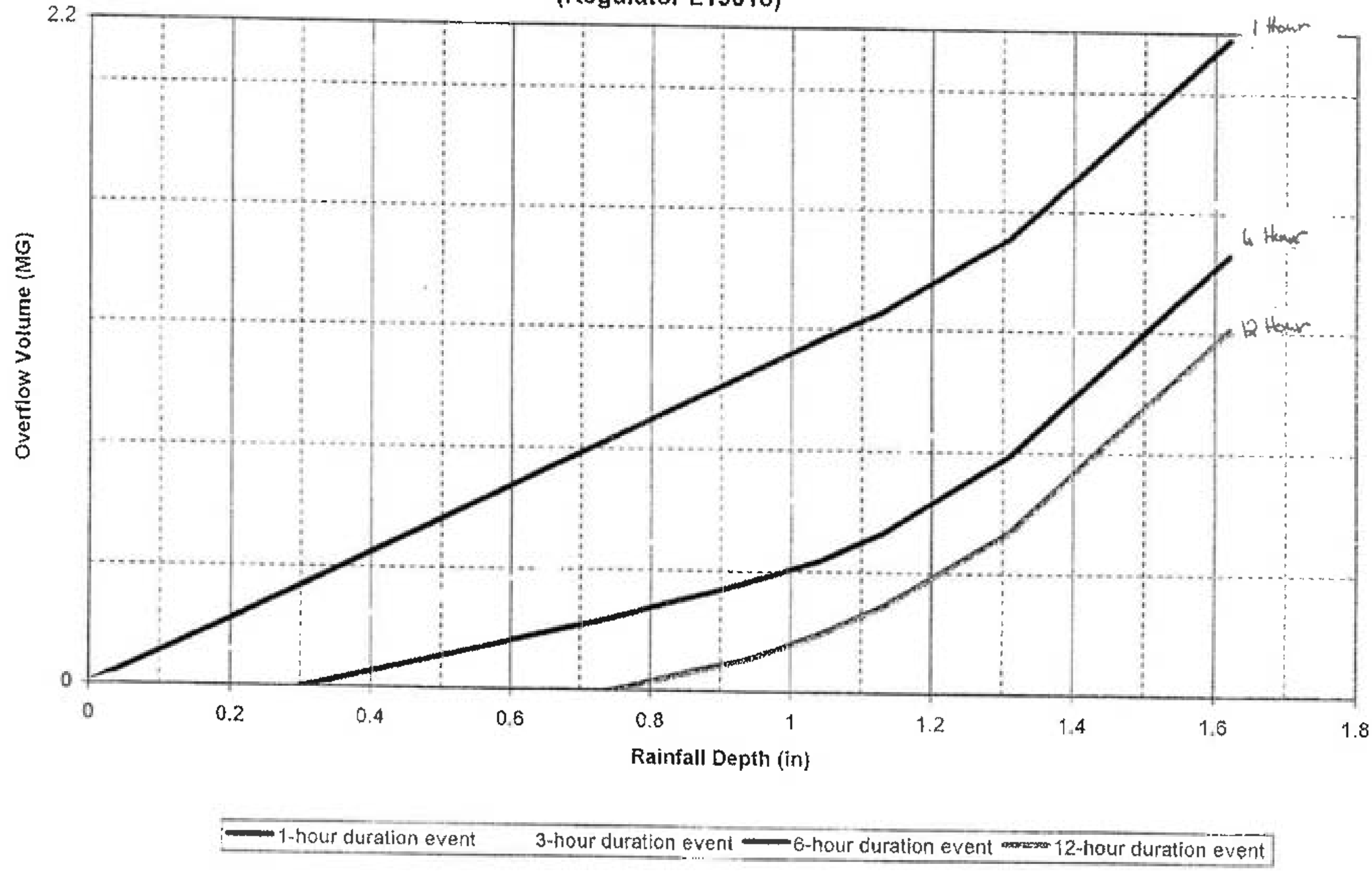
ANNUAL OVERFLOW EVENTS 9 EA

PLANNED

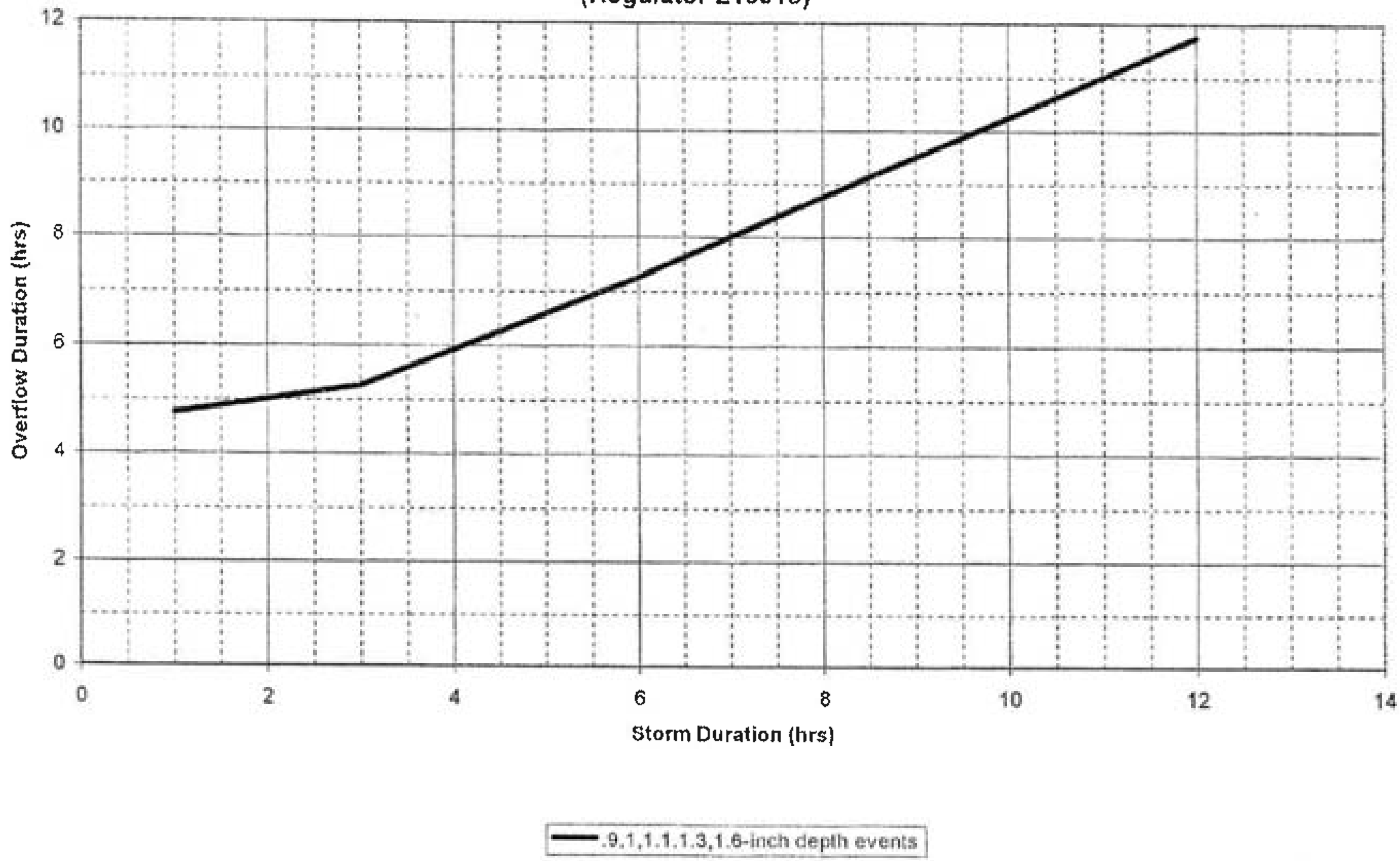
NO CHANGES PLANNED

Discharge Point
K19-044

Estimated Single-Event Overflow Volumes
Discharge Point K19044
(Regulator L19018)



Estimated Single-Event Overflow Duration
Discharge Point K19044
(Regulator L19018)



LONG TERM WATER QUALITY PLAN

Current Events

Annual Overflow Volume	1,425,564 cf.
Annual Number of Overflows	56 ea.

Planned Improvements

CSSCIP – Preliminary Engineering/Improvements

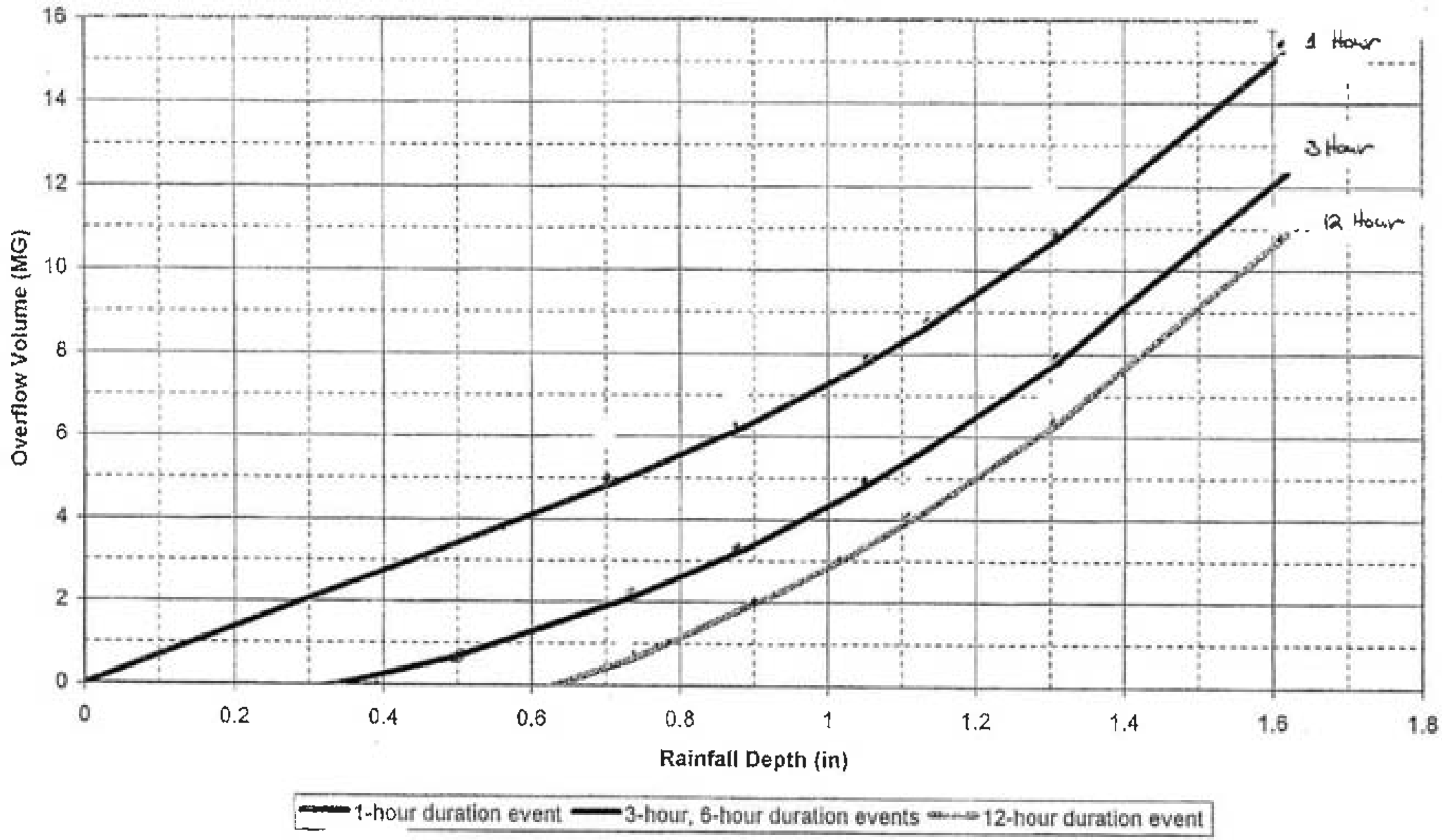
LTCP – Construct St. Marys parallel interceptor, transport cost effective volume of overflows to ponds for treatment.

Planned Events

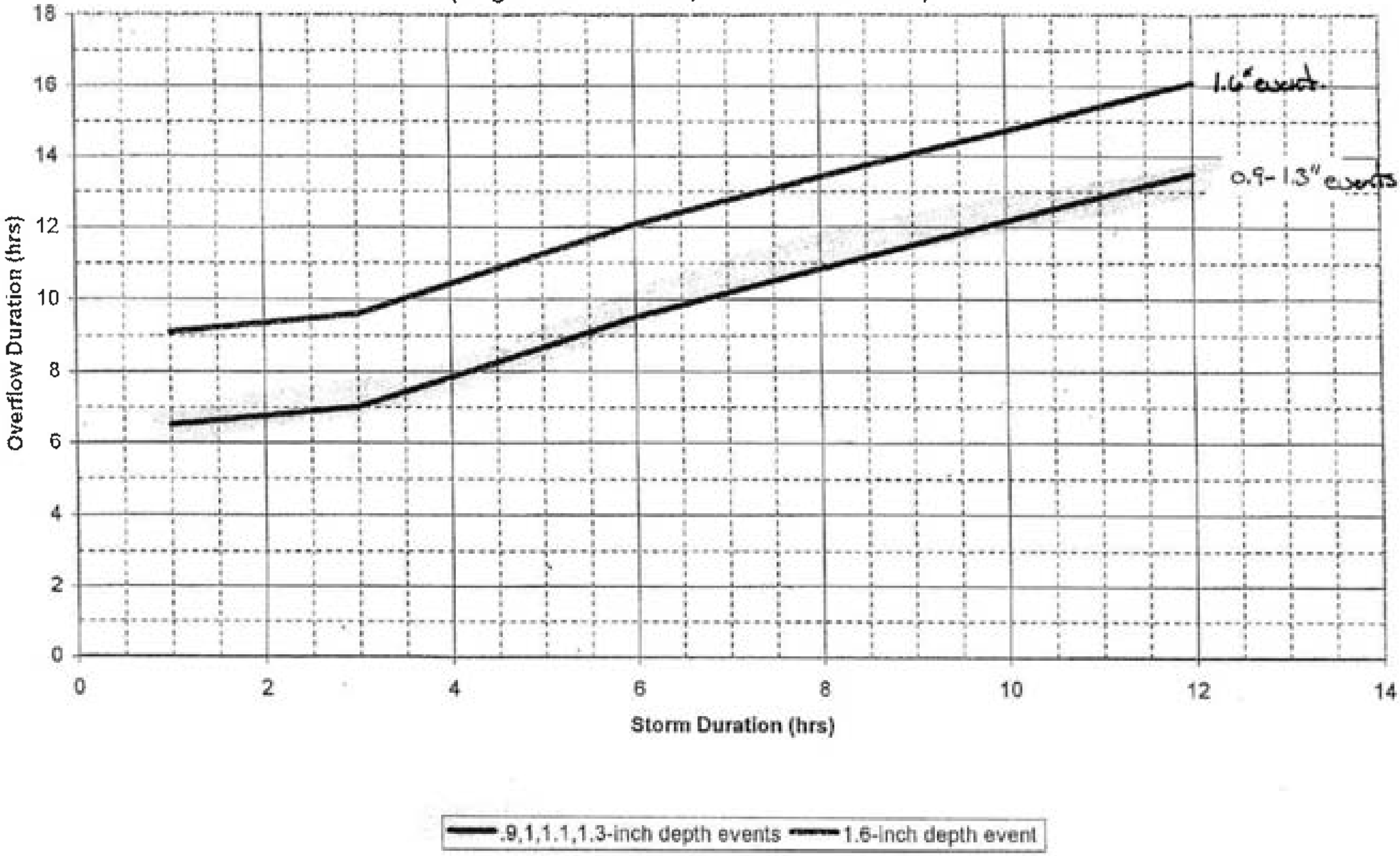
Annual Overflow Volume	270,000 cf.
Annual Number of Overflows	10 ea.

Discharge Point
M10-151, M10-202, M10-303

Estimated Single-Event Overflow Volumes
Discharge Points M10151, M10313 & M10202
(Regulators M10150, M10149 & M10199)



Estimated Single-Event Overflow Duration
Discharge Points M10151, M10313 & M10202
(Regulators M10150, M10149 & M10199)



LONG TERM WATER QUALITY PLAN

Current Events

Annual Overflow Volume	cf. 17,562,363
Annual Number of Overflows	ea. 66

Planned Improvements

CSSCIP – Preliminary Engineering Reports, Planning, and Construction hav been completed

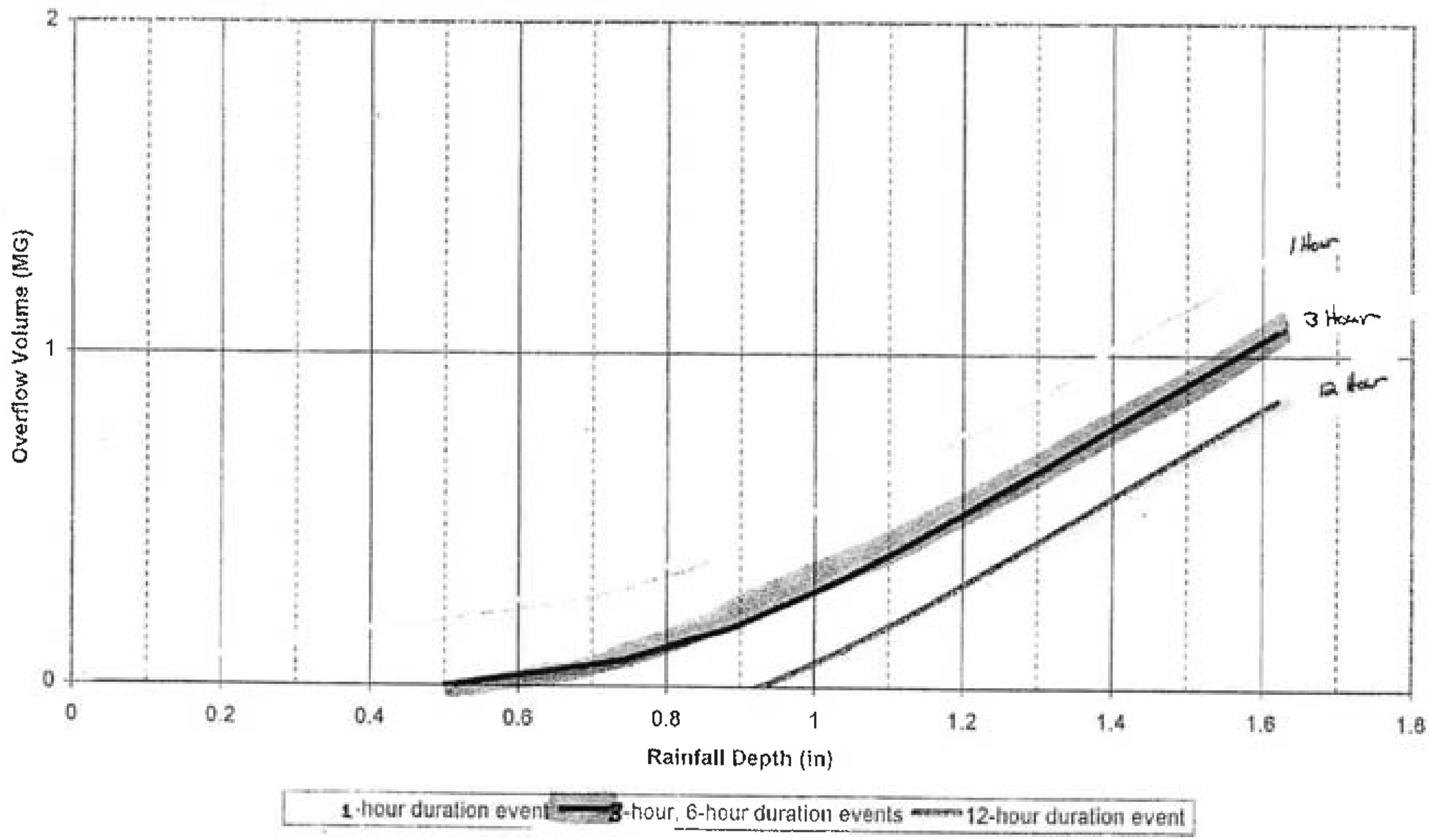
LTCP – Construction of Wayne St. parallel interceptor: Capture 8 of top 15 regulators (those most visible downtown)

Planned Events

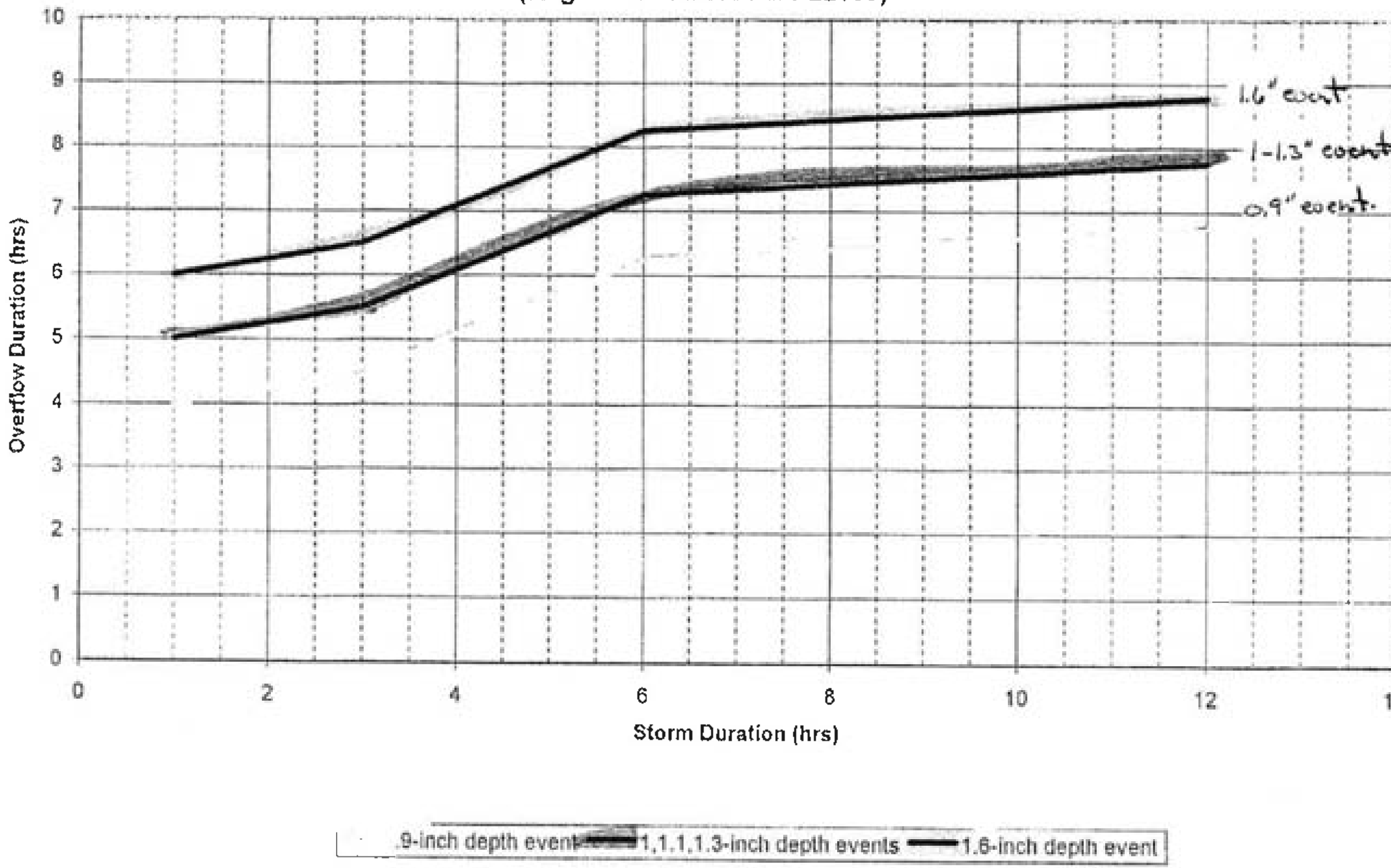
Annual Overflow Volume	cf. 2,300,000
Annual Number of Overflows	ea. 13

Discharge Point
O22-004

Estimated Single-Event Overflow Volumes
Discharge Point O22004
(Regulators P22001 & P22139)



Estimated Single-Event Overflow Duration
Discharge Point O22004
(Regulators P22001 & P22139)



LONG TERM WATER QUALITY PLAN

Current Overflow Events[1]

	Reg. P22-139	Reg. P22-001
Annual Overflow Volume	328,777 cf.	453,625 cf.
Annual Number of Overflows	17 ea.	45 ea.

Planned Improvements

CSSCIP – Subbasin O22-061B is listed as priority number 20 of 39 subbasins for planned improvements. Preliminary Engineering Report was completed in June 2002, and the following alternatives were favored:

1) Construction of new storm sewers with public and private inflow removal.
2) Construction of new sanitary sewers and conversion of the combined sewers to storm sewers.

LTCP – No short term control is planned. During Stage 3 – Years 15 to 20, partial separation in subbasin O22-061B will allow regulators P22-001 and P22-139 and associated discharge point to be completely eliminated.

Planned Overflow Events[1]

	Reg. P22-139	Reg. P22-001
Annual Overflow Volume	0 cf.	0 cf.
Annual Number of Overflows	0 ea.	0 ea.

1 From Figure 10-1: City of Fort Wayne CSO LTCP. Estimated from system model.

Appendix C
Vendor Responses

CDS CSO SCREEN ALTERNATIVES

CSO NO	17	21	26	52
FLOW, CFS	19	22	72	8
FLOW, L/SEC	538.3	623.3	2039.8	226.6
PIPE SIZE, IN	42"	66"	72"	48"
DESCRIPTION	30' Access Road Very tight site	leaves dark plume best quality required	adjacent to pump sta 6 regulators to 2 CSOs	

ALTERNATIVE #1 - RAKED BAR SCREEN - 4 MM SPACING

Bar Area, m2	1.08	1.25	4.08	0.45
Size / Model	10001	12001	10004	5001
Number	1	1	1	1
Budget Price	$ 38,000.00	$ 40,000.00	$ 65,000.00	$ 36,000.00
app footprint, ft	3.5 x 4.33	4.25 x 4.33	3.5 x 17.33	2 x 4.33
ht, inches	17	17	17	17
impact on HGL	+8 inches	+8 inches	+8 inches	+8 inches
Installation Cost	highly dependent on the details of the job. 50% of purchase price if no structure changes are needed. New structure can increase cost by 5 to 10 times.			

Notes: Budget price includes automation, equipment, mounting frame and covers in 304L ss

ALTERNATIVE #2 - CDS GSS - 1 mm SCREENING (200 micron effective)

Size / Model	PSW70_70	PSW70_70	PSW100_80	PSWC56_53
Number	1	1	2	1
Budget Price	$80,000	$80,000	$300,000	$60,000
Automation	$75,000	$75,000	$110,000	$75,000
app footprint, ft	10' x 15'	10' x 15'	30' x 18'	10' x 12'
depth, ft	12'	12'	14'	11'
impact on HGL	7.30 ft	9.27 ft	9.31 ft	4.30 ft
Installation Cost	$ 50,000	$ 50,000	$ 250,000	$ 30,000

Notes: Budget price includes screens and other internals and precast manholes to contain the screen. Installation cost includes cost of diversion structure. Costs can be less in ideal soils, and can double in poor soils with a high water table.

Automation costs include control panel, flow and level instrumentation, underflow pump and motor starter in cabinet.

CDS CSO SCREEN ALTERNATIVES

ALTERNATIVE #3 - CDS FSS - CHEMICALLY ENHANCED FLOCCULATION w/ CDS 1 mm SCREENS

Size / Model	PSW56_53	PSWC56_53	PSWC70_70	PSWC40_40
Number	3	3	6	3
Budget Price	$350,000	$350,000	$750,000	$250,000
area, mix tanks	633	733.3	1800	333
app footprint,mix tanks	22 x 33	24 x 38	39 x 55	18 x 28
app footprint, total	22 x 45	30 x 50	61 x 70	21 x 35
depth, ft	15	15	20	12
impact on HGL	3.26 ft	3.85 ft	3.81 ft	2.57 ft
Civil for tanks				
Soil exc & disposal, yd3	623	1133	3479	272
Concrete structures, yd3	220	286	705	127
exc and dispose, $/yd3	50	50	50	50
conc structures, $/yd3	300	300	300	300
app civil costs	$ 97,178	$ 142,511	$ 385,530	$ 51,689
budget install costs	$ 225,000	$ 300,000	$ 800,000	$ 125,000

NOTES

Budget prices include the CDS unit internals and connecting piping, installation hardware, controls, instruments, mixing equipment, chemical storage and preparation equipment, and dosing pumps.
Chemical sludge is much greater volume than the natural solids in the flow. No provisions are made here for dewatering or disposal.
No control buildings or buildings to house equipment, chemical makeup, control room, etc.

CDS TECHNOLOGIES INC SCREENING PRODUCTS

For Treating Sanitary Wet Weather Flows (CSOs, SSOs & POTW By-Passes)

CDS TECHNOLOGIES

PREMISE

- DIFFERENT SITES ...
  - With DIFFERENT CONDITIONS
    - And Requiring DIFFERENT TREATED WATER QUALITY ...create

<u>DIFFERENT TREATMENT REQUIREMENTS</u>

CDS TECHNOLOGIES

OUTLINE

- REGULATORY FRAMEWORK
- WATER QUALITY ISSUES
- SCREENING OVERVIEW
- CDS/COPA SCREENING REVIEW
- CDS PERFORMANCE
- FACILITY TOUR
- COMPARATIVE COSTS
- SUMMARY

REGULATIONS

- CSO
  - PERMIT FOR DISCHARGE
  - 9 MINIMUM STANDARDS
- SSO
  - NOT PERMITTED – ILLEGAL DISCHARGE
  - BLENDING RULE ISSUED
- TMDL's

CDS TECHNOLOGIES

CSO REGULATIONS

- 9 MINIMUM STANDARDS
  - PROPER OPERATION of the sewer system
  - MAXIMIZE STORAGE in collection system
  - Headworks review & modifications
  - Maximize FLOW TO THE WWTP
  - Eliminate DRY WEATHER FLOWS
  - <u>CONTROL OF SOLIDS AND FLOATABLES</u>
  - Pollution Prevention Programs
  - Public Notification
  - Monitoring ... CSO Impacts ... and ... Efficacy of Controls
- LONG TERM CONTROL PLAN (LTCP)

CDS TECHNOLOGIES

SSO REGULATIONS

- BLENDING RULE
  - TREATMENT LIMITS
    - No Requirement for % Reduction
    - Numerical Limits to Assure Water Quality Protection
  - SECONDARY TREATMENT
    - Doesn't mean biological treatment
    - Treatment to meet 'secondary' Water Quality

TMDL's

- QUALITY OF THE RECEIVING WATERS
  - STATED USE OF THE RECEIVING WATERS
  - CURRENT CONDITION
  - CONTRIBUTION OF THE DISCHARGE
- LOCAL INITIATIVES CONTROL

CDS TECHNOLOGIES

WATER QUALITY ISSUES

- FLOATABLES, TRASH & DEBRIS
- SUSPENDED SOLIDS
- BACTERIAL LEVELS
- NUTRIENTS
  - Dissolved O_2, Nitrogen, Phosphorus
- TOXICS
  - Hydrocarbons, Metals, Pesticides

SCREENING OVERVIEW – ISSUES

- TECHNICAL ISSUES
  - PARTICLE SIZE REMOVAL
  - SCREENINGS HANDLING
  - REMOVAL EFFICIENCIES OF TARGETED POLLUTANTS
- COST ISSUES
  - INITIAL
  - OPERATIONS & MAINTENANCE

CDS TECHNOLOGIES

SCREENING OVERVIEW – PRODUCTS

- NETTING SYSTEMS
- STATIC SCREENS
- MECHANICAL SCREENS
- CDS NON-MECHANICAL
- CDS AUTOMATED
- CDS WITH CHEMICAL FLOCCULATION

CDS TECHNOLOGIES

SCREENING PRODUCTS – PARTICLE SIZE REMOVAL

SCREEN TYPE	LOWEST SIZE REMOVAL
NETTING	12 mm (½″) (2-DIMENSIONS)
STATIC SCREENS	2 mm (.08 in) (2-dimensions)
MECHANICAL SCREENS	4 mm (.15 in) (1 or 2 dimensions)
CDS (All Types)	.25 mm (.01 in) (2+ dimensions)
CDS (With Floccing)	.001 mm (1 micron) (2+ dimensions)

CDS TECHNOLOGIES

SCREENING PRODUCTS – SCREENINGS HANDLING

SCREEN TYPE	SCREENINGS HDLG.
NETTING	STORED
STATIC SCREENS	STORE – LIMITED VOL / UNDERFLOW TO COLLECTION
MECHANICAL SCREENS	PASS THROUGH - UNDERFLOW TO COLLECTION
CDS NON-MECH'L	STORE
CDS AUTOMATED	PUMP TO S. SEWER

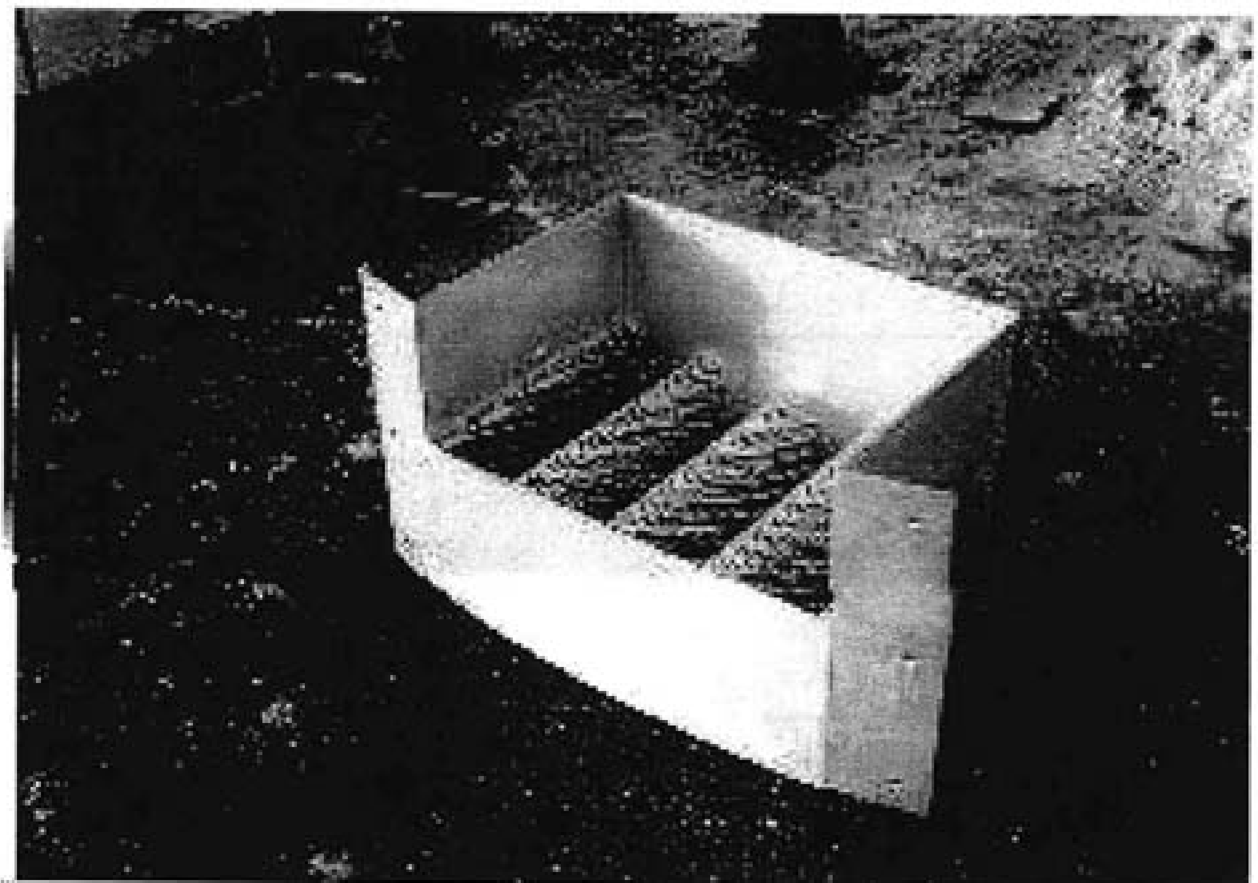
CDS TECHNOLOGIES

SCREENING PRODUCTS – REMOVAL EFFICIENCIES / TARGETED POLLUTANTS

SCREEN TYPE	REMOVAL EFFICIENCY, %			
	TSS	O_2 DEMAND	NUTRIENT	TOXIC
NETS	0-10	5-10	MIN	MIN
STATIC	20-30	5-10	MIN	MIN
MECHANICAL	10-20	5-10	MIN	MIN
CDS – NO CHEM	40-70	20-40	10-30	20-50
CDS – FLOCCING	90-99	40-70	P – 85 N - 40	40-70

CDS TECHNOLOGIES

COPA CROSS WAVE (STATIC SCREEN)



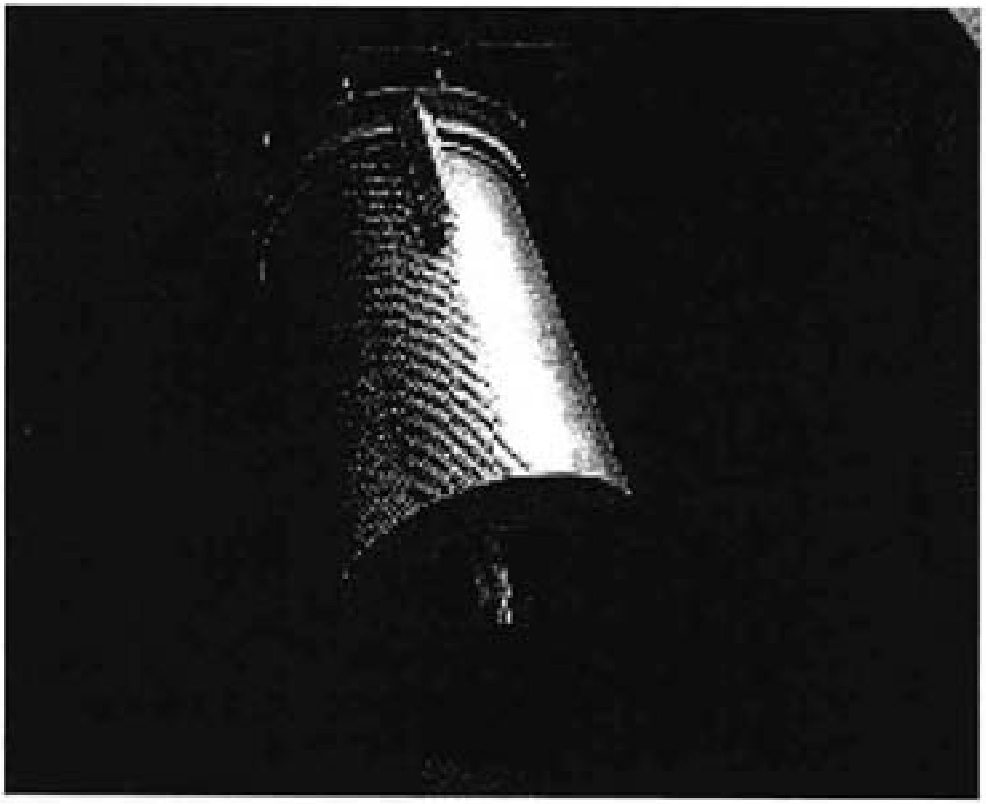
CDS TECHNOLOGIES

CDS & COPA SCREENING PRODUCTS

STATIC SCREENS – CROSS WAVE

- USES:
  - STORAGE FACILITY OVERFLOWS
  - CSO's WITH < 10 DISCHARGES / YEAR
  - LIMITED DURATION EVENTS
- FEATURES
  - Up-flow, solids accumulate underneath
  - Solids release when flow subsides
  - Clean every 3 to 6 events
  - Use on regulator or at the discharge point

COPA CYCLONE SCREEN



CDS & COPA SCREENING PRODUCTS

CYCLONE SCREEN –

- USES
  - Smaller (Low Flow) Regulators
- FEATURES
  - Self Powered by Internal Waterwheel
  - 6 mm Perforated Screen
  - Flow in sewer carries screenings to Interceptor

CDS TECHNOLOGIES

COPA RAKED BAR SCREEN

GDS TECHNOLOGIES

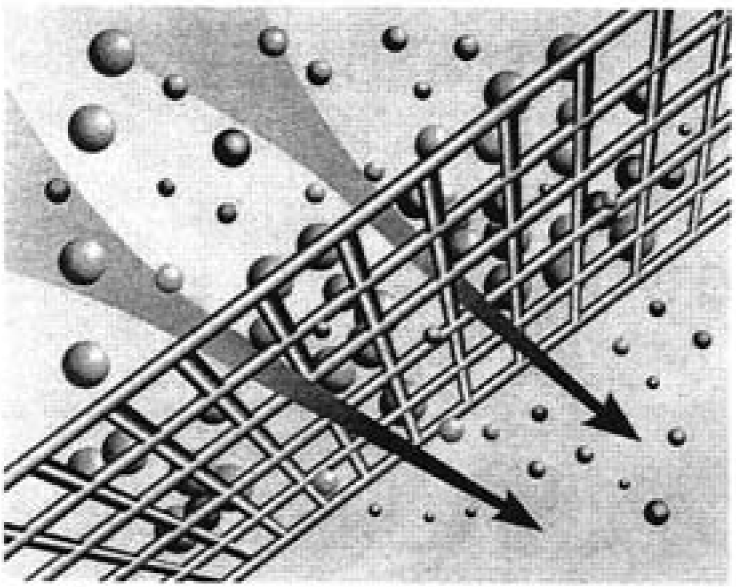
CDS & COPA SCREENING PRODUCTS

COPA RAKED BAR SCREEN

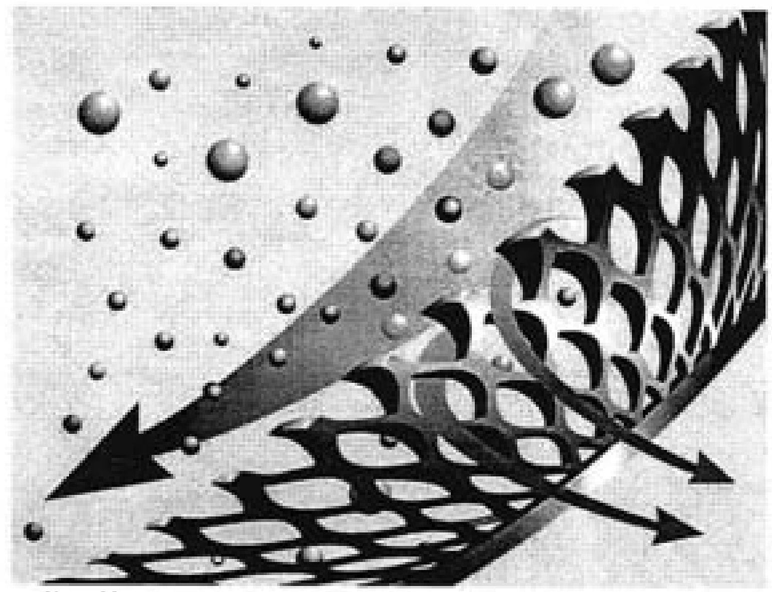
- USES
  - Any Flow Capacity
  - Overflows Before Discharge
  - Pretreat Flow into Storage Facilities
  - Protect Pump Stations
- FEATURES
  - Screen to 4 mm
  - Hydraulic Rake Mechanism
  - Horizontal Screen
  - Need Flow into Interceptor

CDS TECHNOLOGY BASIS

- Strong washing effect of incoming fluid keeps screen free of pollutants
- Conventional devices rely on direct screening - screens become blocked

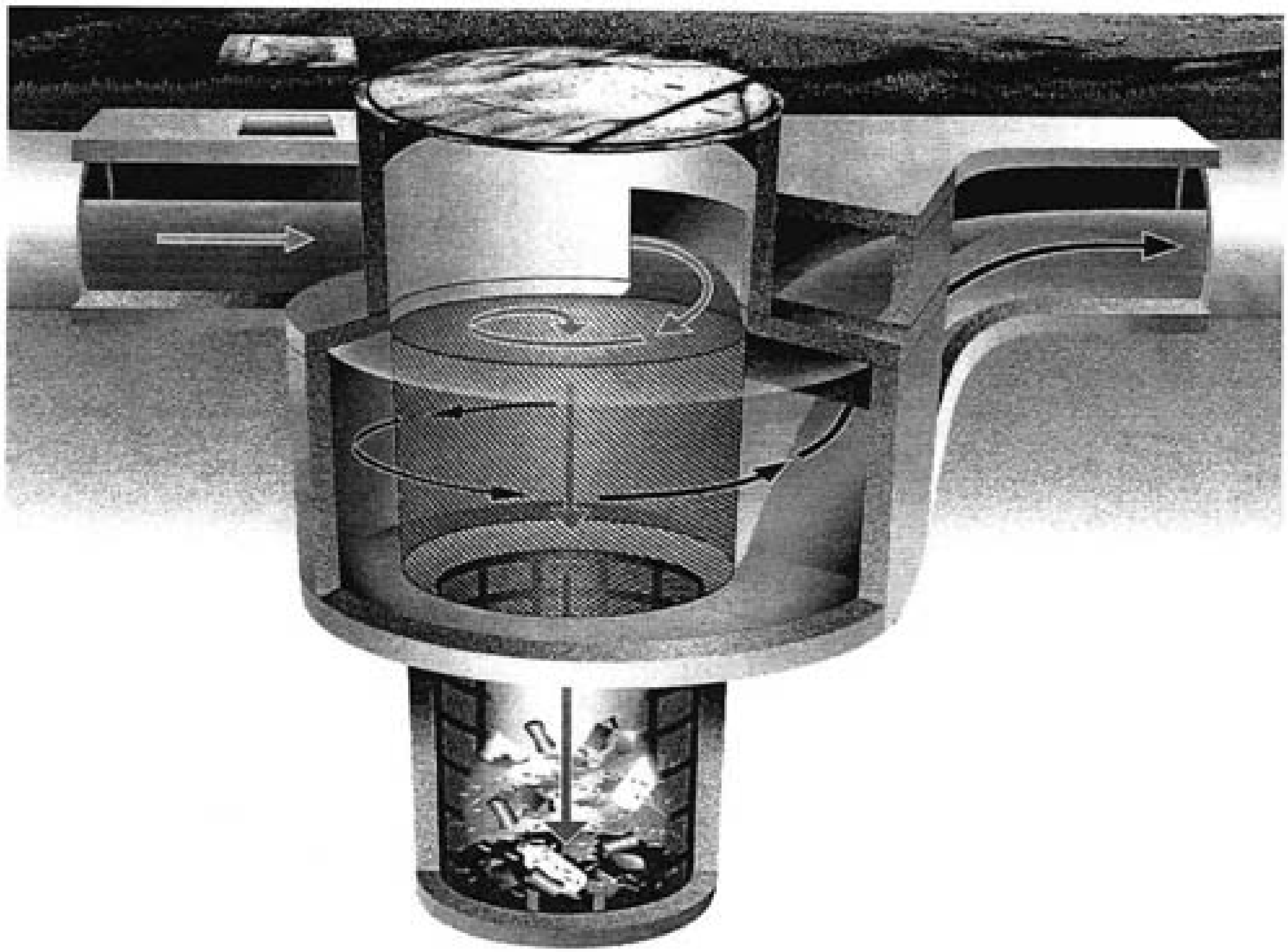


Direct screening - solids become caught on screen



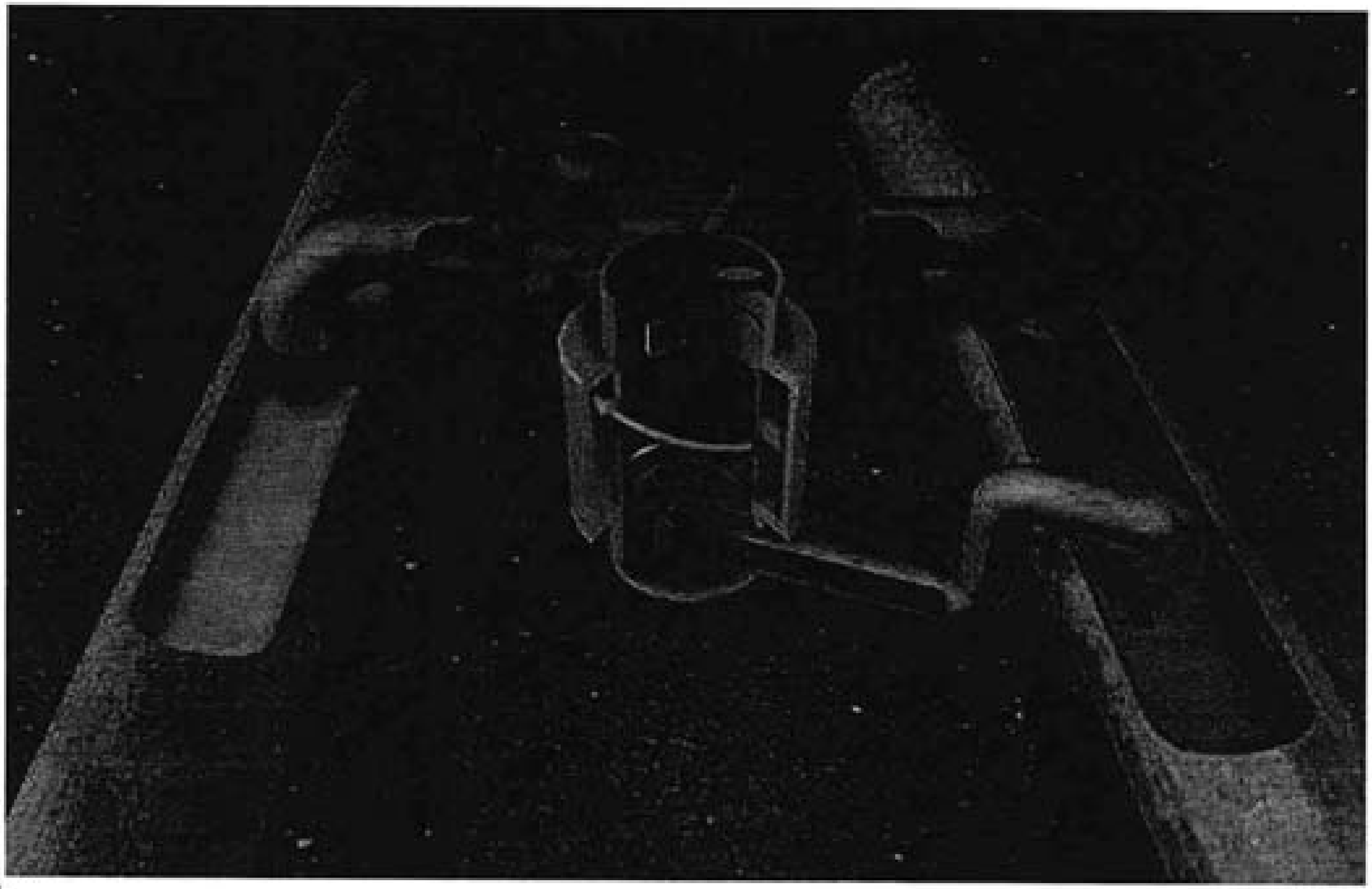
Indirect screening - solids swept past screen

CDS SCHEMATIC



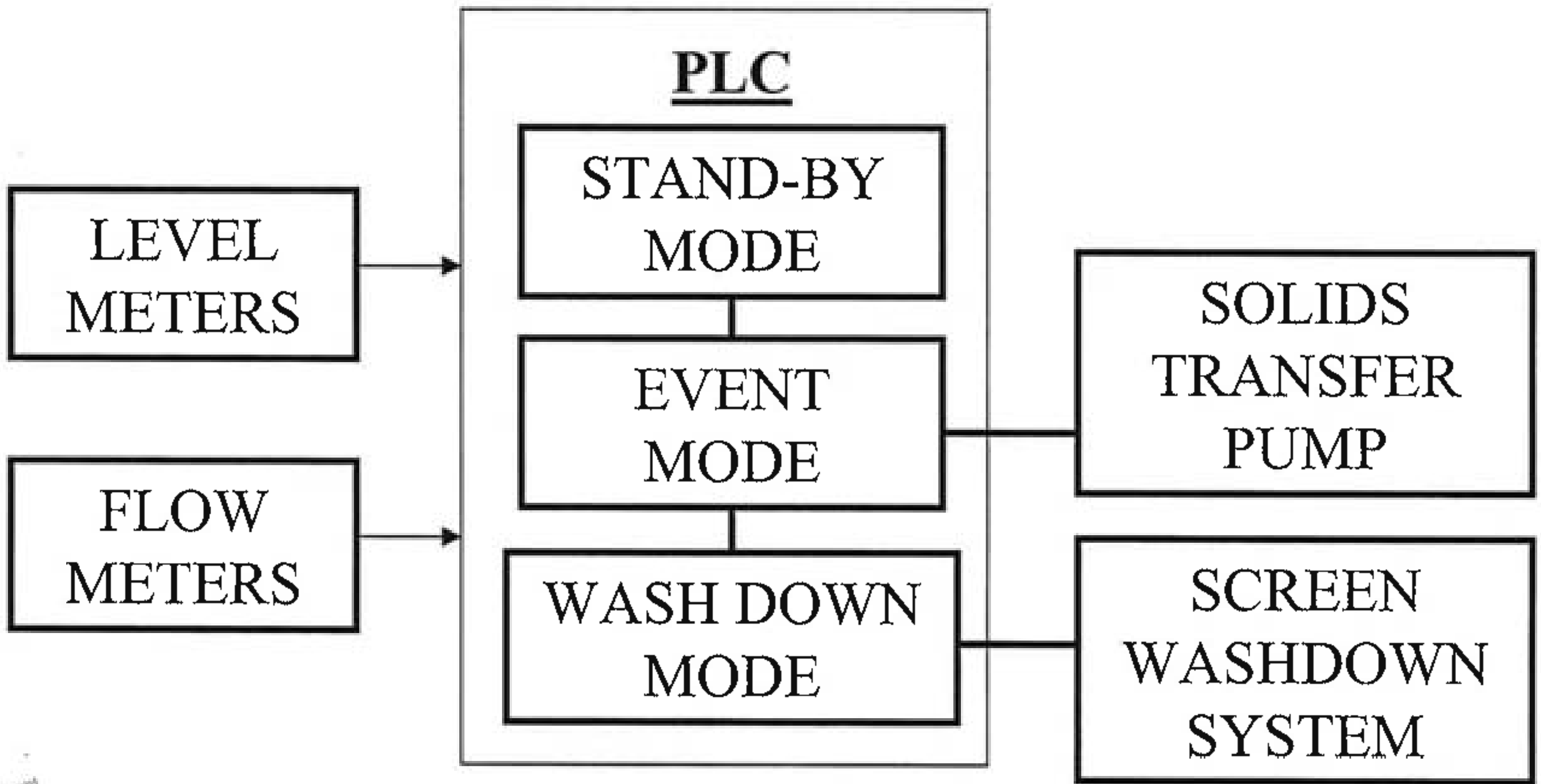
CDS TECHNOLOGIES

AUTOMATED CDS – FLOW SCHEMATIC

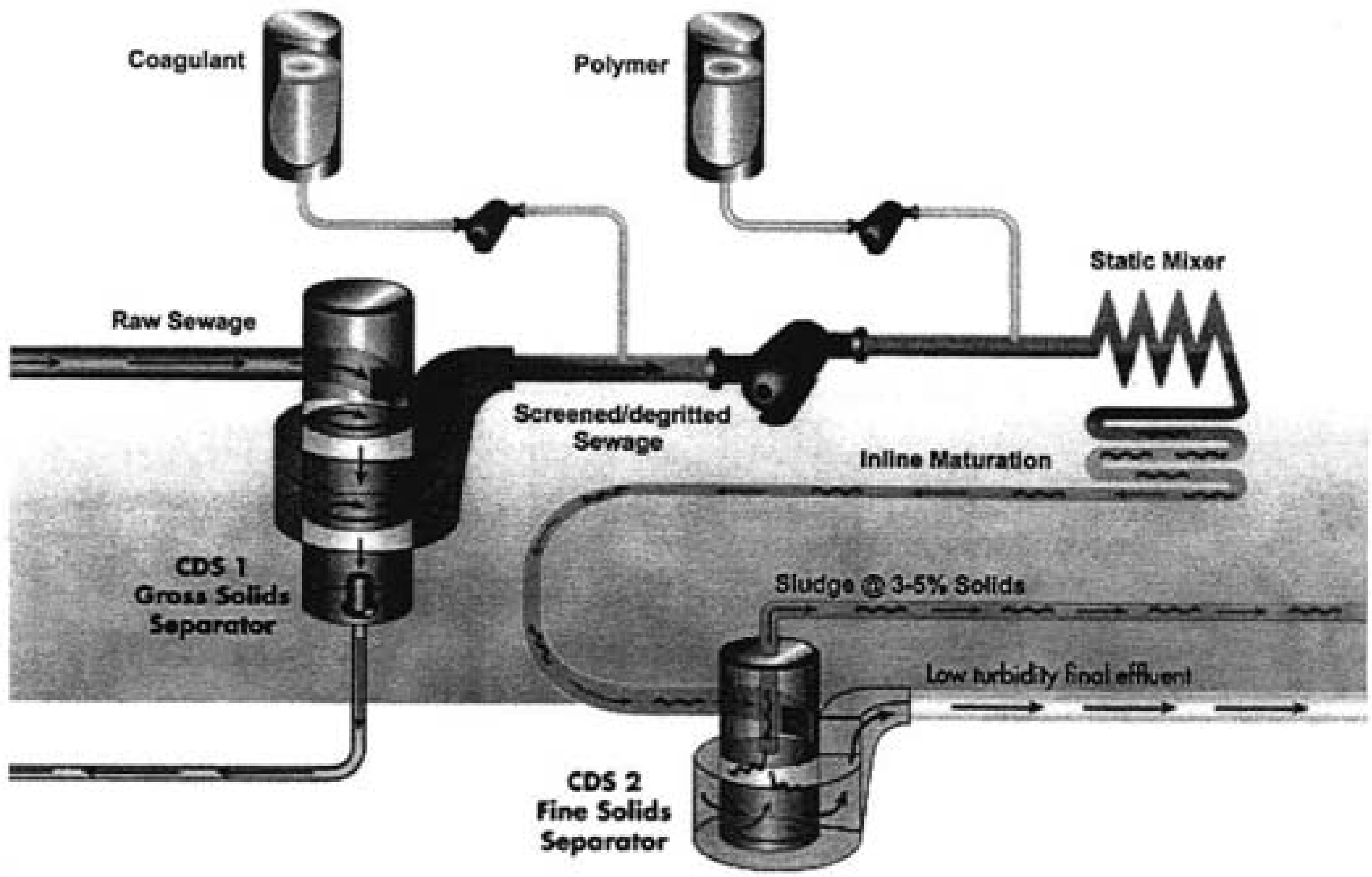


CDS TECHNOLOGIES

AUTOMATED CDS - CONTROLS



CDS FSS FLOCCING SYSTEM

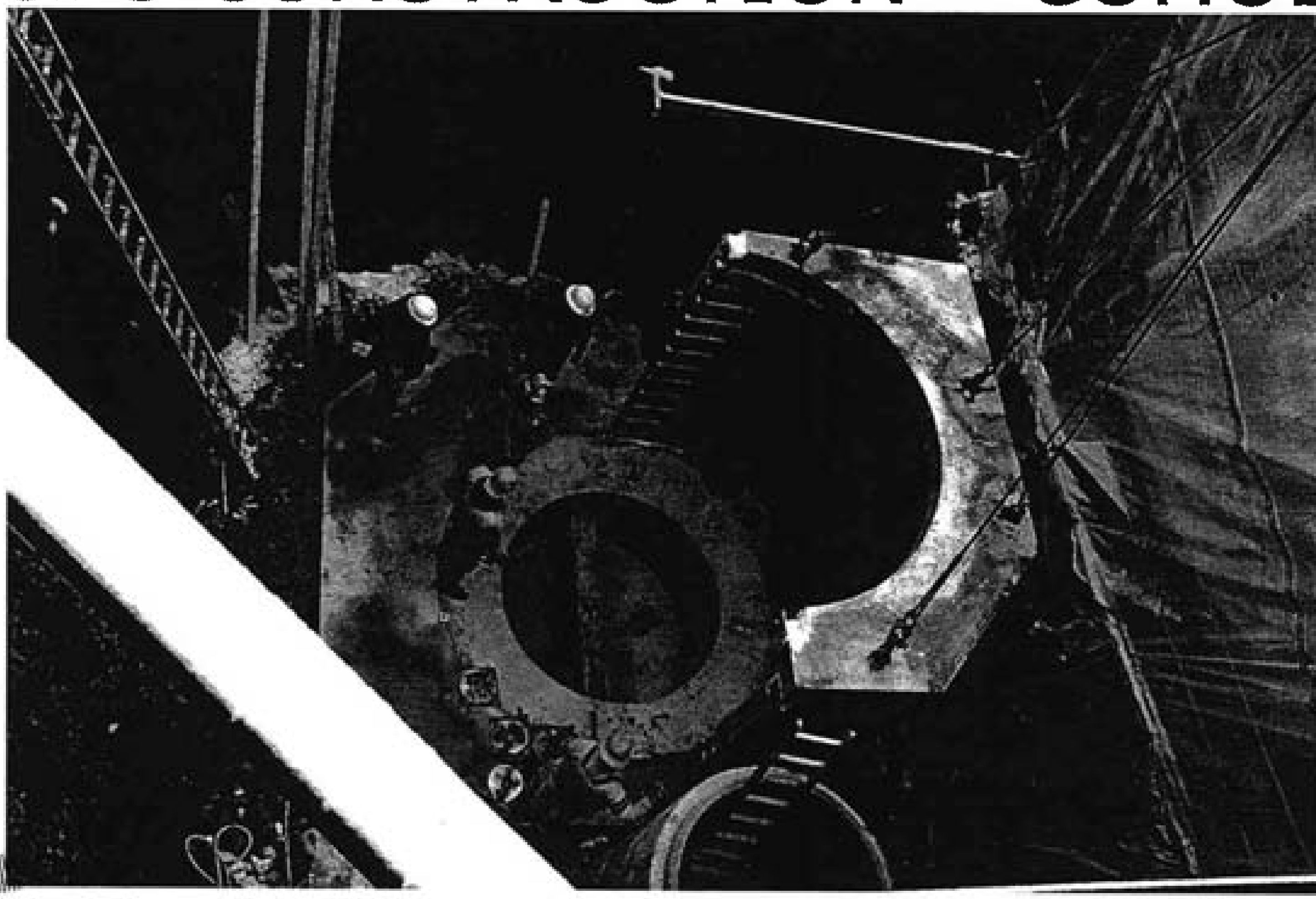


CDS CSO FACILITIES

AUTOMATED		
LOUISVILLE, KY CSO 108	35 CFS	DUAL 7′ DIA X 7′ TALL
COHOES, NY OUFALL #9	40 CFS	10′ DIA X 10′ TALL
MANUAL		
AKRON, IN	2. CFS & 6. CFS	3′ DIA X 2′ TALL 5′ DIA X 4′ TALL
LOUISVILLE, KY CSO 50	8. CFS	5′ DIA X 5′ TALL

CDS TECHNOLOGIES

CDS CONSTRUCTION – COHOES



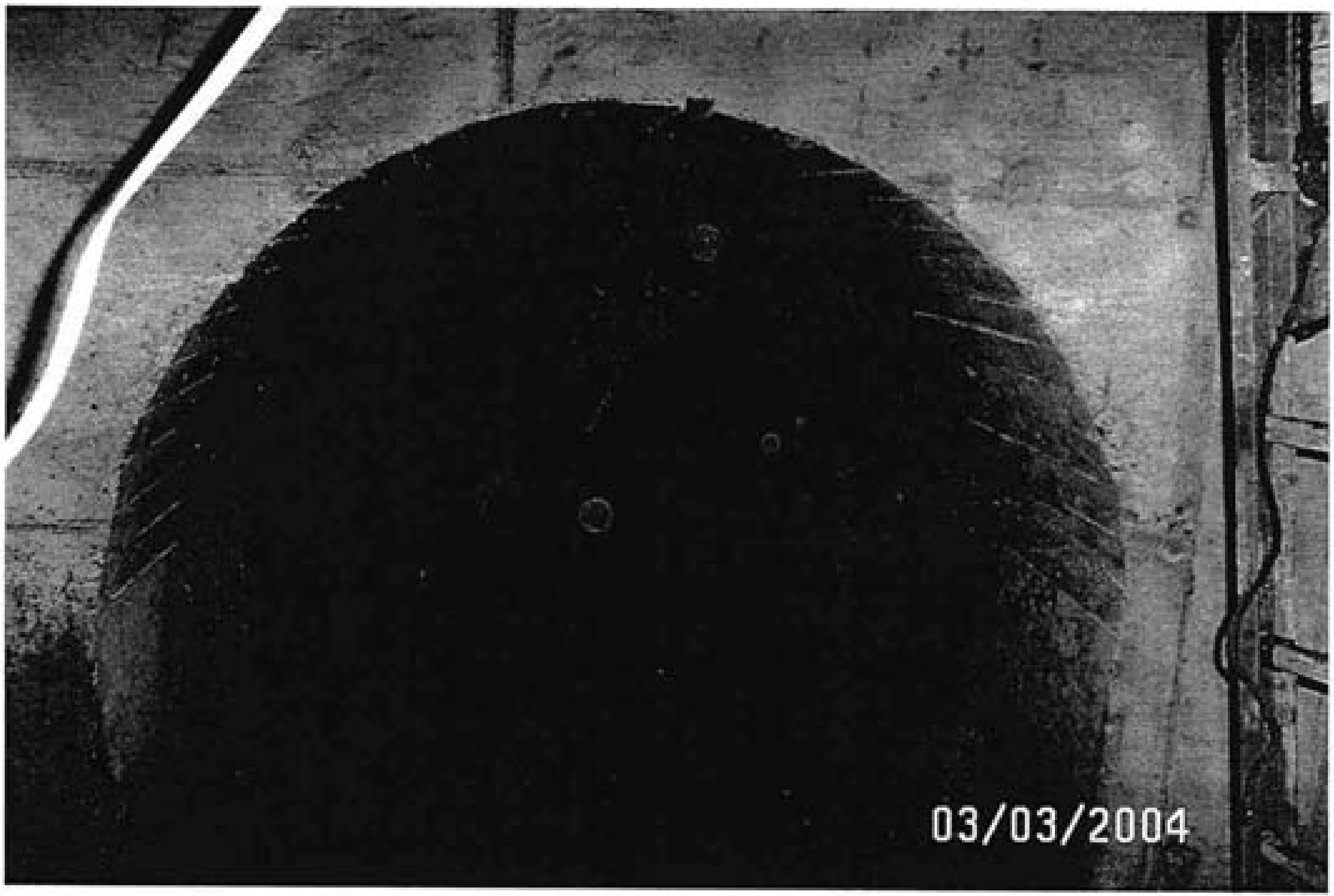
CDS GROSS SOLIDS SEPARATOR (GSS)

CDS TECHNOLOGIES

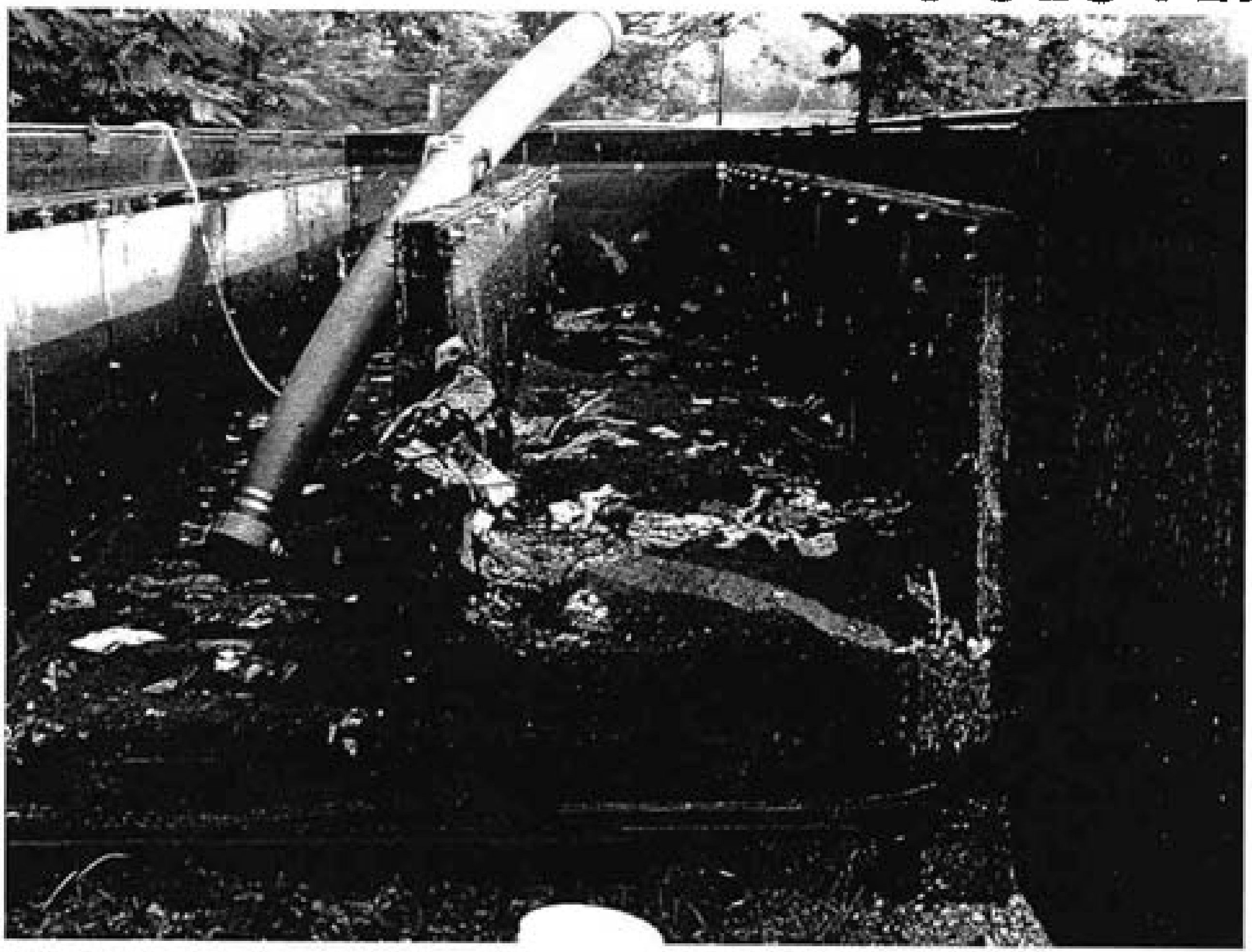
CDS CONSTRUCTION – COHOES

CDS TECHNOLOGIES

CDS CONSTRUCTION - COHOES



CDS PEFORMANCE – LOUISVILLE



CDS TECHNOLOGIES

CDS PERFORMANCE – LOUISVILLE

CDS TECHNOLOGIES

CDS PERFORMANCE – LOUISVILLE

POLLUTANT	AS SAMPLED		MASS BALANCE		
	INLET mg/l	OUTLET mg/l	INLET	OUTLE T	SUMP
TSS	63 75 341	33 144 566	1447 mg/l 1207 lb	248 mg/l 207 lb	1000 lb
SSC-B	114 74	38 137	1287 mg/l 1073 lb	87.5 mg/l 73 lb	1000 lb
	TTS Removal % SSC Removal %		82.9% 93.2%		

CDS PERFORMANCE – SOLIDS CHARACTERIZATION

WET WEIGHT	2638 LB	
DRY WEIGHT	1000 LB	37.9% dry solids
TRASH	35 LB	3.5 %
ORGANIC	724 LB	72.4 %
INORGANIC	241 LB	24.1 %

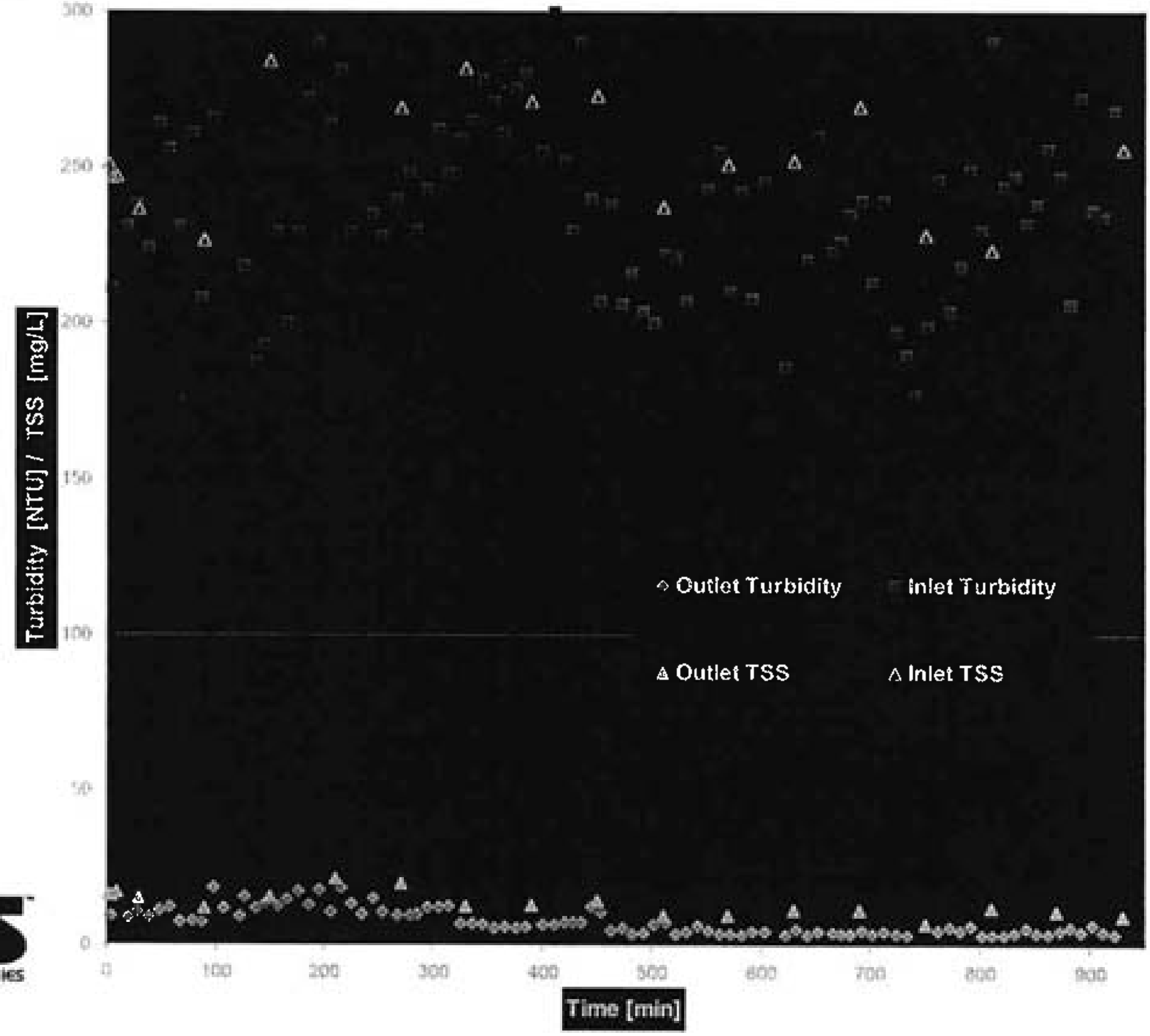
CDS PERFORMANCE – SOLIDS CHARACTERIZATION

WET WEIGHT	2638 LB	
DRY WEIGHT	1000 LB	37.9% dry solids
TRASH	35 LB	3.5 %
ORGANIC	724 LB	72.4 %
INORGANIC	241 LB	24.1 %

CDS PERFORMANCE – FLOCCING

Parameter	Unit	Raw (Range)	Treated (Range)	% Rem.
Turbidity	[NTU]	240 (177-369)	7.6 (3.4-15.2)	97%
TSS	[mg/L]	259 (184-564)	13.5 (4-22)	95%
BOD_5 *	[mg/L]	302 (190-420)	38 (25-46)	87%*
COD *	[mg/L]	531 (454-643)	82 (76-85)	80%*
Faecal Coliforms	[CFU per 100mL]	$1.3x10^7$ ($5.4-17x10^6$)	$5.8x10^4$ ($3-11 \times 10^4$)	99.5%
TP	[mg/L P]	12 (9.7-17.2)	0.6 (0.4-0.7)	95%
TN	[mg/L N]	71 (60-85)	55 (49-59)	16%
Ammonia	[mg/L]	40 (28-45)	37 (34-39)	8%

CDS PERFORMANCE - FLOCCING



CDS TECHNOLOGIES

COMPARATIVE COSTS – DESIGN BASIS

- 80 MGD PEAK FLOW FACILITY
- EXISTING OUTFALL
- REQUIRES NEW CONTROL STRUCTURE
- EQUIPMENT & CONSTRUCTION COSTS
  - NO LAND, RIGHT-OF-WAY COSTS
  - NO UNUSUAL CONDITIONS

CDS TECHNOLOGIES

COMPARATIVE COSTS & FOOTPRINT

SYSTEM	CAPITAL COST INSTALLED	FOOTPRINT
4 mm RAKED BAR SCREEN	\$400,000 to \$500,000	30′ X 8′ or 15′ x 12′
CDS – GSS SCREENING	\$1.8 to \$2.2 million	50′ x 30′
CDS – FSS W/ FLOCCULATION	\$2.9 to \$3.4 million	80′ x 50′

CDS TECHNOLOGIES

SUMMARY

- CDS-GSS PROVIDES A HIGHER LEVEL OF SCREENING PERFORMANCE THAN CURRENT CSO SCREENS
- WITH FLOCCULATION THE CDS-FSS SYSTEM CAN ACHIEVE NEAR SECONDARY EFFLUENT LIMITS.
- THEY PROVIDE ECONOMICAL ALTENATIVE WAYS TO ACHIEVE HIGHER QUALITY DISCHARGE LIMITS THAN CONVENTIONAL SCREENING PROVIDES

CDS TECHNOLOGIES

SUMMARY

- WET WEATHER FLOWS ARE VERY DIFFICULT TO SAMPLE AND <u>NO ONE</u> KNOWS HOW TO DO IT ON A LARGE SCALE.

CDS TECHNOLOGIES

FAX COVER SHEET

Fresh Creek Technologies, Inc.

1425 Pompton Ave Suite 1-2
Cedar Grove, NJ 07009

PHONE (973) 237-9099
FAX (973) 237-0744

FROM: Mike Farrelly

TO: Rita Fordiani

DATE: 9/27/04

FAX: (773)691301

Page 1 of 9 including cover sheet

****

Rita,

If you have any questions please contact me at (973) 237-9099

Thanks.

FRESH CREEK TECHNOLOGIES, INC.
1425 Pompton Ave., Cedar Grove, NJ 07009
Tel (973) 237-9099, Fax (973) 237-0744

CONFIDENTIAL

Attention: Ms. Rita Fordiani, PE.
CH2M Hill
40 Tanbark Road
Sudbury, MA 01776

Subject: Midwest CSOs
Floatables Collection System

Dear Ms. Fordiani,

Fresh Creek Technologies, Inc. is pleased to present our Proposal P-10476, for the design, fabrication delivery and installation support of four (4) Inline Netting TrashTrap® systems for installation at four (4) locations in the Midwest. Our proposal is based on your 9/17/04 phone conversation with our Robert Kircher, engineering manager.

Description of the Netting TrashTrap® Technology

The Fresh Creek Technologies, Inc. Netting TrashTrap® system is a low cost, modular, prefabricated floatables collection system that is easy to install, operates unattended and requires no external power. Netting TrashTrap® systems use the natural energy of the flow to drive the trash or floatable materials into disposable mesh nets. Also, due to the downward design of most CSO and stormwater piping, the equipment is designed to drain dry. This feature eliminates the possibility of standing water, which is the breeding ground for mosquito (vector) propagation. Recently reported cases of West Nile virus make this feature of Fresh Creek's equipment an extremely important one from an environmental and health standpoint. The Fresh Creek Technologies, Inc. literature (enclosed), describes the Netting TrashTrap® technology in more detail.

Benefits of the Netting TrashTrap® systems are High Capture Efficiencies - above 98%, Low Installation Cost, and Low Operation and Maintenance Costs. The Netting TrashTrap® technology is included in US EPA CSO guidance documents. It implements both the "Nine Minimum Controls" and Long Term Control floatables requirements of the US EPA and has been approved for use in New Jersey by the NJ DEP.

Fresh Creek's Netting TrashTrap® System, meets and/or exceeds the Full Capture Treatment System requirements identified in the California Regional Water Quality Control Board (RWQCB), Los Angeles Region's Trash Total Maximum Daily Load (TMDL) for the Los Angeles River Watershed. The FCT Netting TrashTrap® system is the **only netting system presently approved by the Los Angeles RWQCB.**

Site Location

Based on the supplied information, FCT is proposing four (4) Inline Netting TrashTrap® systems, sized to accommodate the required design flows as follows:

CSO	Qty	No. of Nets	Size of Nets	Flow Rate	Pipe Dia.
#17	1	1	30" x 30" x 8' x ½" mesh	19 CFS	42"
#21	1	1	30" x 30" x 8' x ½" mesh	22CFS	66"
#26	1	3	30" x 30" x 8' x ½" mesh	72 CFS	72" & 84" **
#52	1	1	30" x 30" x 8' x ½" mesh	8 CFS	48"

** To be combined into one (1) pipe 8' in diameter by others

The overall systems and equipment of the netting system will be designed to process 100% of design flow via the nets. Any additional flow above this design flow rate will pass over the top of the netting internal support structure and will be processed through stainless steel screening material with ½" gaps. Therefore, the entire flow being transmitted through the CSO pipe will be screened for floatables of ½" or larger in size.

Each FCT Inline Netting TrashTrap® system will be in a dedicated concrete chamber. The concrete chambers will be supplied as a multi-piece precast structures. The nets will be inside lift baskets, which will be raised to grade level, at the time net replacement is needed. NO "Confined Space Entry" will be required. Because there is to be no street traffic at three (3) sites, the lift baskets at those sites will be accessed through 300 PSI rated hinged doors, which will be pre-cast into the concrete chamber lids. The site bearing intermittent traffic will have hinged doors rated for AASHTO H-20 wheel loading. All structural internals and hardware will be 316 stainless steel.

Because of the flow velocities that may be encountered at these sites, FCT is proposing the use of our standard 1/2" opening mesh net.

The mounting system for the netting support frame will be sized for the design flow discharging from of the outfall, during a rain/CSO event.

All mounting/anchoring will be "drill-in" type anchors and drilled into the concrete bottom and sidewalls of the concrete chamber walls. All FCT supplied equipment will use 316 stainless steel, anchors and hardware will also be 316 stainless steel.

Our general experience is that Netting TrashTrap® systems may require servicing one, two or more times a month during the wet weather season. The actual service interval is very site specific and depends on rainfall frequency, and the amount of trash that enters the CSO system. FCT recommends that the equipment and nets be inspected after every significant rain event.

Servicing the system is done using a truck equipped with a crane capable of extending out over the system to each of the nets and with a capacity to lift up to 2000 pounds at this reach. The weight of the lifting basket and net is approximately 500 pounds (without trash). The procedure is simple. The lift basket with the used net, is lifted through the open access opening (via crane type lifting equipment) and put on the ground. The used net is removed from the lifting basket using the same crane and put into a watertight dumpster for transport to a transfer station or landfill. We estimate that an experienced crew will be able to change out the net in less than 1 hour or less, per CSO site.

<u>Scope of Supply/Work</u>

I. Equipment to be supplied

<u>A. Netting TrashTrap® System @ CSO #17</u>

1. One Inline Netting TrashTrap® System Model ILNTT-1, consisting of one (1) net support frame & one lifting basket, hinged screening, access ladder; inside a multi-section pre-cast concrete chamber and all hardware required for installation.

   The above listed equipment will consist of the following fully described components, in the concrete chamber:

   A. One (1) 316 stainless steel net support and frame mounting system.

   B. One (1) 316 stainless steel net lifting basket and bridle.

   C. One (1) lot, 316 stainless steel 1/2 inch opening, hinged bar screen and appurtenances.

   D. One (1) 316 stainless steel access ladder, underneath the netting access doors.

E. One (1) concrete chamber, precast (in FCT's mold) by Oldcastle/Rotondo to the FCT design. The chamber will be 4'-0" wide by 16'-0" long by approximately 10'-0" high, (inside dimensions), with precast openings to match up with the CSO piping. The access opening for the chamber will be a 300 PSI rated hinged door (4'-0" wide by 7'-0" long inside dimensions), and a 30" square 300 PSI rated hinged man-door, both are pre-casted into the concrete chamber lid section.

F. One (1) set of access ladder rungs, underneath the manhole.

2. Eighteen (18) disposable standard duty ½" mesh nets with plastic frames, size is 2'-6" by 2'-6" (opening at mouth) by 8'-0" long (nominal). This quantity of nets equals the initial setup set, plus 17 change-outs.

3. All 316 stainless steel hardware and fittings required for the assembly and installation of the system.

B. Netting TrashTrap® System @ CSO #21

1. One Inline Netting TrashTrap® System Model ILNTT-1, consisting of one (1) net support frame & one (1) lifting basket, hinged screening, access ladder; inside a multi-section pre-cast concrete chamber and all hardware required for installation.

The above listed equipment will consist of the following fully described components, in the concrete chamber:

A. One (1) 316 stainless steel net support and frame mounting system.

B. One (1) 316 stainless steel net lifting basket and bridle.

C. One (1) lot, 316 stainless steel 1/2 inch opening, hinged bar screen and appurtenances.

D. One(1) 316 stainless steel access ladder, underneath the netting access doors.

E. One (1) concrete chamber, precast (in FCT's mold) by Oldcastle/Rotondo to the FCT design. The chamber will be 7'-6" wide by 17'-0" long by approximately 10'-0" high, (inside dimensions), with precast openings to match up with the CSO piping. The access opening for the chamber will be a 300 PSI rated hinged door (4'-0" wide by 7'-0" long inside dimensions), and a 30" square 300 PSI rated hinged man-door, both are pre-casted into the concrete chamber lid section.

F. One (1) set of access ladder rungs, underneath the manhole.

2. Eighteen (18) disposable standard duty 1/2" inch mesh nets with plastic frames, size is 2'-6" by 2'-6" high (opening at mouth) by 8'-0" long (nominal). This quantity of nets equals the initial setup set, plus 17change- outs.

3. All 316 stainless steel hardware and fittings required for the assembly and installation of the system.

OPTION: Because this chamber is required to match the existing pipe diameter, a second net could be added to this site (only) for a slight additional charge. This would double of the capacity of the Netting Trash Trap® System at this site.

C. Netting TrashTrap® System @ CSO #26

1. One Inline Netting TrashTrap ® System Model ILNTT-3, consisting of one (1) net support frame & three (3) lifting baskets, hinged screening, access ladder, inside a multi-section pre-cast concrete chamber and all hardware required for installation.

   The above listed equipment will consist of the following fully described components, in the concrete chamber:

   A. One (1) 316 stainless steel net support and frame mounting system.

   B. Three (3) 316 stainless steel net lifting baskets and bridles.

   C. One (1) lot, 316 stainless steel 1/2 inch opening, hinged bar screen and appurtenances.

   D. One (1) 316 stainless steel access ladder.

   E. One (1) concrete chamber, precast by Oldcastle/Rotondo to the FCT design. The chamber will be 13'-4"" wide by 19'-4"" long by approximately 10'-0" high, (inside dimensions), with precast openings to match up with the CSO piping. The access opening for the chamber will be a 300 PSI rated triple access hinged door, and a 30" square 300 PSI rated hinged man-door, both are pre-casted into the concrete chamber lid section.

   F. One (1) set of access ladder rungs, underneath the manhole.

2. Fifty-four (54) disposable standard duty 1/2" inch mesh nets with plastic frames, size is 2'-6" by 2'-6" high (opening at mouth) by 8'-0" long (nominal). This quantity of nets equals the initial setup set, plus 17 change-outs.

3. All 316 stainless steel hardware and fittings required for the assembly and installation of the system.

D. Netting TrashTrap® System @ CSO #52

1. One Inline Netting TrashTrap® System Model ILNTT-1, consisting of one (1) net support frame & one (1) lifting basket, hinged screening, access ladder, inside a multi-section pre-cast concrete chamber and all hardware required for installation.

   The above listed equipment will consist of the following fully described components, in the concrete chamber:

   A. One (1) 316 stainless steel net support and frame mounting system.

   B. One (1) 316 stainless steel net lifting basket and bridle.

   C. One (1) lot, 316 stainless steel 1/2 inch opening, hinged bar screen and appurtenances.

   D. One (1) 316 stainless steel access ladder, underneath the netting access doors.

   E. One (1) concrete chamber, precast (in FCT's mold) by Oldcastle/Rotondo to the FCT design. The chamber will be 4'-0" wide by 16'-0" long by approximately 10'-0" high, (inside dimensions), with precast openings to match up with the CSO piping. The access opening for the chamber will be a H-20 rated triple access hinged door, and a 30" square H-20 rated hinged man-door, both are pre-casted into the concrete chamber lid section.

   F. One (1) set of access ladder rungs, underneath the manhole.

2. Eighteen (18) disposable standard duty 1/2" inch mesh nets with plastic frames, size is 2'-6" by 2'-6" high (opening at mouth) by 8'-0" long (nominal). This quantity of nets equals the initial setup set, plus 17 change-outs.

3. All 316 stainless steel hardware and fittings required for the assembly and installation of the system.

NOTE: The use of a 4' wide chamber here is contingent upon the chamber matching up to the outer diameter of the existing 48" pipe.

II. Construction Supervision and Training

1. Fresh Creek Technologies will supervise the installation of equipment and include an overall work site inspection report at the completion of all work, for each site.

2. Following the completion of the project, Fresh Creek Technologies will conduct an operations and maintenance training program. Training shall be structured to develop a basic understanding of the design, function and capabilities of the equipment. In addition, routine operational and preventive maintenance, safety considerations, responses to abnormalities and startup, shutdown and troubleshooting will be covered. O & M manuals will be provided by Fresh Creek.

NOTE: Installation of FCT supplied equipment/items is by others. Installation includes but is not limited to: site preparation, crane to offload and install the concrete chamber, offloading and installation of FCT supplied internals, modifications to & tie-in to the existing piping and/or return area to original condition.

III. Pricing, Terms and Conditions

As requested, budgetary prices will be provided. The cost of stainless steel has risen sharply over the last 12 months amounting to increases of over 100% for certain grades. This is an important factor for design and costing issues. Some stability has returned to this market pricing, but it is too early to predict where prices will be 6-12 months from now.

The budgetary proposal price for the Fresh Creek Technologies, Netting TrashTrap® systems, as described above as follows:

Netting TrashTrap® System at CSO #17	Price = $ 97,500.00
Netting TrashTrap® System at CSO #21	Price = $124,250.00
Netting TrashTrap® System at CSO #26	Price = $219,350.00
Netting TrashTrap® System at CSO #52	Price = $ 98,675.00

The above proposal prices for the Fresh Creek Technologies, Netting TrashTrap® systems, includes on shipping costs, to the job site. Additional nets are available for $125.00 each, plus freight when ordered in a minimum quantities.

Payment terms are net 30 days from the day the Fresh Creek Technologies equipment is shipped.

This FCT pricing is to be handled with "strictest confidence", therefore not to be communicated in any way (verbal, written, faxed, emailed, etc.) to anyone outside of your department and FCT, without FCT's written knowledge and approval.

IV. Comments

Submittals drawings and structural calculations (both including requirements under chambers) will be supplied 4 to 6 weeks of receipt of notice of the award of contract and verified piping inverts and grade elevation, whichever is later.

Delivery of the system to the site is 6 to 8 weeks after receipt of the approval of these submittals.

We estimate that the precast concrete sections can be installed in less than 1 day per site based on a good crane operator and at least four workers. The other FCT supplied equipment/items can be completely installed (by the installing contractor) within 2 days per site, using a crew of three (3) laborers, all required equipment and tools on the site.

The design & installation drawings and required calculations will be signed by a State of _________ licensed professional engineer.

Fresh Creek can provide contract services for maintenance and netting replacement. We presently have contracts with several Northern New Jersey cities. We would be pleased to quote a manual service contract for this installation.

General Comments:

Thank you for the opportunity to present this proposal. We look forward to discussing this proposal and our Netting TrashTrap® technology in more detail.

Sincerely,

P. M. Farrelly

Mike Farrelly
Project Engineer

Reviewed by

Robert Kircher

Robert Kircher
Engineering Manager

For each of the four sites, we have selected the appropriate equipment, determined the approximate required footprint and a budget price. The footprint is expressed in width and length, the width being equal to the required weir length to accommodate the equipment selected, including the space required for debris storage during an overflow event. The footprint will also work if the width and length dimensions are interchanged. Attached you will also find the general information for both the ACU-SCREEN fine overflow screens and the ACU-BEND underflow bending weirs.

For the four sites, we have made the following selections:

SITE # 17: Design Flow (Qd) = 19 cfs; Existing Structure; Access Width = 30 to 40 ft; Influent Pipe = 42"ø; One way check flap required; Existing Chamber = 10' x 10'; The Overflow Weir Sill Elevation is assumed to be = 0.00 ft.; The debris will be directed to the dry weather flow at this site.

- Equipment selected for this site is: One (1) ACU-SCREEN fine screen model GAS-DHS-183 and one (1) ACU-BEND underflow bending weir model GAB-60/183/4. The bending weir, which is sealed on all four sides, will serve two functions. The first is to insure that the available upstream storage is fully utilized and that the upstream water level (USWL) is maintained relatively constant before any overflow event occurs and the second is to act as a backflow preventor in the case of a high downstream water level (DSWL). The screen selected for this site is a diagonal unit with a single 6' screening module driven by an hydraulic power unit with a control panel and water level measuring device. The bending weir is of the underflow type, sealed on four sides, with integral counterweights, a height of 2 ft and a length of 6 ft.
- The required footprint to accommodate this equipment is 8.5' wide x 10' long.
- The ACU-SCREEN / ACU-BEND combination will operate so that the USWL will vary from +1.90 to +2.05 ft for all flows varying from 0 to Qd (19 cfs).
- If the screen is 40 % blocked, then the USWL will rise to +2.25 ft at Qd.
- With the screen operating under normal conditions (no blockage), the screen will have a maximum capacity of 35 cfs before overtopping at elevation +2.30 ft (top of screen).
- If the screen is completely blocked, then the top of the screen will act as an emergency overflow. The depth of water over the top of the screen will be 0.77 ft or elevation +3.07 ft.
- The budget price for this equipment (GAS-DHS-183 & GAB-60/183/4) is $ 60,400 US Funds (includes ACU BEND).

  SITE # 21: Design Flow (Qd) = 22 cfs; New Structure; Influent Pipe = 66"ø; The Overflow Weir Sill Elevation is assumed to be = 0.00 ft.; The debris will require a macerating pump at this site to return it to the dry weather flow.

- Equipment selected for this site is: One (1) ACU-SCREEN fine screen model GAS-HWS-168, water wheel driven. The screen selected for this site is a horizontal unit with a single 5.5' screening module driven by a water wheel. The water wheel requires a 2 ft differential between the crest of the overflow weir and the maximum DSWL.
- The required footprint to accommodate this equipment is 8' wide x 8' long.
- The ACU-SCREEN will operate so that the USWL will vary from +0.00 to +1.21 ft for all flows varying from 0 to Qd (22 cfs).
- If the screen is 40 % blocked, then the USWL will rise to 1.90 ft at Qd.
- With the screen operating under normal conditions (no blockage), the screen will have a maximum capacity of 38 cfs before overtopping at elevation 2.00 ft (top of screen).
- If the screen is completely blocked, then the top of the screen will act as an emergency overflow. The depth of water over the top of the screen will be 0.88 ft or elevation +2.88 ft.

- The budget price for this equipment (GAS-HWS-168) is $ 46,400 US Funds + $14,000 for ACU BEND.

SITE # 26: Design Flow (Qd) = 72 cfs; New Structure; Influent Pipe = 72" & 84"ø; The Overflow Weir Sill Elevation is assumed to be = 0.00 ft.; The debris will be directed to the existing adjacent pump station at this site.

- Equipment selected for this site is: One (1) ACU-SCREEN fine screen model GAS-HWD-500. The screen selected for this site is a horizontal unit with two 8.2' screening modules driven by a water wheel. The water wheel requires a 2 ft differential between the crest of the overflow weir and the maximum DSWL.
- The required footprint to accommodate this equipment is 20' wide x 10' long.
- The ACU-SCREEN will operate so that the USWL will vary from +0.00 to +1.31 ft for all flows varying from 0 to Qd (72 cfs).
- If the screen is 40 % blocked, then the USWL will rise to +2.13 ft at Qd.
- With the screen operating under normal conditions (no blockage), the screen will have a maximum capacity of 127 cfs before overtopping at elevation +2.30 ft (top of screen).
- If the screen is completely blocked, then the top of the screen will act as an emergency overflow. The depth of water over the top of the screen will be 1.05 ft or elevation +3.35 ft.
- The budget price for this equipment (GAS-HWD-500) is $ 65,000 US Funds + $25,000 for ACU BEND.

SITE # 52: Design Flow (Qd) = 8 cfs; New Structure; Influent Pipe = 48"ø; The Overflow Weir Sill Elevation is assumed to be = 0.00 ft.; The debris will be pumped to the dry weather flow at a site approximately 100 ft away.

- Equipment selected for this site is: One (1) ACU-SCREEN fine screen model GAS-HWS-107. The screen selected for this site is a horizontal unit with a single 3.5' screening module driven by a water wheel. The water wheel requires a 2 ft differential between the crest of the overflow weir and the maximum DSWL.
- The required footprint to accommodate this equipment is 6' wide x 8' long.
- The ACU-SCREEN will operate so that the USWL will vary from +0.00 to +0.85 ft for all flows varying from 0 to Qd (8 cfs).
- If the screen is 40 % blocked, then the USWL will rise to +1.15 ft at Qd.
- With the screen operating under normal conditions (no blockage), the screen will have a maximum capacity of 15.9 cfs before overtopping at elevation +1.30 ft (top of screen).
- If the screen is completely blocked, then the top of the screen will act as an emergency overflow. The depth of water over the top of the screen will be 0.54 ft or elevation +1.84 ft.
- The budget price for this equipment (GAS-HWS-107) is $ 44,500 US Funds + $10,000 for ACU BEND.

Please note that the budget prices include the equipment, all gaskets and seals, anchoring system, crating, shipping, O&M manuals, installation assistance, start-up and operator training. The budget prices also include an amount for the two sites requiring pumping of the debris back to the dry weather flow location. The civil costs and installation is not included in our prices.

When you have more information on these sites, we will be pleased to work with you to develop detailed site drawings.

Should you have any questions or comments, do not hesitate to contact me. However, please note that I will be out of the office from September 20 16:00 hours to September 29, 2004. Please speak to Steve Bigelow or leave a message for me during this period.

Nick Grande, M.Eng., P.E.
President
Grande Water Management Systems
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Montreal, Quebec, Canada
H4M 2P1
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ACU-BEND Selection Criteria:

Design Data:

Weir Overflow Capacity (Qd): ____________ (indicate L/s, cfs, gpm, etc...)
Maximum Head (H) at Qd: ____________ (indicate ft or m)
Existing Structure: ____________ (yes/no)
Overflow Weir Elevation: ____________
Overflow Weir Length: ____________
Maximum Upstream Water Level (Max USWL): ____________
Preferred number of Weir Modules: ____________
Sealed on all Four Sides: ____________ (yes/no)

Preferred Counterweight Option:

Concrete Weights: ____________
Galvanized Steel Weights: ____________
Stainless Steel Weights: ____________

Material of Construction Preference:

SS 304: ____________
SS 316: ____________

Weir Monitoring Option:

Discharge Monitoring: ____________ (yes/no)

Installation Assistance Required: ____________ (yes/no)
Start-Up Required: ____________ (yes/no)
Personnel Training Required: ____________ (yes/no)

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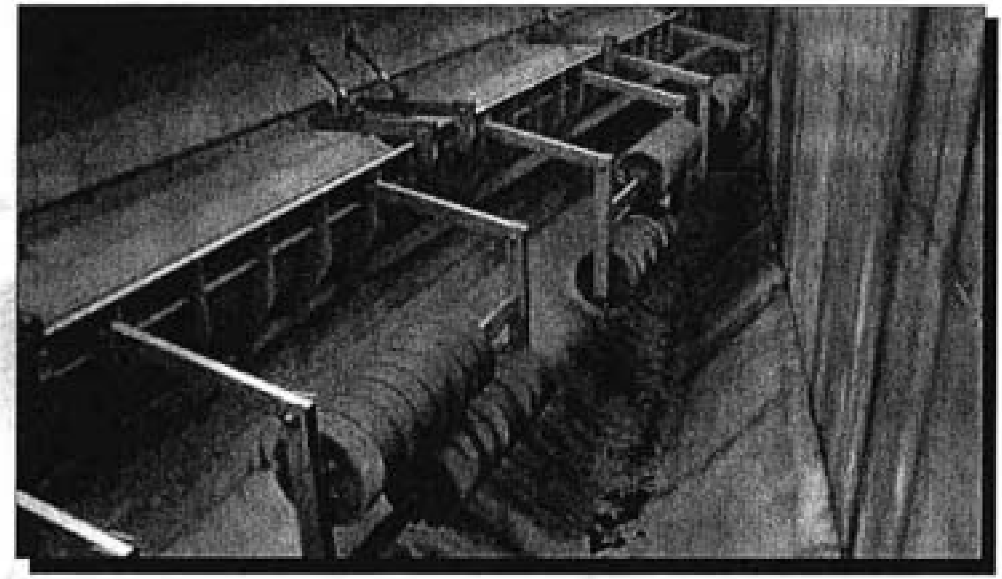
ACU-BEND Bending Weir Type "U"



The Clear Solution

Application

Once a combined sewer overflow (CSO) tank (or sewer) or a stormwater overflow tank (or sewer) is full, any additional influent water must be able to reach the receiving stream. In the past this was usually accomplished with the use of fixed weirs. However fixed weirs have inherent disadvantages including: increased water pollution, lower usable tank and sewer storage volumes and no backflow protection. To avoid the disadvantages of fixed weirs increasing use is made of overflow bending weirs such as the unique and patented **ACU-BEND**.

The **ACU-BEND** is designed to ensure that a constant maximum storage level is maintained upstream of the weir so that full utilization is made of all the available upstream storage volume. The **ACU-BEND** is designed to open just enough to allow the additional influent water to overflow the weir while maintaining the upstream water level. This ensures that the frequency of overflow events is reduced which results in reducing the discharge of highly polluted water to the receiving stream.

The entire overflow weir length can be utilized for overflow level control. The compact design makes the system particularly suitable for structures with limited space and for installation in existing structures. The special weir construction makes virtually constant maximum storage levels possible, even under backflow conditions.

Features

- Lower storage tank construction costs owing to smaller tank volumes (the **ACU-BEND** allows for 100 % utilization of storage tank volume as opposed to only 70 to 80% for conventional weirs).
- Increased water pollution protection since discharge from the storage tank to receiving stream commences only after complete filling of the available storage volume or after reaching maximum storage level.
- Stainless steel 316 construction ensures reliable trouble free operation.
- The maximum storage level setting may be easily modified after installation of the device.
- Hydraulically ideal shape of the weir flap ensures blockage free discharge
- Integrated counterweight design eliminates need for separate counterweight chamber.
- Easy retrofitting of existing basin overflows possible (additional storage volume gain).
- The **ACU-BEND** is available with seals on all four sides, so that it can act as a backflow prevention device for flood protection.

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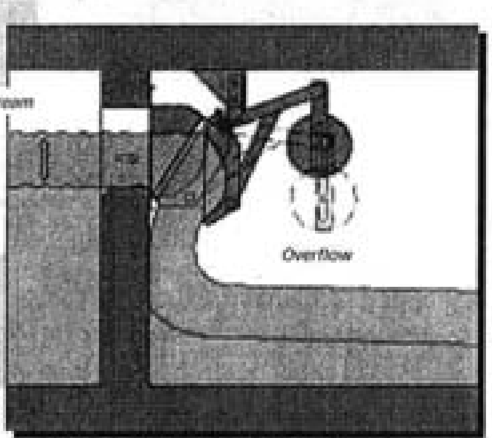
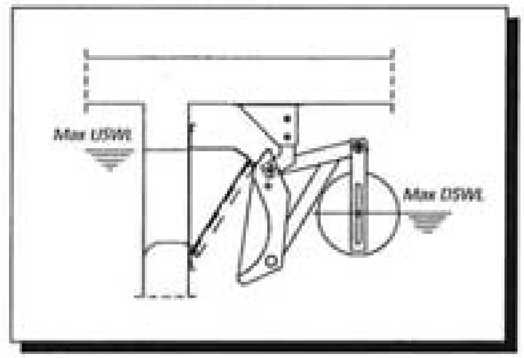


Operational diagram of the ACU-BEND

ACU-BEND Installation



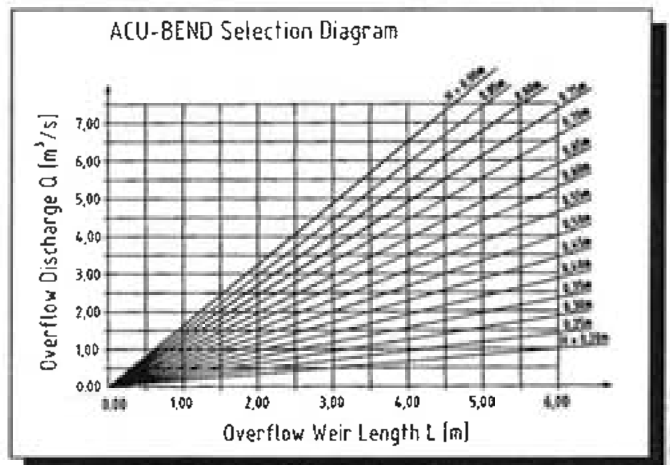
Operation

The **ACU-BEND** is installed on the existing fixed overflow weir, with its pivot points attached to the structure's ceiling, sidewall or crossbeam. The pivot balances the forces produced by the hydrodynamic loading on the overflow weir flap with those of the counterweight. This ensures equilibrium in any weir position, resulting in a highly sensitive response to the slightest change in the upstream water level. The **ACU-BEND** remains in the rest position (closed) until the maximum design storage level is reached. Upon reaching this level, the **ACU-BEND** immediately responds and swings away from the sill, allowing the excess water to overflow while maintaining a constant upstream water level.

The patented special shape of the weir body and the arrangement of the hinged flap and counterweights are the result of extensive calculations and hydraulic testing. The relationship between the static and dynamic hydraulic forces, as well as the passive forces of the counterweights (and weir), have been optimized. This results in a high discharge coefficient for the **ACU-BEND** which ensures that a constant upstream water level is maintained without negatively impacting the upstream hydraulic grade line.

If required, the maximum storage level setting may be adjusted on site by removing or adding counterweights.

Selection diagram



The calculation of the overflow discharge Q is based on the Poleni weir formula :

$$Q = 2/3 * \mu * L * H^{1.5} * \sqrt{2 * g}$$

The overflow coefficient $\mu = 0.64$

According to the Poleni formula, the hydraulic capacity of the **ACU-BEND** is at least equal to that of a standard overflow weir. This means that the upstream water level is not adversely affected by the presence of the **ACU-BEND** overflow bending weir type U.

Overflow weir sizes not shown or beyond the diagram limits may be obtained by special request.

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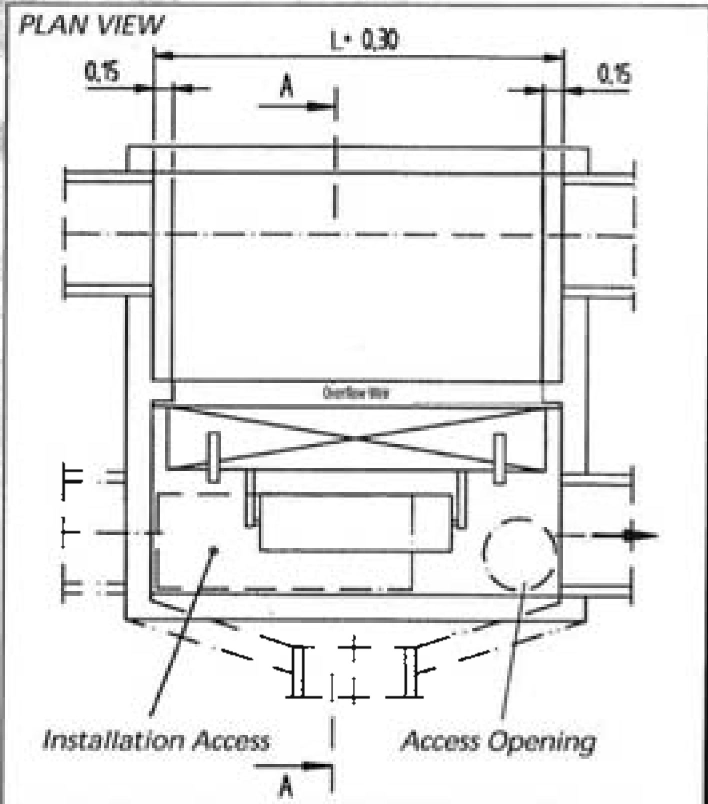
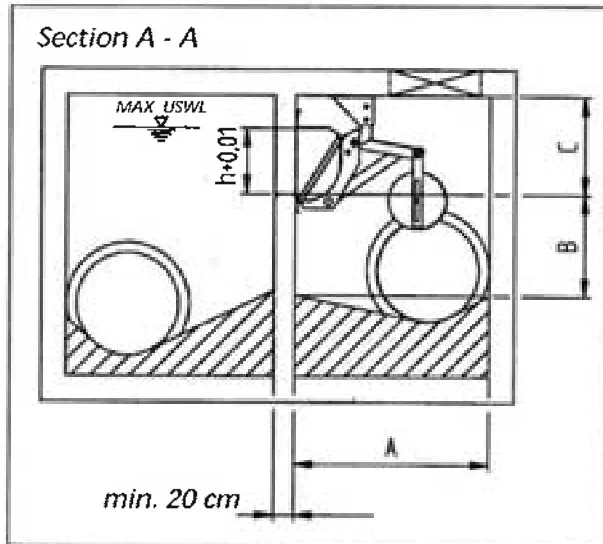
Installation Data for ACU-BEND Weir

Backflow protection design (sealed on four sides)

Detailed installation drawings will be prepared by GWMS for specific project application





Installation and anchoring on ceiling, crossbeam or sidewalls are optional, depending on site constraints

If a floatables baffle wall is to be installed upstream of the ACU-BEND, insure adequate clearance of approximately 1.5 x h between the baffle and the overflow weir.

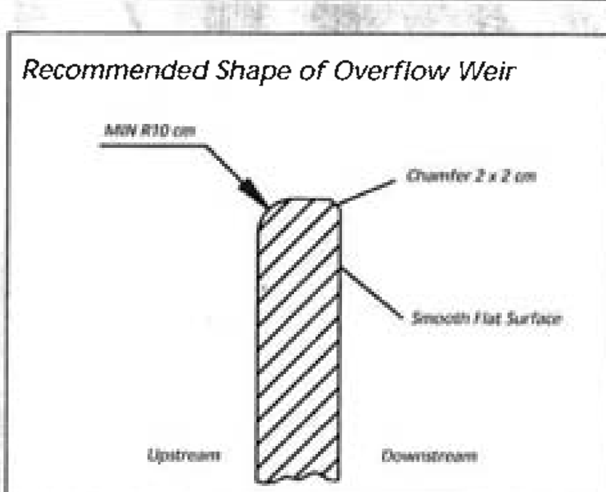
Dimensions:

h [m]	0.20 - 0.30	0.30 - 0.40	0.40 - 0.50	0.50 - 0.60	0.60 - 0.70	0.70 - 0.80	0.80 - 0.90
L [m]				up to 10.00			
A [m]	≥0.85	≥1.00	≥1.20	≥1.40	≥1.60	≥1.85	≥2.20
B [m]	≥0.30	≥0.38	≥0.46	≥0.53	≥0.63	≥0.70	≥0.80
C [m]	≥0.50	≥0.60	≥0.70	≥0.80	≥0.90	≥1.10	≥1.30

Other dimensions available upon request

Install secondary concrete only after overflow weir installation is complete.

Size of installation opening depends on specific project requirements and site constraints as well as ACU-BEND dimensions.



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ACU-SCREEN
Selection Criteria:

Design Data:

Screen Overflow Capacity (Qd): ____________ (indicate L/s, cfs, gpm, etc...)
Maximum Head (H) at Qd: ____________ (indicate ft or m)
Existing Structure: ____________ (yes/no)
Overflow Weir Elevation: ____________ Overflow Weir Length: ____________
Maximum Upstream Water Level (Max USWL): ____________
Preferred number of Screening Modules: ____________

Preferred Drive Option:

Water Wheel (WW) Driven: ____________ (Minimum Required Vertical Downstream Clearance 24" [600 mm])
Hydraulic Power Unit (HPU) Driven: ____________
Electric Motor (EM) Driven: ____________
Note: Options other than water wheel driven will require a control panel with water level sensor.

Control Panel (Required for HPU Driven Screen):

Enclosure Type: ____________ (NEMA 12, 4 or 4X)
CP Location: ____________ (Non-hazardous, Ex-Proof, etc...)
Panel Voltage Requirements: ____________ (VAC, ph, 60 Hz)
Hydraulic Pump Motor Voltage: ____________ (VAC, ph, 60 Hz)
Distance between HPU and ACU-SCREEN: ____________
Space required for the control panel enclosure is approximately: 24" x 36" x 16" (w x h x d) for up to 2 modules; 30" x 48" x 16" (w x h x d) for up to 4 modules

Standard Hydraulic Power Unit Components: -High Oil Pressure, Low Oil Level and High Oil Temperature Alarms & Corresponding Gauges; -Breather Cap; -Uses biodegradable hydraulic oil (water pollution class 1); -Manual or Automatic operation; -Automatic reversal in case of blockage

Control Panel (Required for EM Driven Screen):

Enclosure Type: ____________ (NEMA 12, 4 or 4X)
Panel Voltage Requirements: ____________ (VAC, ph, 60 Hz)
Screen Motor Voltage: ____________ (VAC, ph, 60 Hz)
Control Panel Location: ____________ (Non-hazardous, Ex-Proof, etc...)
Space required for the control panel enclosure is approximately :24" x 24" x 10" (w x h x d)

Control Panel Options:

Upstream Water Level Sensor Type: ____________ (Float or Ultrasonic)
Menu-driven display with relevant operating data: ____________ (yes/no)
Dry contacts for remote monitoring: ____________ (yes/no)

Length of Hydraulic Hoses Required: ____________ (ft or m)

Installation Assistance Required: ____________ (yes/no)
Start-Up Required: ____________ (yes/no)
Personnel Training Required: ____________ (yes/no)

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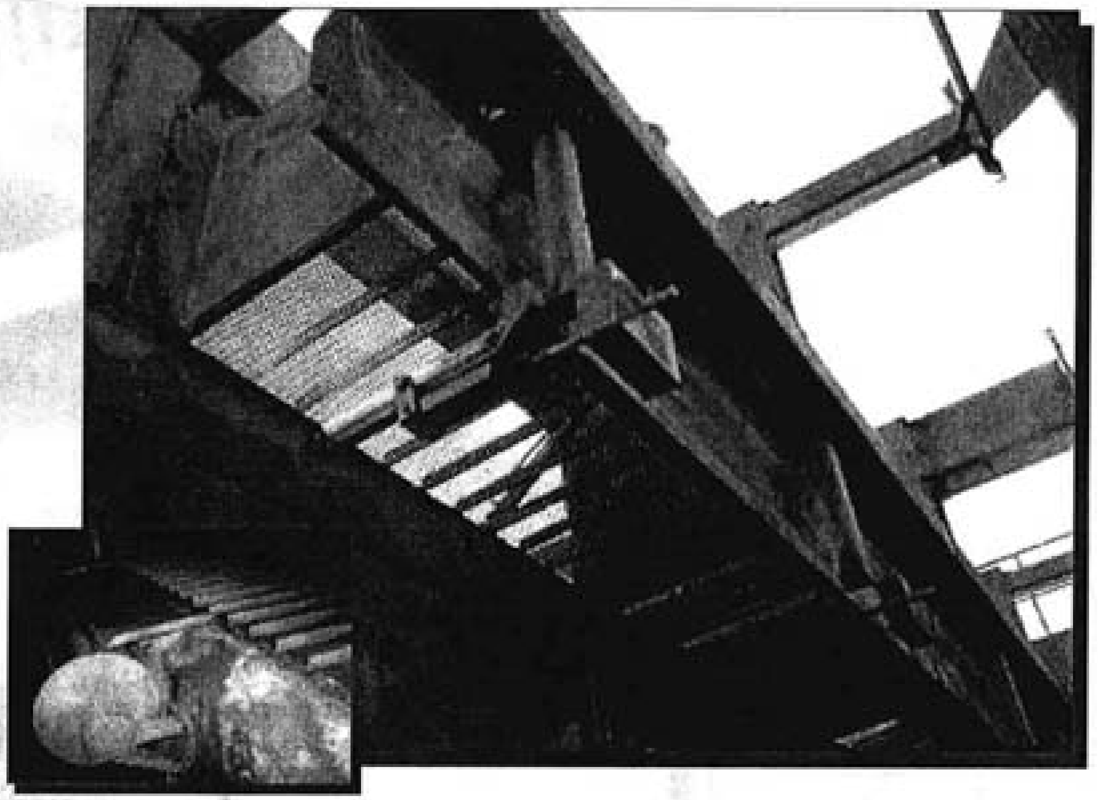
ACU-SCREEN Fine Slotted Overflow Screen

The
Clear
Solution



Application

Stormwater discharge systems and combined sewer overflows (CSO) are the weak points in sewer systems, usually at the expense of water pollution prevention. They are entry points through which urban pollutants reach the receiving stream. In the past, there were frequently no adequate preventive measures available or in place. Today however, there are legal requirements in many areas for the retention of floating and suspended matter in stormwater and combined sewer overflow systems. The **ACU-SCREEN** economically provides effective receiving stream protection. It is designed to be installed over stormwater discharge sills, settling tank overflow weirs, CSO weirs, flood discharge systems, etc... Its modular design makes it suitable for any type of overflow system and is easily retro-fitted to existing structures

The **ACU-SCREEN** design is based on a special stainless steel screening surface, with slotted screen openings of 3/16" x 1" and a total free area of 50 %, achieving the highest possible degree of solids retention while minimizing the head loss.

Features:

- The **ACU-SCREEN** is constructed entirely of stainless steel 316 ensuring reliable trouble free operation.
- Self adjusting brush provides automatic cleaning of screening surface in both directions.
- The **ACU-SCREEN** cleaning system may be driven by a water wheel (requiring no external energy) or by an electro-hydraulic drive, depending on site constraints.
- Slotted screening surface ensures the retention of all solids greater than 3/16".
- Design of cleaning system mechanism ensures that moving parts are never submerged.
- Modular design allows for installation over virtually any overflow weir type and size.
- Easy to retrofit into existing structures.
- May be installed in the vertical or diagonal position when the preferred horizontal arrangement is not possible due to site constraints.

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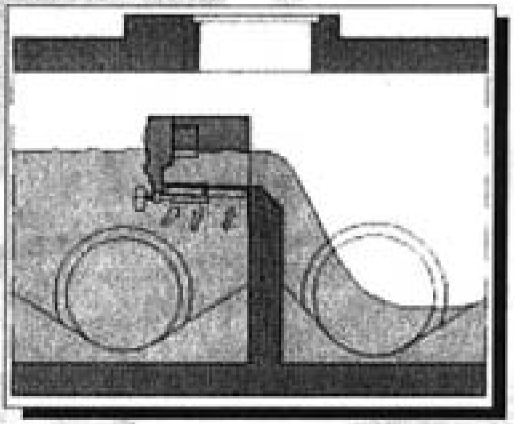


*Operating diagram for the **ACU-SCREEN** with electro-hydraulic drive.*

Operation

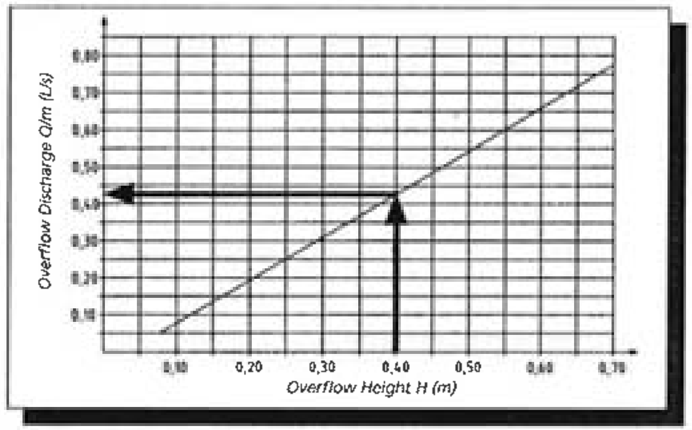
The **ACU-SCREEN** screening surface is made up of a series of 3/16" x1" slots and has a clear opening of 50%. During an overflow event, the solids retained by the screen are continuously cleaned by the back and forth movement of the cleaning brush. The preferred installation is horizontal, however it may also be installed vertically or diagonally to satisfy any existing structural constraints.

The **ACU-SCREEN** can be driven without the need for external energy as the cleaning mechanism may be powered by the proven principle of the water wheel. The water wheel powers a gear drive which converts this energy into an oscillatory motion. A weighted, self-adjusting brush, attached to the guide carriage, is driven back and forth across the screening surface, pushing all retained solids into storage areas, found at either end of the screen modules. Because the screen is continuously brushed clean, clogging of the screening surface cannot occur. The retained solids are discharged into the sewage stream at the end of an overflow event and carried to the sewage treatment plant for removal.

The **ACU-SCREEN** may also be equipped with an electro-hydraulic drive (where site constraints warrant), whose electronic components are located well outside the overflow structure. Only biodegradable hydraulic oils are used.

The **ACU-SCREEN** may be installed in combination with an **ACU-BEND** bending weir to maximize the use of all available upstream in-situ storage and to minimize the frequency of an overflow event.

Represented locally by:



Example:
Determining the required screening surface length (standard screen width of 0.70 m).

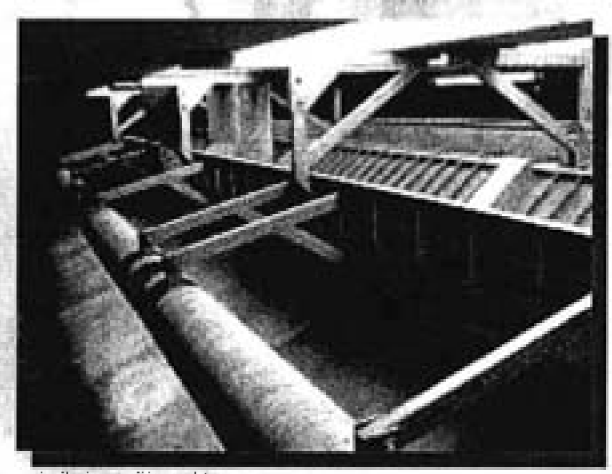
Design overflow discharge	Q =	1500 L/s (53 cfs)
Maximum overflow height	H =	0.40 m (16")

From selection diagram:
Flow per meter (Q/m) of overflow length is 430 L/s

⇨ Screen Length (l) = Q ÷ Q/m = 1500 / 430 = 3.49 m

Selected: Min. screen module length (l) 3.50 m (11.5')

***ACU-SCREEN** in stormwater overflow basin.*



***ACU-SCREEN** with **ACU-BEND** combination.*

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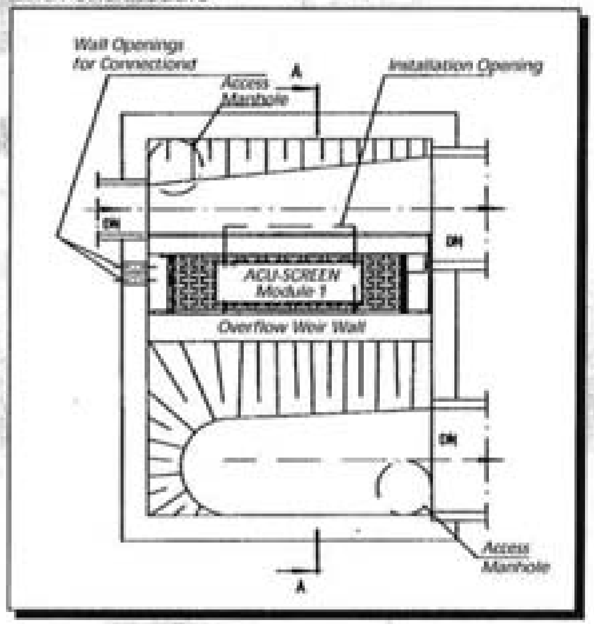
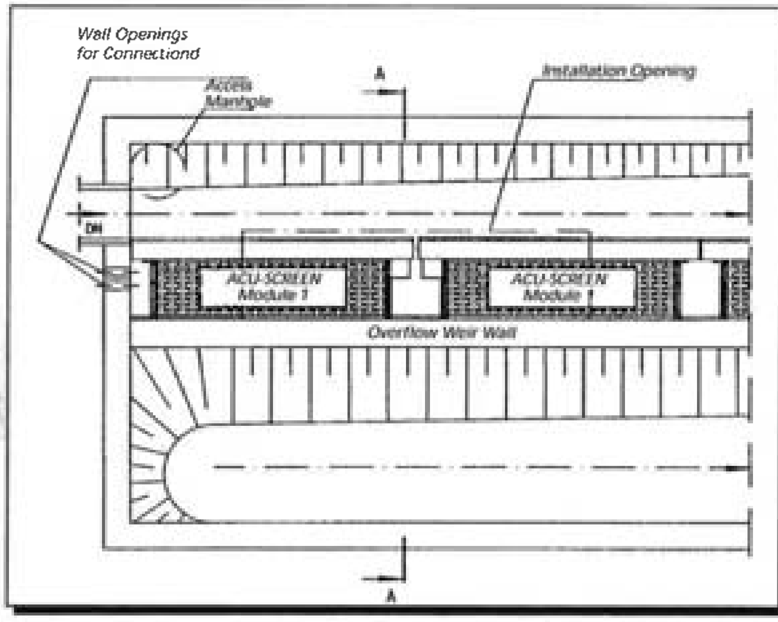
Sample Installations for the ACU-SCREEN

Detailed installation drawings will be prepared by GWMS for specific project application

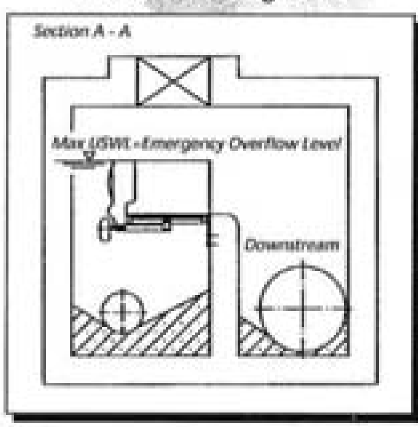
Horizontal Arrangement
With one module



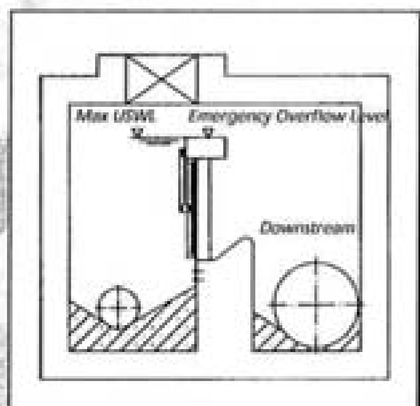
Horizontal arrangement
with 2 or more modules



Horizontal arrangement

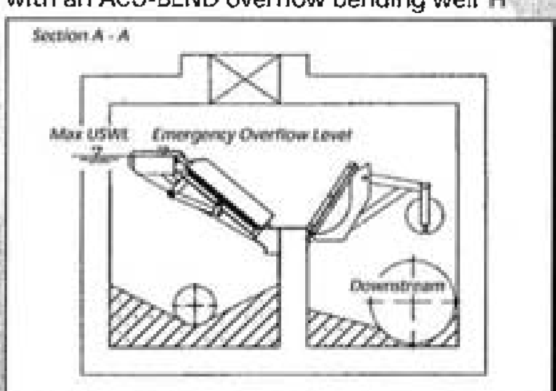


Vertical arrangement

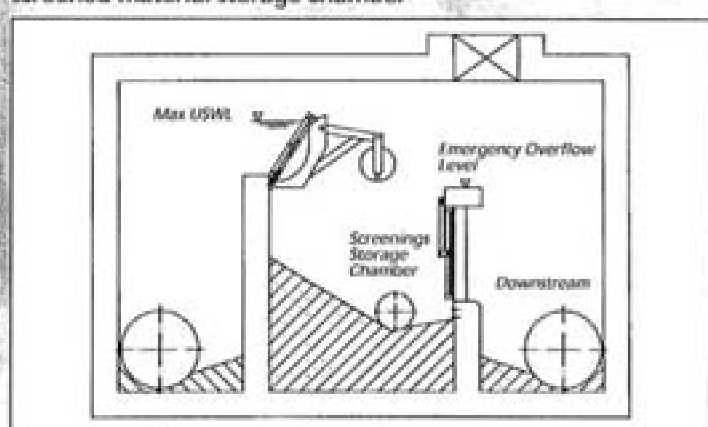


Horizontal arrangement
(water wheel driven)

Diagram arrangement in combination
with an ACU-BEND overflow bending weir H



Vertical arrangement with auxiliary sill and
screened material storage chamber



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September 20, 2004

Ms. Rita Fordiani
CH2M Hill
Boston, MA
Tel: 978-443-9218
rfordian@ch2m.com

Re: ACTIFLO® Budgetary Price
CH2M Hill-Boston

Dear Ms. Fordiani,

Thank you for your interest in the Krüger ACTIFLO® process for Combined Sewer Overflow treatment. Enclosed is our price estimate, design summary, layout, and equipment scope of supply for a 1 x 14 MGD ACTIFLO® system. Also enclosed are the layout drawings, price estimates and operating cost estimates for three additional designs: 5 MGD, 12 MGD and 48 MGD (2 x 24 MGD).

Please note that the raw water entering the 12, 14 or 48 MGD ACTIFLO® systems must have particles greater than 10 mm in size removed by means of mechanical fine screening. The 1 x 5 MGD system must have particles greater than 6 mm removed. Additionally, proper dispersion of the coagulant must be achieved through static or induction mixing prior to the entry of the raw water into the ACTIFLO® system.

The corresponding scope of supply is detailed in the following pages and summarized below:

- Mechanical equipment related to the ACTIFLO® system,
- Automatic liquid polymer preparation and dosing system,
- Coagulant metering pumps and control panel,
- ACTIFLO® system based PLC control panel,
- Process instrumentation,
- Spare parts.

Our budgetary prices for the four options are as follows:

Design Option	Site	Flow, cfs	Size	Price
Option 1	#21	22 cfs	1 x 14 MGD	**$1,050,000.00**
Option 2	#52	8 cfs	1 x 5 MGD	**$800,000.00**
Option 3	#17	19 cfs	1 x 12 MGD	**$1,000,000.00**
Option 4	#26	72 cfs	2 x 24 MGD	**$2,400,000.00**

Krüger

Kruger Products
401 Harrison Oaks Blvd.
Ste. 100
Cary, NC 27513

TELEPHONE 919-677-8310
FACSIMILE 919-677-0082

These prices are valid for ninety days from the date of this proposal, are exclusive of any sales or use taxes, and are subject to Krüger Standard Terms and Conditions of Sale.

The above prices also include the following:
- Freight to the job site (FOB shipping points),
- O&M manuals,
- Support in process engineering,
- Advice during construction and installation,
- Start-up assistance,
- Operator training,
- One year warranty.

The terms of payments are 15% on submittal of shop drawings, 75% on the delivery of equipment to the site and the final 10% on start-up of the system not to exceed 120 days from delivery of equipment.

Payment shall not be contingent upon receipt of funds by the Contractor from the Owner. All other terms per our standard conditions of sale are attached. Payment terms are net 30 days from the aforementioned benchmarks.

The schedule of delivery shall be as follows:
- Shop drawings will be submitted within 6-8 weeks of receipt of an executed contract by all parties.
- All equipment will be delivered within 16-18 weeks after receipt of approved shop drawings. Approval must be in the written form.
- Installation manuals will be furnished upon delivery of the equipment.
- Operation and Maintenance Manuals will be submitted within 90 days after receipt of approved shop drawings

If you have any questions or require any additional information please do not hesitate to contact our local representative, Bruce Stevens at (207) 395-4554, or call me directly at 919-677-8310.

Sincerely,

David Holliman
Process Engineer
ACTIFLO® Systems

cc. Will Sullivan, Andy Szekeress, Erica Latker (Krüger)
Bruce Stevens (F.R. Mahony & Associates)

ACTIFLO®
Budgetary Price Package
for
CH2M Hill-Boston
Site # 21

1 x 14 MGD

Krüger, Inc. Project:

I. Krüger, Inc.
401 Harrison Oaks Blvd; Suite 100
Cary, NC 27513
Phone (919) 677-8310
Fax (919) 677-0082

Table of Contents

SECTION ONE

Pricing, Terms, and Schedule

PRICING, TERMS AND SCHEDULE

Price

The prices for the ACTIFLO® Systems, as defined in the following pages, including process and design engineering, field services and equipment are:

Option 1: 1 x 14 MGD	**$1,050,000.00**
Option 2: 1 x 5 MGD	**$800,000.00**
Option 3: 1 x 12 MGD	**$1,000,000.00**
Option 4: 2 x 24 MGD	**$2,400,000.00**

These prices are subject to I. Krüger, Inc. Standard Terms of Sale.

These prices are FOB shipping points, with freight allowed to the job site. These prices do not include any sales or use taxes. In addition, these prices are valid for ninety days from the date of issue and are subject to negotiation of a mutually acceptable contract.

Terms of Payment

The terms of payment are as follows:

1. 15% on submittal of shop drawings
2. 75% on the delivery of equipment to the site
3. Final 10% on start-up of the system not to exceed 120 days from delivery of equipment

Notes: Payment shall not be contingent upon receipt of funds by the Contractor from the Owner. There shall be no retention in payments due to Krüger, Inc. All other terms per our Standard Terms of Sale are attached.

All payment terms are net 30 days from the date of invoice.

Schedule

- Shop drawings will be submitted within 6-8 weeks of receipt of an executed contract by all parties.
- All equipment will be delivered within 16-18 weeks after receipt of written approval of the shop drawings.
- Installation manuals will be furnished per Specification.
- Operation and Maintenance Manuals will be submitted within 90 days after receipt of approved shop drawings.

SECTION TWO

I. Krüger, Inc.
Standard Terms of Sale

I. KRÜGER INC.
STANDARD TERMS OF SALE

1. Applicable Terms. These terms govern the purchase and sale of the equipment and related services, if any (collectively, "Equipment"), referred to in Seller's purchase order, quotation, proposal or acknowledgment, as the case may be ("Seller's Documentation"). Whether these terms are included in an offer or an acceptance by Seller, such offer or acceptance is conditioned on Buyer's assent to these terms. Seller rejects all additional or different terms in any of Buyer's forms or documents.

2. Payment. Buyer shall pay Seller the full purchase price as set forth in Seller's Documentation. Unless Seller's Documentation provides otherwise, freight, storage, insurance and all taxes, duties or other governmental charges relating to the Equipment shall be paid by Buyer. If Seller is required to pay any such charges, Buyer shall immediately reimburse Seller. All payments are due within 30 days after receipt of invoice. Buyer shall be charged the lower of 1 ½% interest per month or the maximum legal rate on all amounts not received by the due date and shall pay all of Seller's reasonable costs (including attorneys' fees) of collecting amounts due but unpaid. All orders are subject to credit approval.

3. Delivery. Delivery of the Equipment shall be in material compliance with the schedule in Seller's Documentation. Unless Seller's Documentation provides otherwise, Delivery terms are F.O.B. Seller's facility.

4. Ownership of Materials. All devices, designs (including drawings, plans and specifications), estimates, prices, notes, electronic data and other documents or information prepared or disclosed by Seller, and all related intellectual property rights, shall remain Seller's property. Seller grants Buyer a non-exclusive, non-transferable license to use any such material solely for Buyer's use of the Equipment. Buyer shall not disclose any such material to third parties without Seller's prior written consent.

5. Changes. Seller shall not implement any changes in the scope of work described in Seller's Documentation unless Buyer and Seller agree in writing to the details of the change and any resulting price, schedule or other contractual modifications. This includes any changes necessitated by a change in applicable law occurring after the effective date of any contract including these terms.

6. Warranty. Subject to the following sentence, Seller warrants to Buyer that the Equipment shall materially conform to the description in Seller's Documentation and shall be free from defects in material and workmanship. The foregoing warranty shall not apply to any Equipment that is specified or otherwise demanded by Buyer and is not manufactured or selected by Seller, as to which (i) Seller hereby assigns to Buyer, to the extent assignable, any warranties made to Seller and (ii) Seller shall have no other liability to Buyer under warranty, tort or any other legal theory. If Buyer gives Seller prompt written notice of breach of this warranty within 18 months from delivery or 1 year from acceptance, whichever occurs first (the "Warranty Period"), Seller shall, at its sole option and as Buyer's sole remedy, repair or replace the subject parts or refund the purchase price therefore. If Seller determines that any claimed breach is not, in fact, covered by this warranty, Buyer shall pay Seller its then customary charges for any repair or replacement made by Seller. Seller's warranty is conditioned on Buyer's (a) operating and maintaining the Equipment in accordance with Seller's instructions, (b) not making any unauthorized repairs or alterations, and (c) not being in default of any payment obligation to Seller. Seller's warranty does not cover damage caused by chemical action or abrasive material, misuse or improper installation (unless installed by Seller). THE WARRANTIES SET FORTH IN THIS SECTION ARE SELLER'S SOLE AND EXCLUSIVE WARRANTIES AND ARE SUBJECT TO SECTION 10 BELOW. SELLER MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE.

7. Indemnity. Seller shall indemnify, defend and hold Buyer harmless from any claim, cause of action or liability incurred by Buyer as a result of third party claims for personal injury, death or damage to tangible property, to the extent caused by Seller's negligence. Seller shall have the sole authority to direct the defense of and settle any indemnified claim. Seller's indemnification is conditioned on Buyer (a) promptly, within the Warranty Period, notifying Seller of any claim, and (b) providing reasonable cooperation in the defense of any claim.

8. Force Majeure. Neither Seller nor Buyer shall have any liability for any breach (except for breach of payment obligations) caused by extreme weather or other act of God, strike or other labor shortage or disturbance, fire, accident, war or civil disturbance, delay of carriers, failure of normal sources of supply, act of government or any other cause beyond such party's reasonable control.

9. Cancellation. If Buyer cancels or suspends its order for any reason other than Seller's breach, Buyer shall promptly pay Seller for work performed prior to cancellation or suspension and any other direct costs incurred by Seller as a result of such cancellation or suspension.

10. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING ELSE TO THE CONTRARY, SELLER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER INDIRECT DAMAGES, AND SELLER'S TOTAL LIABILITY ARISING AT ANY TIME FROM THE SALE OR USE OF THE EQUIPMENT SHALL NOT EXCEED THE PURCHASE PRICE PAID FOR THE EQUIPMENT. THESE LIMITATIONS APPLY WHETHER THE LIABILITY IS BASED ON CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY.

11. Miscellaneous. If these terms are issued in connection with a government contract, they shall be deemed to include those federal acquisition regulations that are required by law to be included. These terms, together with any quotation, purchase order or acknowledgement issued or signed by the Seller, comprise the complete and exclusive statement of the agreement between the parties (the "Agreement") and supersede any terms contained in Buyer's documents, unless separately signed by Seller. No part of the Agreement may be changed or cancelled except by a written document signed by Seller and Buyer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the Agreement. If any of these terms is unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect. Buyer may not assign or permit any other transfer of the Agreement without Seller's prior written consent. The Agreement shall be governed by the laws of the State of North Carolina without regard to its conflict of laws provisions.

SECTION THREE

Design Summary

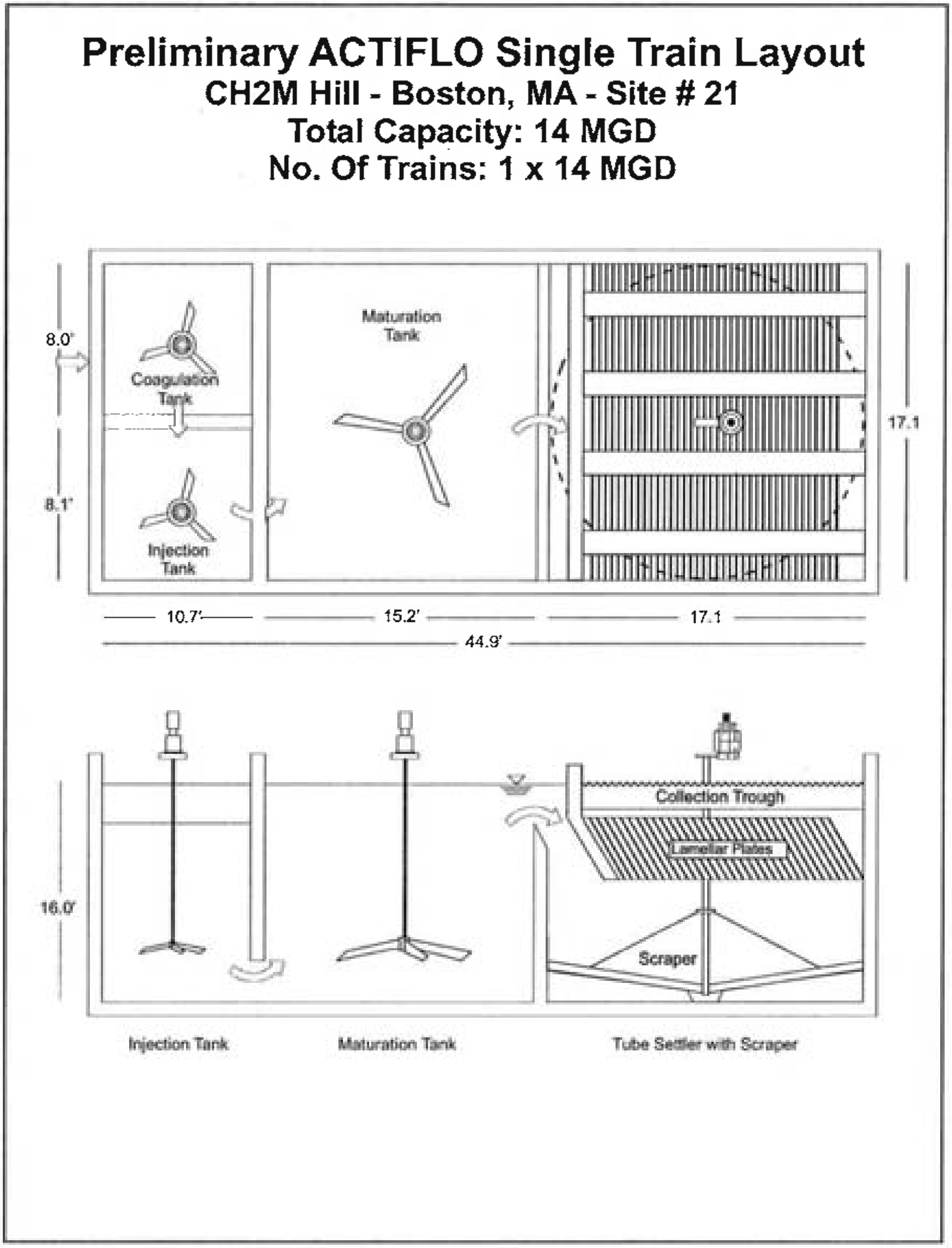
1 x 14 MGD ACTIFLO® Design

Design Capacity	
Total Design Flow, MGD	14
No. of Trains	1
Capacity Per Train, MGD	14
Coagulation Tank Design	
HRT, min	1
No. of Tanks per Train	1
Length, ft	10.7
Width, ft	8.0
Side Water Depth, ft	16
Injection Tank Design	
HRT, min	1
No. of Tanks per Train	1
Length, ft	10.7
Width, ft	8.1
Side Water Depth, ft	16
Maturation Tank Design	
HRT, min	3
No. of Tanks per Train	1
Length, ft	15.2
Width, ft	17.1
Side Water Depth, ft	16
Settling Tank Design	
No. of Tanks per Train	1
Length, ft	17.1
Width, ft	17.1
Side Water Depth, ft	16
Lamella Settling Area, ft^2	162.45
Overflow Rate at Design Capacity, gpm/ft^2	60
Sand Recirculation Circuit Design	
No. of Pumps per Train	2 duty + 1 stand-by
Total Dynamic Head, ft. of water	TBD
Pump Capacity, gpm	310
Number of Hydrocyclones per Pump	1
Estimated Sludge Concentration, % solids	0.1 to 0.5
Sludge Discharge per Train at Design Flow, gpm	496

SECTION FOUR

Layout Drawings

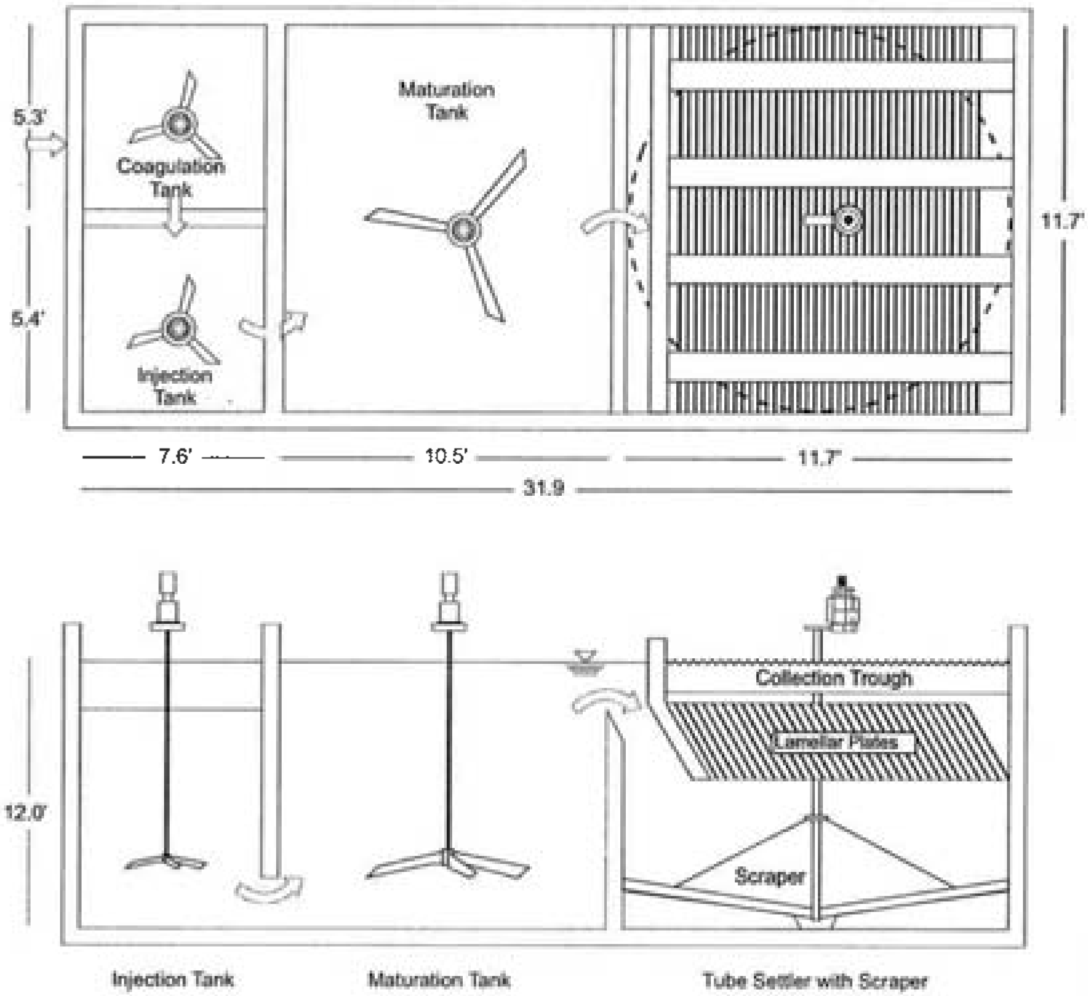
OPTION 1


Preliminary ACTIFLO Single Train Layout
CH2M Hill - Boston, MA - Site # 21
Total Capacity: 14 MGD
No. Of Trains: 1 x 14 MGD
Maturation Tank
8.0'
Coagulation Tank
8.1'
Injection Tank
17.1
10.7'
15.2'
17.1
44.9'
Collection Trough
Lamellar Plates
16.0'
Scraper
Injection Tank
Maturation Tank
Tube Settler with Scraper

OPTION 2

Preliminary ACTIFLO Single Train Layout

CH2M Hill - Boston, MA - Site # 52
Total Capacity: 5 MGD
No. Of Trains: 1 x 5 MGD



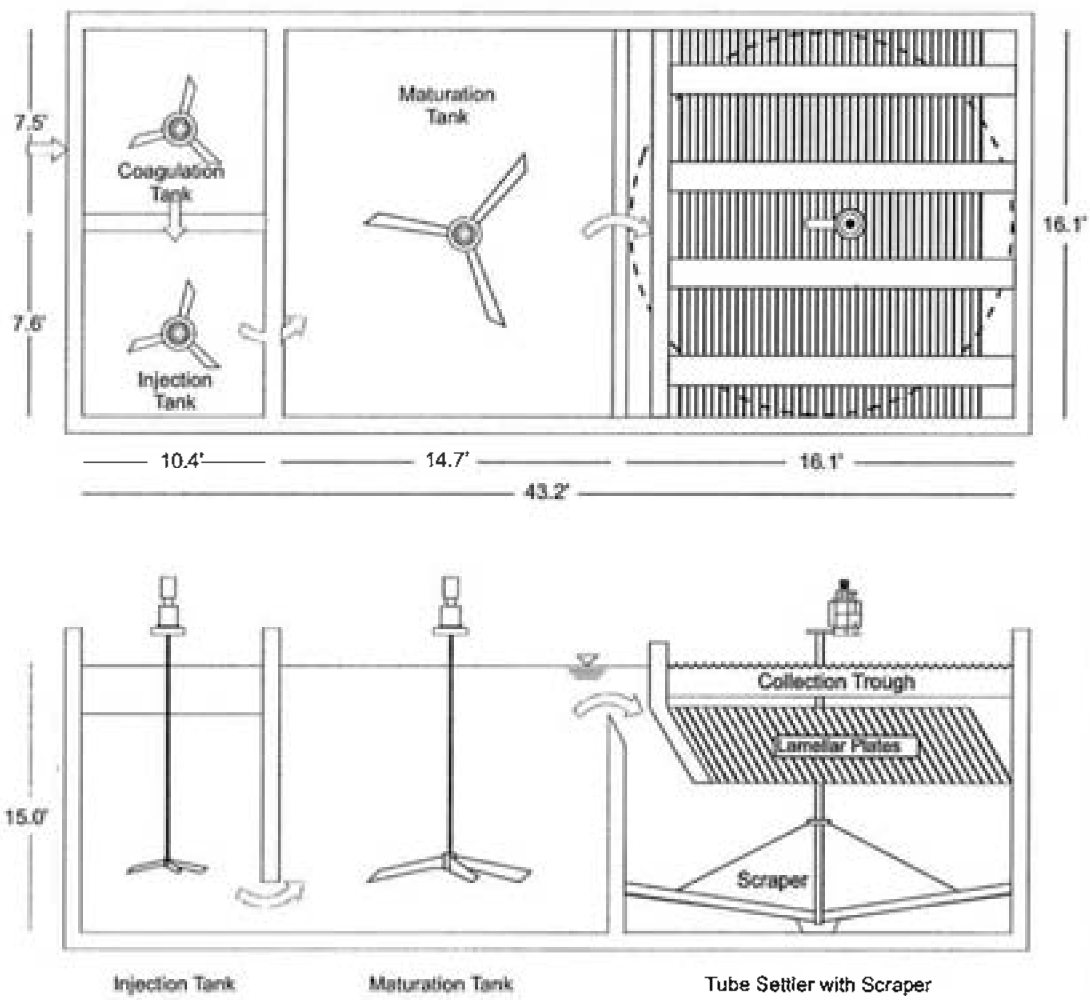
OPTION 3

Preliminary ACTIFLO Single Train Layout

CH2M Hill - Boston, MA - Site # 17

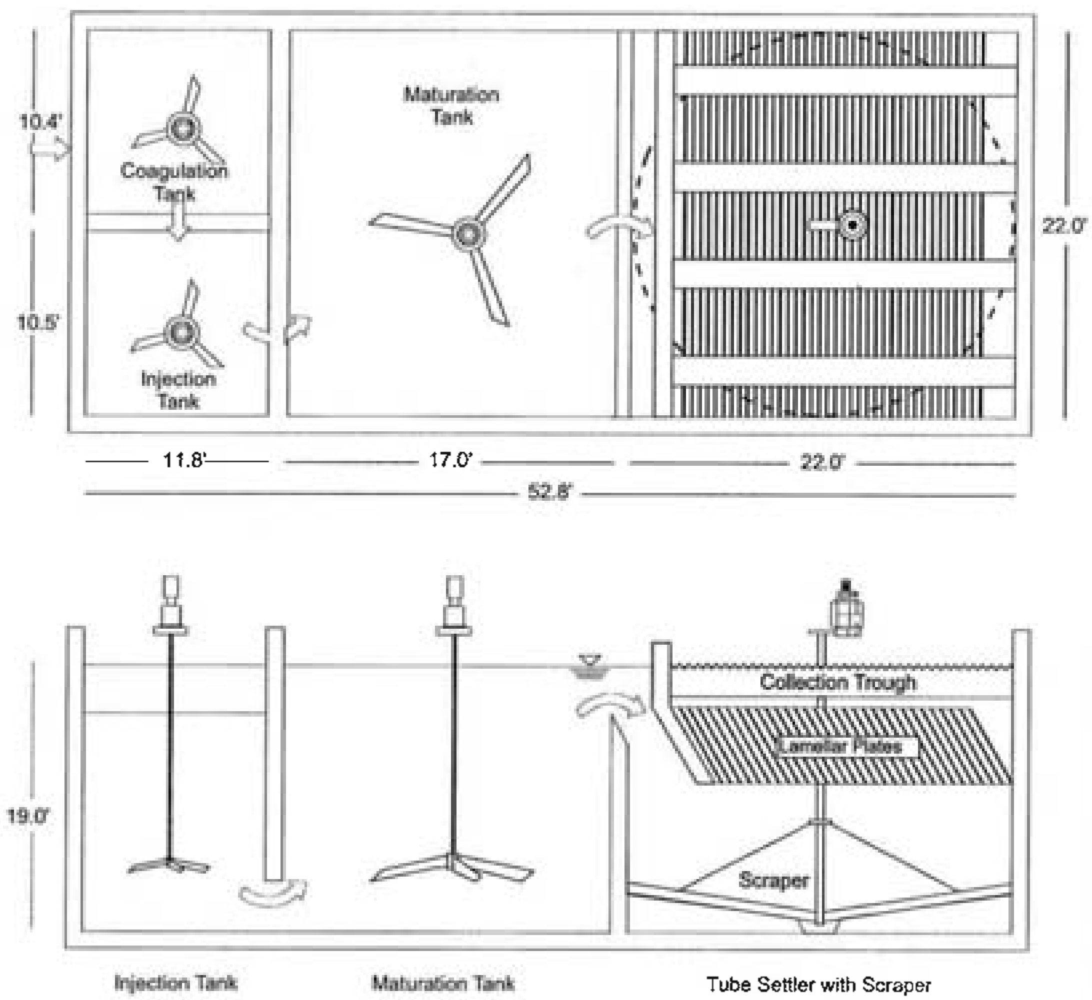
Total Capacity: 12 MGD

No. Of Trains: 1 x 12 MGD



OPTION 4

Preliminary ACTIFLO Single Train Layout
CH2M Hill - Boston, MA - Site # 26
Total Capacity: 24 MGD
No. Of Trains: 1 x 24 MGD



SECTION FIVE

ACTIFLO® Equipment Scope of Supply

ACTIFLO® Equipment Scope of Supply

I. Mechanical Equipment Scope of Supply – 1 x 14 MGD

Description	Units Per Train	Total No. of Units
Coagulation Tanks		
• Coagulation tank top entering mixer(s), 5 HP, TEFC, 460/3/60 motor, 304 stainless steel shaft and impellers.	1	1
Injection Tanks		
• Injection tank top entering mixer(s), 5 HP, TEFC, 460/3/60 motor, 304 stainless steel shaft and impellers.	1	1
Maturation Tanks		
• Maturation tank top entering mixer(s), 7.5 HP, TEFC, 460/3/60 inverter duty motor, 304 stainless steel shaft and impellers.	1	1
• VFD to be supplied by others.	--	By others
• Anti-Vortex Baffles, 304 stainless steel	2	2
Settling Tanks		
• Sludge scraper assemblies, 304 stainless steel, center drive, 1.5 HP, TEFC, 460/3/60 inverter duty motor, speed reducer, complete with drive shaft, shaft protector, rake arms and blades.	1	1
• VFD to be supplied by others.	--	By others
• Wear plates for bottom hoppers, 304 stainless steel.	1	1
• Lamella plate module sets, 304 stainless steel.	1 set	1 set(s)
• Lamella plate supports, 304 stainless steel.	1 set	1 set(s)
• Effluent collection troughs, 9.5' length, 1.33' width, 304 stainless steel.	4	4
• Supports for collection troughs, 304 stainless steel.	1 set	1 set(s)

Description	Units Per Train	Total No. of Units
Microsand Recycle Circuits		
• Microsand recirculation pumps, centrifugal, cast iron body, with rubber-lined volute and impeller, mechanical seal, 310 gpm capacity, 15 HP, TEFC, 460/3/60 motor with V-belt and pulley drive.	2 duty + 1 stand-by	3
• Discharge side pump isolation valves, 6" diameter, eccentric plug type, manual.	3	3
• Suction side pump isolation valves, 6" diameter, eccentric plug type, manual.	3	3
• Flush connection valve, 1½" diameter, ball valve.	3	3
• Pump discharge pressure switch assembly, complete with pressure gauge, isolation valve and diaphragm seal.	3	3
• Hydrocyclones, 310 gpm capacity, urethane.	2 duty + 1 stand-by	3
• Hydrocyclone pressure gauge assembly, complete with diaphragm seals and isolation valves.	3	3
• Hydrocyclone underflow/overflow (sand) collection boxes, 304 stainless steel.	1	1
• Hydrocyclone overflow (sludge) piping, connecting hydrocyclone overflow to overflow box.	3	3
• Hydrocyclone underflow piping, PVC	1	1
• Microsand for Start-up (Tons)	14	14

II. Chemical Feed Equipment – 1 x 14 MGD

Description	Total No. of Units
Automatic Liquid Polymer Processing System • Liquid polymer feed/activation system, skid mounted packaged assembly, high enery mixing chamber, volumetric metering pump, water solenoid valve, pressure switches and gauges, hose connections, ball valves.	1 duty + 1 stand-by
Coagulant Metering Pumps • Volumetric metering pumps, Diaphragm type, corrosion resistant skid mounted, complete with pump bases, variable speed drives, pressure relief valves, back pressure valves, check valves, calibration columns, isolation ball valves, flush connections, strainers, electric motors, piping and fittings.	1 duty + 1 stand-by

III. Electrical Equipment – 1 x 14 MGD

PLC Based Control Panel(s)

The PLC based control panel(s) will be supplied to monitor and control the ACTIFLO® process. All panels are required to be installed **INDOORS ONLY**. Each control panel, will be completely assembled, tested and programmed for the required functionality. Each U.L. labeled panel will be designed according to the scope of supply listed below. The quantity of panels will be based on the number of ACTIFLO® trains in the design. There shall be one control panel per train for odd numbered train configurations and one control panel per two trains for even numbered train configurations.

The PLC Control Panel will include the necessary input/output as listed in the I/O listing. All I/O will be wired to field terminations and include surge arrestion and isolation as required.

One Train	Two Trains	Description	Manufacturer
1	1	NEMA 12 FREESTANDING ENCLOSURE (**INDOOR INSTALLATION ONLY**)	HOFFMAN
1	1	BACKPANEL	HOFFMAN
1	1	PANEL SHELF	HOFFMAN
1	1	SURGE PROTECTION	INNOVATIVE TECH
1	1	20A MAIN CIRCUIT BREAKER, 1-POLE, 120VAC (MCB)	SQUARE D
3	3	24VDC POWER SUPPLY 5A	SOLA
8	8	DC/DC TRANSMITTER ISOLATOR, 4-20 mA	PHOENIX
16	20	M-UFB 2/2-24 VDC MINITRAB SURGE ARRESTOR	PHOENIX
4	5	M-UFB R-4 MINITRAB BASE ELEMENT, 4 PLUGS	PHOENIX
1	1	SLKK 5 DOUBLE LEVEL TERMINAL BLOCK w/GND	PHOENIX
1	1	DIGI-KEY PART NO. 1.5KE30CATR DIODE	DIODES INC.
AS REQUIRED	AS REQUIRED	D-UKK 3/5 END COVER	PHOENIX
AS REQUIRED	AS REQUIRED	FB 10-6 FIXED BRIDGE BAR	PHOENIX
AS REQUIRED	AS REQUIRED	E/UK 1 END CLAMP	PHOENIX
96	128	UKK 5 DOUBLE LEVEL TERMINAL BLOCK	PHOENIX
2	2	2.0A CIRCUIT BREAKER	ALLEN-BRADLEY or equal
11	13	3.0A CIRCUIT BREAKER	ALLEN-BRADLEY or equal
2	2	7.0A CIRCUIT BREAKER	ALLEN-BRADLEY or equal
1	1	15.0A CIRCUIT BREAKER	ALLEN-BRADLEY or equal
30	30	TERMINAL BLOCK	ALLEN-BRADLEY
10	10	TERMINAL BLOCK (GND)	ALLEN-BRADLEY
AS REQUIRED	AS REQUIRED	CENTER JUMPER - 10 POLE	ALLEN-BRADLEY
AS REQUIRED	AS REQUIRED	END BARRIER	ALLEN-BRADLEY
AS REQUIRED	AS REQUIRED	END ANCHOR	ALLEN-BRADLEY
32	32	OUTPUT RELAY, 2PDT, FORM C CONTACT, 24VDC	ALLEN-BRADLEY or equal
32	32	RELAY BASES	ALLEN-BRADLEY or equal
1	1	SLC 5/05 PROCESSOR	ALLEN-BRADLEY
1	1	13 SLOT CHASSIS	ALLEN-BRADLEY
1	1	POWER SUPPLY	ALLEN-BRADLEY
1	1	RACK INTERCONNECT CABLE	ALLEN-BRADLEY
4	6	DC POWERED DISCRETE INPUT CARD	ALLEN-BRADLEY
2	2	DC POWERED DISCRETE OUTPUT CARD	ALLEN-BRADLEY
1	1	DC POWERED ANALOG INPUT CARD	ALLEN-BRADLEY
One Train	**Two Trains**	**Description**	**Manufacturer**

2	3	DC POWERED ANALOG OUTPUT CARD	ALLEN-BRADLEY
1	1	PANELVIEW 1000 WITH ETHERNET	ALLEN-BRADLEY
1	1	10/100 BASE T ETHERNET SWITCH	N-TRON
2	2	PUSH BUTTON, FLUSH, NON-ILL, MOM. N.O. CONTACT	SQUARE D
AS REQUIRED	AS REQUIRED	MISC. (WIRE, CABLE, WIRE DUCT, DIN RAIL, TERMINAL MARKERS, LEGENDS, NAMEPLATES, ETC.)	
1	1	CABINET LIGHT	
1	1	RECEPTACLE W/BOX/COVER, UL LISTED	
1	1	ALARM HORN (SUPPLIED LOOSE FOR MOUNTING BY CONTRACTOR)	

IV. Process Instrumentation – 1 x 14 MGD

Description	Units Per Train	Total No. of Units
• Raw Water Turbidimeter, Hach	--	1
• pH meter for raw water, Great Lakes	--	1
• pH meter after coagulant addition, Great Lakes	1	1
• Flowmeter, Danfoss	1	1
• Settled Water Turbidimeter, Hach	1	1

V. Spare Parts – 1 x 14 MGD

Description	Units Per Train	Total No. of Units
Mechanical Spare Parts		
• Coagulation tank mixer bearings and seals	--	1 set
• Injection tank mixer bearings and seals	--	1 set
• Maturation tank mixer bearings and seals	--	1 set
• Apex tips	3	3
• V-belt sets	3	3

SECTION SIX

I. Krüger, Inc. Scope of Work

I. KRÜGER SCOPE OF WORK

A. I. Krüger, Inc. is responsible for process design and equipment procurement required for ACTIFLO® System. The system will be designed and supplied in accordance with the applicable sections of the project Plans and Specifications as described herein. I. Krüger, Inc. scope of work does not include any engineering, selection, procurement, installation, or operation of any equipment, materials or other services not specifically defined in this proposal.

B. Process and Design Engineering – I. Krüger, Inc. will perform engineering in accordance with the project Plans and Specifications and those applicable national codes, standards and / or regulations (except as otherwise noted) in effect at the time of this submittal. Additionally, I. Krüger, Inc. will provide all necessary design, installation and operating information for equipment within its stated scope of supply. I. Krüger, Inc. is not responsible for the design, selection, installation, operation or maintenance of any materials, equipment or services supplied by others.

C. I. Krüger, Inc. will provide process engineering and design support for the system as follows:

1. Equipment specifications for all equipment supplied by Krüger Inc.
2. Technical instructions for operation and start-up of the system
3. Equipment location drawings
4. Equipment installation plans
5. Project Specific O&M manuals

D. The equipment scope of supply of I. Krüger, Inc. shall include the equipment as shown in the ACTIFLO® Scope of Supply.

E. Field Services

I. Krüger, Inc. will provide the services necessary to start-up, test, and operate the system as follows:

1. Advice during installation
2. Equipment checkout and initial testing, 1 trip(s) with a total of 5 days.
3. Start-up assistance, 2 trip(s) with a total of 10 days.
4. Operator training, 1 trip(s) with a total of 5 days.

SECTION SEVEN

Contractor Scope of Work

CONTRACTOR SCOPE OF WORK

The following is a non-inclusive list of material that shall be furnished by the Contractor:

1. Obtain necessary construction permits and licenses, construction drawings (including interconnecting piping drawings), field office space, telephone service, and temporary electrical service.

2. All site preparation, grading, locating foundation placement, excavation for foundation, underground piping, conduits and drains.

3. Demolition and/or removal of any existing structures, equipment or facilities required for construction, and installation of the Ballasted Flocculation system.

4. Supply and install all bulk storage tanks, pads, and supports including the concrete basins required for the ACTIFLO® system

5. Provide all grouting for the bottom of the settling tank.

6. Provide all concrete work for the ACTIFLO® tankage, including all corner fillets.

7. Provide and installation of all foundations, supply and installation of all embedded or underground piping, conduits and drains.

8. All backfill, compaction, finish grading, earthwork and final paving.

9. Receiving (preparation of receiving reports), unloading, storage, maintenance preservation and protection of all equipment, and materials provided by Krüger Inc.

10. Installation of all equipment and materials provided by Krüger Inc.

11. Supply, fabrication, installation, cleaning, pickling, and/or passivation of all stainless steel piping components.

12. Provide all imbedded pipe sections and valves for tank drains.

13. All cutting, welding, fitting, and finishing for all field fabricated piping.

14. Supply and installation of all flange gaskets and bolts for all piping components.

15. Supply and installation of all pipe supports.

16. Provide, install and terminate all motor control centers, motor starters, panels (other than the ACTIFLO® PLC panel), transformers, and VFD's.

17. Provide, install and terminate all variable frequency drive units as required by Krüger, Inc. for the each maturation tank mixer and each settling tank scraper.

18. Installation and termination of all control panels and instrumentation supplied by Krüger Inc.

19. Supply and install all sample pumps and sample lines required for the instrumentation provided by Krüger Inc.

20. Labor and material for winterizing the ACTIFLO® System; insulating/heat tracing any tanks, piping, or tubing subjected to freezing temperatures, and water heaters when polymer solution make-up water is expected to fall below 55 °F.

21. Supply and install all electrical power and control wiring and conduit to the equipment served plus interconnection between the ACTIFLO® Supplier's furnished equipment as required, including wire, cable, junction boxes, fittings, conduit, etc.

22. Supply and install all insulation, supports, drains, hold down clamps, manhole covers, condensate drain systems, wastewater valves, flanges, flex pipe joints, expansion joints, boots, gaskets, adhesives, fasteners, safety signs, and all specialty items such as strainers and traps.

23. Provide all labor, materials, supplies and utilities as required for start-up, and performance testing including laboratory facilities, analytical work and chemicals.

24. Provide all chemicals, lubricants, glycol, oils, or grease and other supplies required for equipment start-up or plant operation.

25. Provide all anchor bolts and mounting hardware.

26. Provide and install all piping required to interconnect to the ACTIFLO® Supplier's equipment including all microsand recirculation piping.

27. Provide all nameplates, safety signs and labels.

28. Provide, and install all support beams and/or slabs for mixers, scrapers, and/or chemical feed systems.

29. Provide all gratings, handrails, access hatches, ladders, and access platforms.

30. The Contractor shall coordinate the installation and timing of interface points such as piping and electrical with the ACTIFLO® Supplier.

31. Supply and install all sunshields and/or additional enclosures as needed when installing ACTIFLO® equipment and instrumentation outdoors.

32. All other necessary equipment and services not otherwise listed as specifically supplied by the ACTIFLO® Supplier

SECTION EIGHT

ACTIFLO® Estimated Operating Costs

Preliminary Operating Cost Estimate
ACTIFLO® System
CH2M Hill-Boston – Site #21

Mechanical Equipment Summary per Train – 14 MGD

Equipment	1 x 14 MGD	
Coagulation Tank Mixer	5	HP
Injection Tank Mixer	5	HP
Maturation Tank Mixer	7.5	HP
Scraper Motor	1.5	HP
Two Sand Recirculation Pumps	30	HP
Total Power Requirements*:	**49**	**HP**

Estimated Operating Costs – 1 x 14 MGD

ACTIFLO® System:			1 x 14 MGD
Item	Estimated Average Dose	**Estimated Unit Cost**	**Estimated Daily Operating Cost**
Polymer	1.2 mg/L	$ 3500/ton	$ 245.20
Sand Loss	2 g/m^3	$ 200/ton	$ 23.25
Coagulant (Alum)	100 mg/L	$ 280/ton	$ 1,634.64
Power Consumption*	See table above.	$0.08/KWhr	$ 63.08
Total Estimated Daily Operating Cost**			**$ 1,966.17**
Operating Cost per 1,000 Gallons			**$ 0.141**

***Assumes a power draw of 90% of nameplate rating and does not include stand-by equipment.**
**** For nominal capacity operating 24 hours per day.**

Preliminary Operating Cost Estimates
ACTIFLO® System
CH2M Hill – Boston, MA – Site #52

Mechanical Equipment Summary per Train – 5 MGD

Equipment	1 x 5 MGD	
One Coagulation Tank Mixer	2.0	HP
One Injection Tank Mixer	2.0	HP
One Maturation Tank Mixer	3.0	HP
One Settling Tank Scraper	0.75	HP
Two Sand Recirculation Pumps	15.0	HP
Total Power Requirements:	**22.75**	**HP**

Estimated Operating Costs – 1 x 5 MGD

ACTIFLO® System:			5 MGD
Item	Estimated Average Dose	**Estimated Unit Cost**	**Estimated Daily Operating Cost**
Polymer	1.2 mg/L	$ 3,500/ton	$ 87.57
Sand Loss	2 g/m^3	$ 200/ton	$ 8.34
Coagulant (Alum)	100 mg/L	$ 280/ton	$ 583.80
Power Consumption*	See table above.	$0.08/KWhr	$ 29.29
Total Estimated Daily Operating Cost**			**$ 709.00**
Operating Cost per 1,000 Gallons			**$ 0.142**

***Assumes a power draw of 90% of nameplate rating and does not include stand-by equipment.**
**** For nominal capacity operating 24 hours per day.**

Preliminary Operating Cost Estimates
ACTIFLO® System
CH2M Hill – Boston, MA – Site #17

Mechanical Equipment Summary per Train – 12 MGD

Equipment	1 x 12 MGD	
One Coagulation Tank Mixer	5.0	HP
One Injection Tank Mixer	5.0	HP
One Maturation Tank Mixer	7.5	HP
One Settling Tank Scraper	1.5	HP
Two Sand Recirculation Pumps	30.0	HP
Total Power Requirements:	**49.0**	**HP**

Estimated Operating Costs – 1 x 12 MGD

ACTIFLO® System:			12 MGD
Item	Estimated Average Dose	**Estimated Unit Cost**	**Estimated Daily Operating Cost**
Polymer	1.2 mg/L	$ 3,500/ton	$ 210.17
Sand Loss	2 g/m^3	$ 200/ton	$ 20.02
Coagulant (Alum)	100 mg/L	$ 280/ton	$ 1,401.12
Power Consumption*	See table above.	$0.08/KWhr	$ 63.08
Total Estimated Daily Operating Cost**			**$ 1,694.39**
Operating Cost per 1,000 Gallons			**$ 0.142**

***Assumes a power draw of 90% of nameplate rating and does not include stand-by equipment.**
**** For nominal capacity operating 24 hours per day.**

Preliminary Operating Cost Estimates
ACTIFLO® System
CH2M Hill – Boston, MA – Site #26

Mechanical Equipment Summary per Train – 24 MGD

Equipment	1 x 24 MGD	
One Coagulation Tank Mixer	7.5	HP
One Injection Tank Mixer	7.5	HP
One Maturation Tank Mixer	15.0	HP
One Settling Tank Scraper	3.0	HP
Two Sand Recirculation Pumps	40.0	HP
Total Power Requirements:	**73.0**	**HP**

Estimated Operating Costs – 2 x 24 MGD

ACTIFLO® System:			48 MGD
Item	Estimated Average Dose	**Estimated Unit Cost**	**Estimated Daily Operating Cost**
Polymer	1.2 mg/L	\$ 3,500/ton	\$ 840.67
Sand Loss	2 g/m^3	\$ 200/ton	\$ 80.06
Coagulant (Alum)	100 mg/L	\$ 280/ton	\$ 5,604.48
Power Consumption*	See table above.	\$0.08/KWhr	\$ 187.96
Total Estimated Daily Operating Cost**			**\$ 6,713.17**
Operating Cost per 1,000 Gallons			**\$ 0.140**

***Assumes a power draw of 90% of nameplate rating and does not include stand-by equipment.**
**** For nominal capacity operating 24 hours per day.**

PARKSON CORPORATION
...the environmental technology company

562 Bunker Court
Vernon Hills, IL 60061-1831

Facsimile

TO:	Bruce Stevens	DATE:	9/30/04
COMPANY:	F.R. Mahony & Associates	FROM:	Kirk Newcomb
FAX NO:	bruces@frmahony.com	TOTAL PAGES:	8
SUBJECT:	CH2M Hill CSO ROMAG		

Bruce,

Per your request I am sending preliminary sizing information for ROMAG screens for the above project for peak flows of 12.28, 14.22, 46.5 and 5.17 MGD. The ROMAG Screen was developed in Switzerland in 1990 and since then over 800 screens have been sold worldwide, mostly in Europe where stormwater issues preceded interest in North America.

The ROMAG Stormwater Screen has won 2 WEF 'Innovative Technology Awards" in 1998 and 2001 under the category of "collection systems".

For your project called CH2M Hill CSO with the possible peak flows of 12.28, 14.22, 46.5 and 5.17 MGD, your project has the potential to use the following options.

Site	ROMAG Model	Peak Flow	Length	Height	Budget
#17	RSW 4X3	12.28 MGD	12.6'	20.6"	$103,950.00
#21	RSW 5X3	14.22 MGD	12.6'	24.4"	$112,200.00
#26	RSW 5X7	46.50 MGD	25.7'	24.4"	$154,550.00
#52	RSW 2X3	5.17 MGD	12.6'	13"	$84,700.00

NOTE: There are other models of different measurements that could be used in place of the ones above for each site.

Budget pricing for ROMAG Screens includes the following:

- Screen in 304L stainless steel.
- Nema 4x controls
- Ultrasonic level sensor
- Hydraulic power pack driven by a 5 hp 230/460/3/60 motor
- External struts. We need to know where walls and ceilings are for attachment.
- Two days of start up assistance during 1 trip to the job site.
- Freight to the job site.
- Biodegradable hydraulic oil

Please note:

- The power pack should be placed in a building to be protected from freezing and the elements.

- Four 18" long rubber hose pig tails will be provided. Two each to be mounted on the power pack and two on the screen. The contractor is responsible for providing and anchoring the interconnecting stainless steel tubing. Stainless steel tubing to have 0.5" ID and overall system burst pressure shall not be less than 2500 psi.

- The mounting elevation of the screen should be as high as possible off the channel bottom to prevent grit deposition on the bottom of the screen.

- The screen is not designed for reverse flow. Reverse flow can damage the screen.

The CONTRACTOR is responsible for the following:

The concrete weir on which the ROMAG screen mounts must be level and horizontal with perpendicular side walls. This is very important!

- Unloading, uncrating and installation. (Note: Installation will, at minimum, require a forklift and possible a crane/hoist for larger units.
- Anchor bolts.
- Stainless steel hydraulic tubing as mentioned above.
- Electrical connection and interconnecting wiring of:
  - E-Stop button.
  - Motor.
  - Controls.
  - Level sensor.

The ROMAG Screen is sized assuming free discharge over the control weir or 0 point on the enclosed "Water Elevations Profile". This means that downstream conditions do not back up flow above the 0 point. A submerged 0 point or control weir:

- Can be caused by reverse flow through the screen. The rear of the screen is not designed for the removal of screenings.

- Will reduce the screen's ability to handle flow as well as cause the upstream water elevation to rise. If it rises enough then flow will by pass over the top of the screen. We cannot calculate the effects on flow or upstream water elevation with a submerged weir as there are no standard calculations for this purpose.

NOTES:

The ROMAG Screen does not remove solids so the management of the solids the ROMAG Screen deflects is extremely important to the success of the installation. In most cases the solids are allowed to get caught in the flow continuing on to the WWTP. Therefore we suggest a continuous flow to the WWTP.

The installation of ROMAG Screens are best served by a rising water elevation in front of the screen. This is best caused by a downstream restriction in the flow causing a back up of flow in the vicinity of the ROMAG Screen.

Please call Parkson or your local representative whose name and number is listed below with any further questions.

Sincerely,

Kirk Newcomb
Product Specialist

Cc: DJK
DGM

Enc: (3) RSW Drawings

HYCOR ROMAG SCREEN
<u>Design Considerations for Model RSW</u>

Establishing ROMAG Screen location relative to the CSO facility.

1. Set the ROMAG Max Ws at ByPass Elevation at or below the maximum "collection system" water elevation. Note: Water levels above the maximum "collection" system water elevation may cause uncontrolled overflow and potential basement back-ups throughout the collection system.

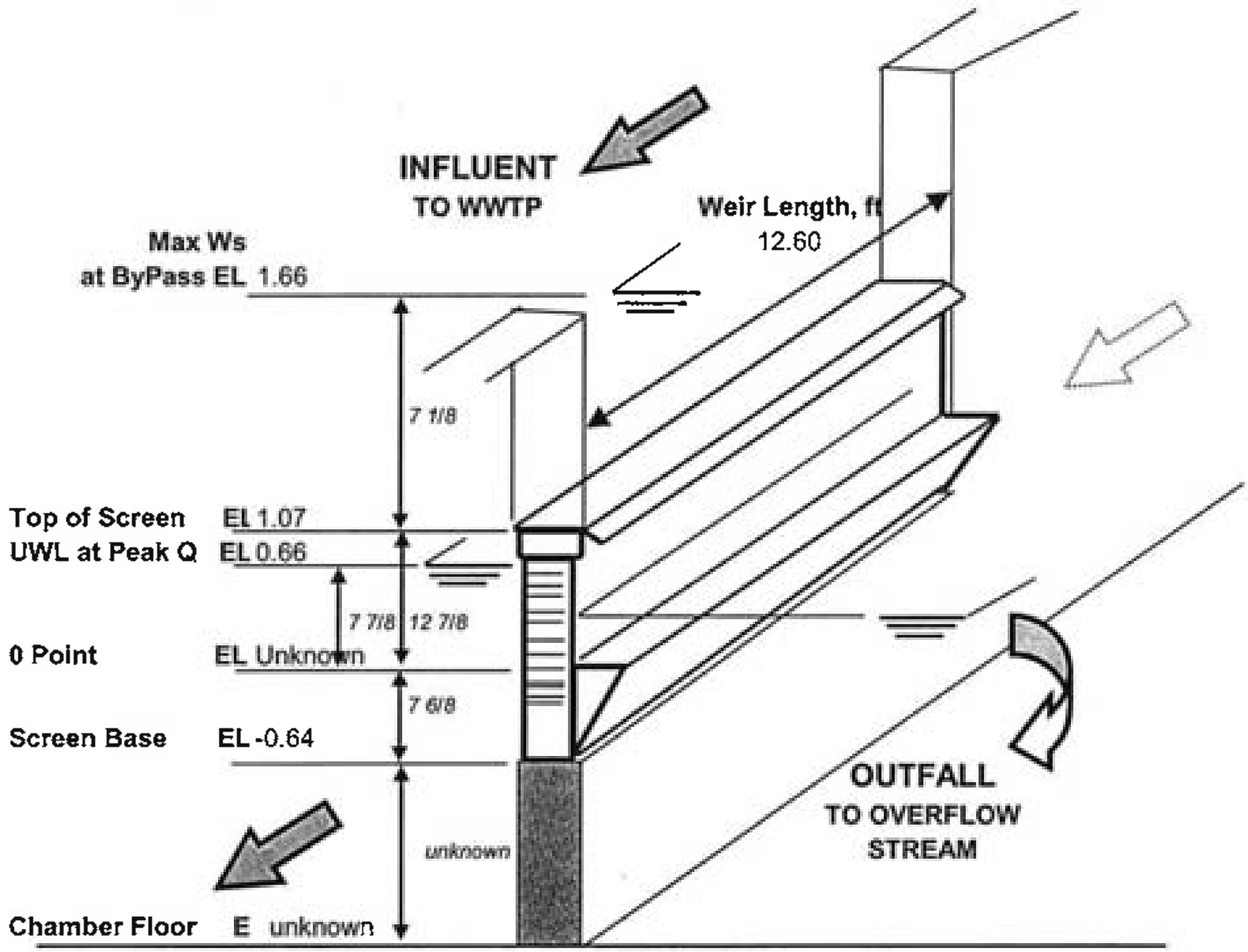
2. Establish a Zero Point Elevation: This is the level which water will begin to overflow through the screen. Relative to the zero point, set the mounting elevation for the ROMAG Screen base.

3. Calculate the required tank dimensions (for a retention basin) or channel dimensions, with the beginning of a controlled overflow set at the Zero Point. Channel or tank side walls should be at least as high as the top of the screen or as high as the emergency discharge Max Ws.

4. Confirm the outfall water elevation is lower than the Zero Point Elevation. The Control weir (or 0 point) of the screen should not be submerged. Out falling water should not back up into the 0 point.

5. Review all water elevations for workable system hydraulic performance. If necessary, revise system and/or screen parameters.

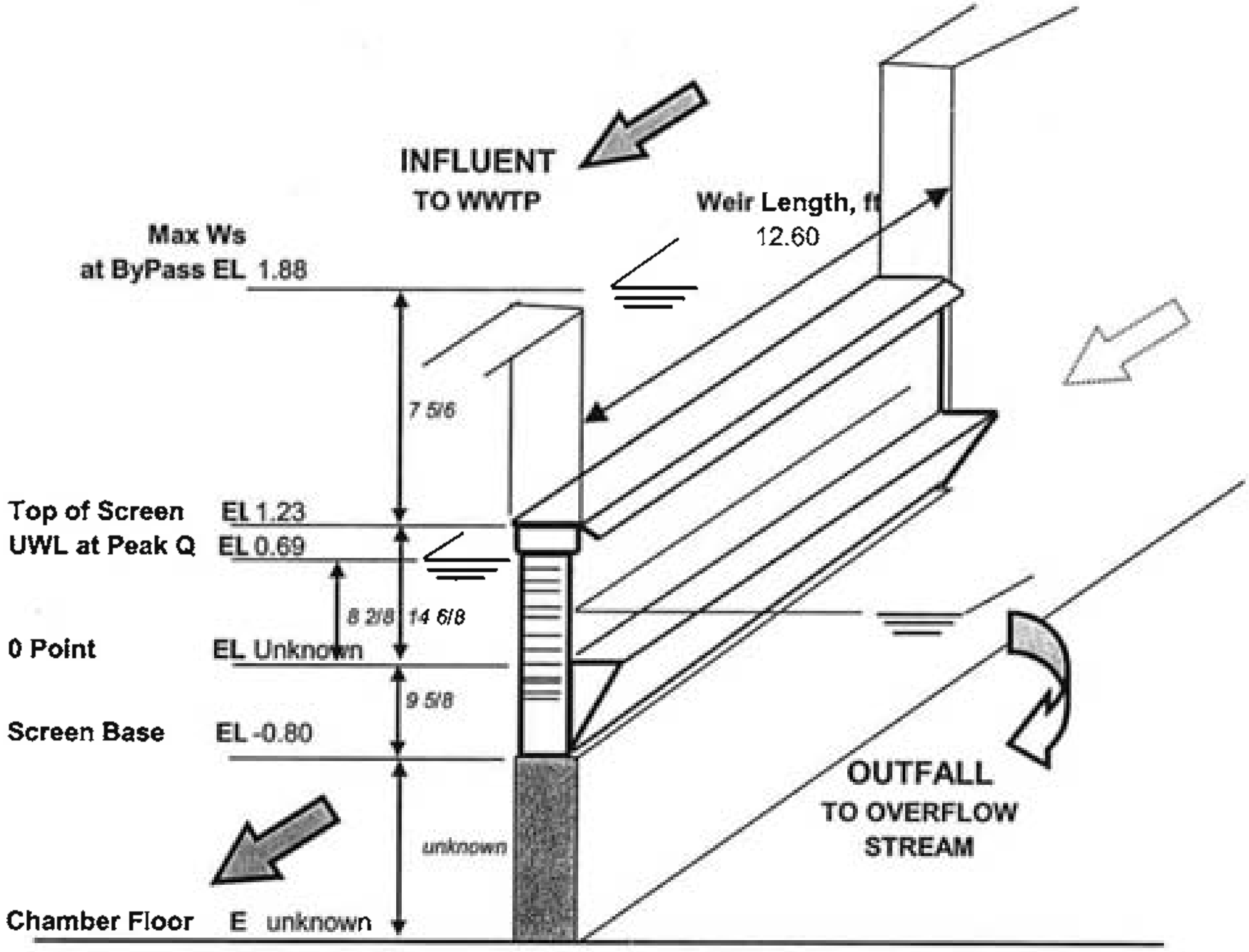
Hycor Romag Screen
Water Elevation Profile



Note: El dimensions shown in feet, italic dimensions in inches

Project Name	CH2M Hill CSO	**Screen Space Needed (min)**	
Screen Model	RSW 4x3	Height	21.00 in
Peak Flow	12.28 mgd	Width	13.12 ft
Date	09/30/04		

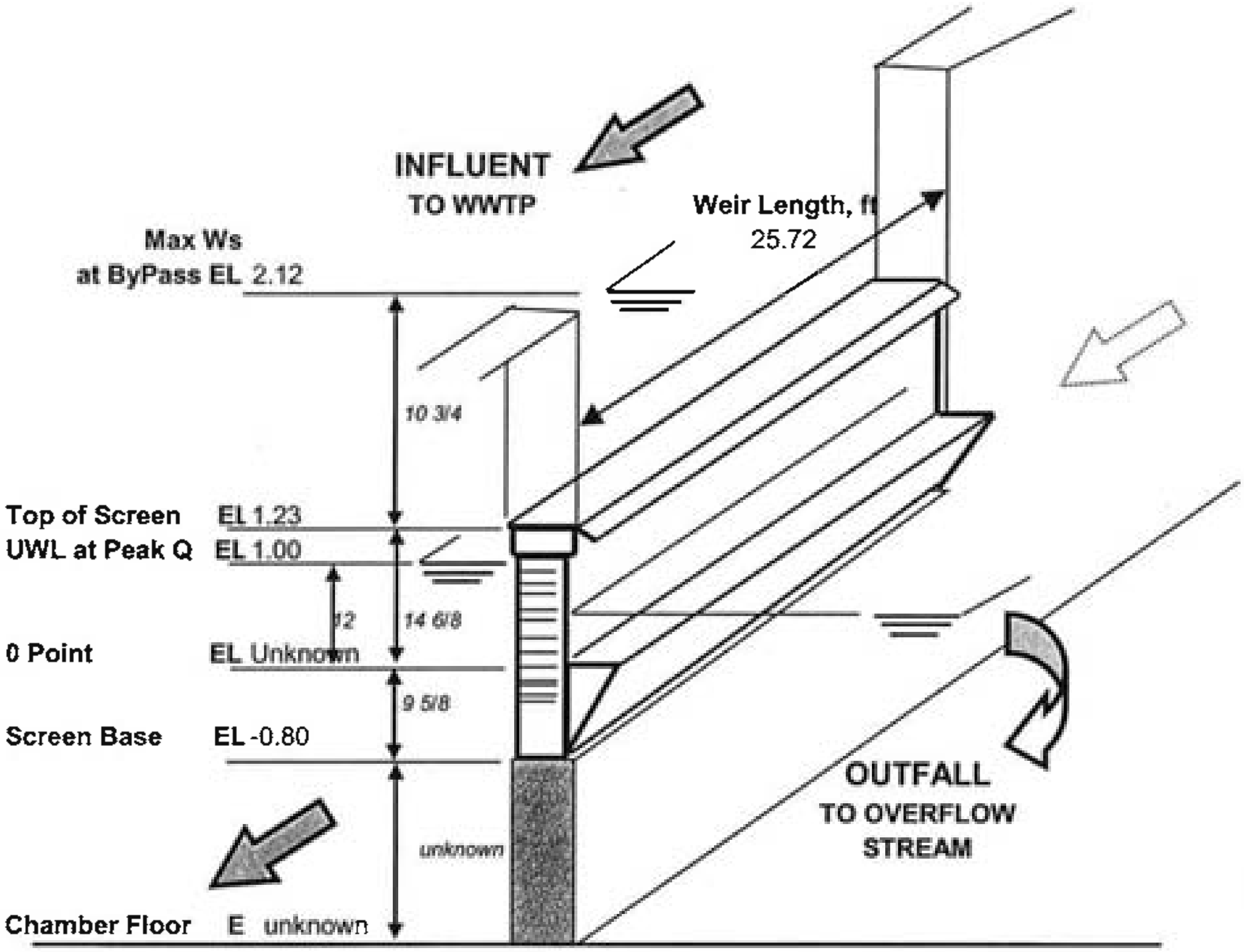
Hycor Romag Screen
Water Elevation Profile



Note: El dimensions shown in feet, italic dimensions in inches

Project Name	CH2M Hill CSO	**Screen Space Needed (min)**		
Screen Model	RSW 5x3	Height	25.00	in
Peak Flow	14.22 mgd	Width	13.12	ft
Date	09/30/04			

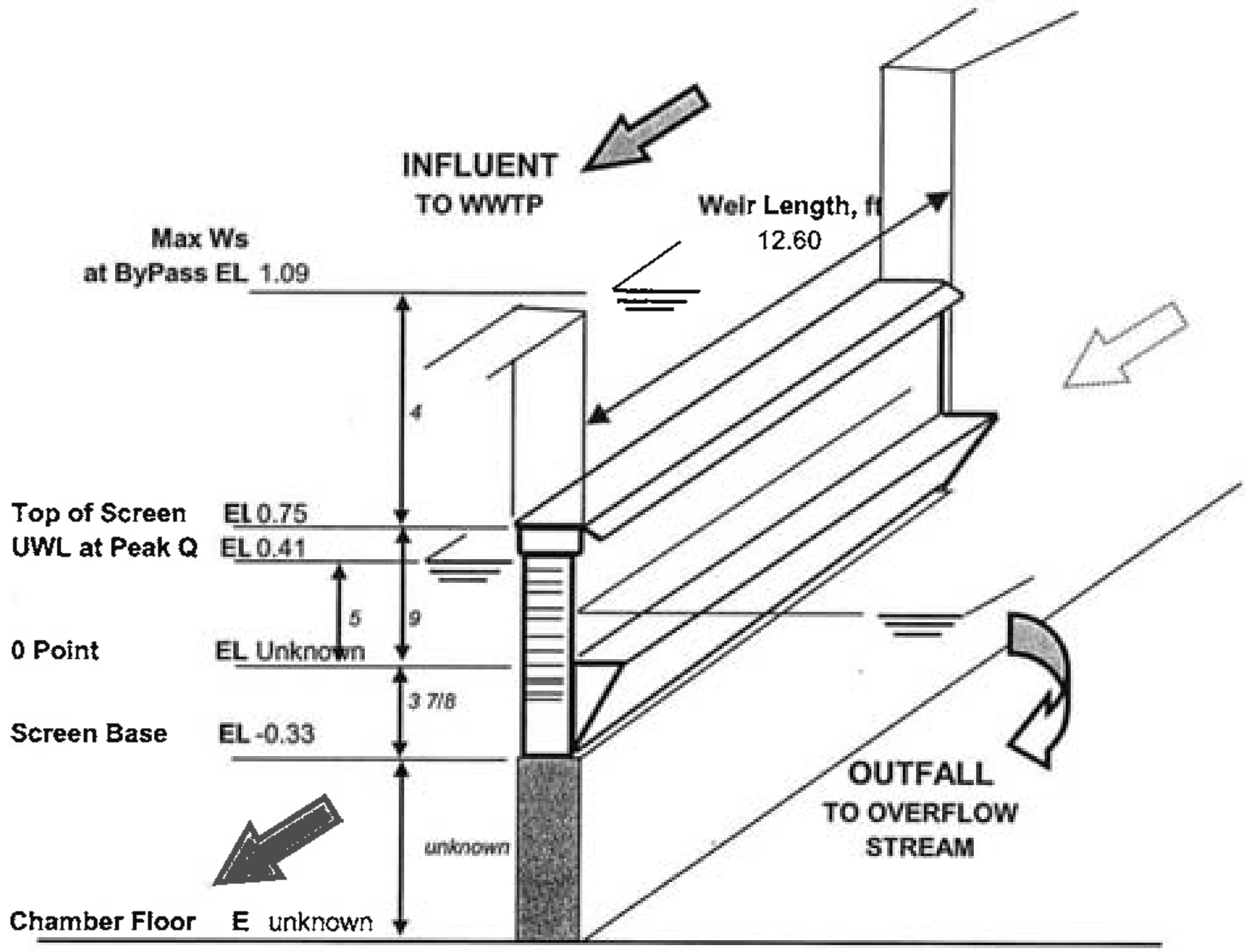
Hycor Romag Screen
Water Elevation Profile



Note: El dimensions shown in feet, italic dimensions in inches

Project Name	CH2M Hill CSO	**Screen Space Needed (min)**		
Screen Model	RSW 5x7	Height	25.00	in
Peak Flow	46.50 mgd	Width	26.24	ft
Date	09/30/04			

Hycor Romag Screen
Water Elevation Profile



Note: El dimensions shown in feet, italic dimensions in inches

Project Name	CH2M Hill CSO	**Screen Space Needed (min)**	
Screen Model	RSW 2x3	Height	13.00 in
Peak Flow	5.17 mgd	Width	13.12 ft
Date	09/30/04		

PARKSON CORPORATION

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

FOR

(2) HYCOR® ROMAG SCREENS
MODEL RMG0908W

SPECIFICATION SECTION 11330
STORMWATER SCREENS

PROJECT NUMBER 580112
SERIAL NUMBERS 58011202 and 58011203

PROJECT NAME AND LOCATION:

LITTLE BLUE VALLEY SEWER DISTRICT
ATHERTON WASTEWATER TREATMENT PLANT IMPROVEMENTS
INDEPENDENCE, MISSOURI

ENGINEER'S PROJECT NUMBER 21003349-164203/MKE

CONTRACTOR:

ALBERICI CONSTRUCTORS
21208 EAST OLD ATHERTON ROAD
INDEPENDENCE, MO 64058
PHONE: (816) 796-1441

YOUR LOCAL PRODUCT REPRESENTATIVE:

FLUID EQUIPMENT COMPANY, INC.
4225 NE PORT DRIVE, SUITE 100
LEE'S SUMMIT, MO 64064
PHONE: (816) 795-8511
FAX: (816) 795-8926

PARKSON CORPORATION
562 BUNKER COURT
VERNON HILLS, IL 60061-1831 • U.S.A.
(847) 816-3700 FAX: (847) 816-3707
SERVICE: 1-888-PARKSON
PARTS (TOLL FREE): 1-800-249-2140

Dated: August 23, 2004

6/04

HYCOR® ROMAG UNIT
RMG-W

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

PARKSON CORPORATION

HYCOR® PRODUCTS
562 BUNKER COURT
VERNON HILLS, IL 60061-1831 • U.S.A.
847-816-3700 FAX: 847-816-3707
SERVICE: 1-888-PARKSON
PARTS (TOLL FREE): 1-800-249-2140

Dated: August 23, 2004

PREFACE

THE OPERATING AND MAINTENANCE PROCEDURES OUTLINED IN THIS MANUAL ARE INTENDED AS GUIDELINES TO ASSIST THE OPERATING PERSONNEL IN THE DAY-TO-DAY OPERATION AND MAINTENANCE OF THE PARKSON UNIT OR EQUIPMENT. OPERATING PERSONNEL SHOULD ALWAYS FOLLOW PROPER SAFETY PROCEDURES IN ACCORD WITH BOTH INDUSTRY SAFETY STANDARDS AND THEIR OWN COMPANY SAFETY POLICIES WHEN PROCEEDING WITH OPERATION, MAINTENANCE AND REPAIR OF THE EQUIPMENT. THIS MANUAL IS NEITHER DESIGNED NOR INTENDED AS A SUBSTITUTE FOR SAFE OPERATING PROCEDURES WHICH MUST BE FOLLOWED WHILE IMPLEMENTING THE MAINTENANCE/OPERATION PROCEDURES OUTLINED IN THIS MANUAL. IT IS ASSUMED THAT OPERATION AND MAINTENANCE PERSONNEL ARE QUALIFIED AND EXPERIENCED. THE PRIMARY RESPONSIBILITY FOR SAFETY IN THE OPERATION AND MAINTENANCE OF THE PARKSON UNIT IS WITH THE OWNER-OPERATOR AND THE PERSONNEL CONDUCTING THE MAINTENANCE AND OPERATION.

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FIGURES

SECTION ONE

Hycor® ROMAG RMG-W Unit
GENERAL INFORMATION

Safety Practices

⚠ DANGER ⚠

THIS UNIT CONTAINS A HIGH-PRESSURE HYDRAULIC CYLINDER. CONTACT WITH THE CYLINDER OR ANY MOVING PART DURING OPERATION WILL CAUSE SERIOUS INJURY.

THIS MACHINE MAY START AUTOMATICALLY.

TO PREVENT SERIOUS INJURY OR DEATH:

- **CONSULT OPERATOR'S MANUAL BEFORE SERVICING.**
- **KEEP AWAY FROM ALL MOVING PARTS AND DISCHARGE CHUTES DURING OPERATION.**
- **DO NOT OPERATE MACHINE WITHOUT ALL GUARDS OR COVERS IN PLACE.**
- **FOLLOW LOCK OUT PROCEDURES BEFORE SERVICING: LOCK OUT POWER WITH PADLOCK FOR WHICH ONLY YOU HAVE THE KEY.**
- **NEVER SERVICE HYDRAULICS WITHOUT FIRST RELIEVING HYDRAULIC PRESSURE.**

IN ADDITION TO THE ABOVE, IN ORDER TO AVOID UNSAFE OR HAZARDOUS CONDITIONS, THE FOLLOWING MINIMUM PROVISIONS MUST BE STRICTLY OBSERVED:

- THIS EQUIPMENT MUST BE OPERATED AND MAINTAINED ONLY BY AUTHORIZED PERSONNEL WHO HAVE READ AND UNDERSTAND THE OPERATOR'S MANUAL, HAVE BEEN TRAINED IN ITS USE, AND FOLLOWING ANY AND ALL APPLICABLE SAFETY PROCEDURES.

- WHEN INSTALLING OR MAINTAINING THE ROMAG UNIT OR ASSOCIATED HARDWARE, BE SURE THAT ANY LIFTING EQUIPMENT IS OF SUFFICIENT CAPACITY BEFORE LIFTING OR MOVING THE ROMAG UNIT OR ASSOCIATED HARDWARE.

- MAKE SURE ANY ELECTRICAL CONNECTIONS ARE DONE BY QUALIFIED PERSONNEL AND ARE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS.

- CONSULT MANUFACTURER'S MATERIAL SAFETY DATA SHEET PRIOR TO USE OF HYDRAULIC OIL. HYDRAULIC OIL MAY CAUSE SKIN IRRITATION. WASH CONTACT AREAS WITH SOAP AND WATER. HIGH PRESSURE ACCIDENTAL INJECTIONS THROUGH THE SKIN REQUIRE IMMEDIATE MEDICAL ATTENTION FOR POSSIBLE INCISION IRRIGATION AND/OR DEBRIDEMENT. NEVER SERVICE MACHINE BEFORE RELIEVING HYDRAULIC PRESSURE. IF EYE CONTACT OCCURS, FLUSH THOROUGHLY WITH WATER. IF EYE IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

- DO NOT OPERATE A DAMAGED OR MALFUNCTIONING MECHANISM UNTIL NECESSARY ADJUSTMENTS OR REPAIRS HAVE BEEN MADE.

- OVERLOAD AND/OR SAFETY SWITCHES ARE EMERGENCY DEVICES. DO NOT USE THE OVERLOAD OR SAFETY SWITCHES TO STOP THE MECHANISM DURING NORMAL OPERATION.

- DO NOT OVERLOAD THE ROMAG UNIT OR USE IT FOR ANYTHING BUT THE INTENDED USE.

- DO PRACTICE GOOD HOUSEKEEPING. ALWAYS INSURE THE ROMAG UNIT IS KEPT CLEAN AND THE AREA AROUND THE ROMAG UNIT FREE OF POSSIBLE HAZARDS.

- ALWAYS OPERATE AND PERFORM MAINTENANCE IN A MANNER THAT PROMOTES SAFE CONDITIONS. ALWAYS USE THE PROPER TOOLS, WEAR THE PROPER CLOTHING, ETC. FOR THE TASK AT HAND.

- CONTACT WITH MATERIAL PROCESSED MAY CAUSE INFECTION OR ADVERSE REACTIONS. REPORT ANY CUTS OR INJURIES TO SUPERVISOR IMMEDIATELY AND SEEK APPROPRIATE MEDICAL ATTENTION.

- THIS PRODUCT HAS BEEN SUPPLIED WITH WARNING LABELS, SHOULD THEY BECOME DAMAGED, REMOVED OR ILLEGIBLE, PLEASE CONTACT PARKSON CORPORATION, FOR NO-COST REPLACEMENT LABELS.

  WARNING LABEL PART NUMBERS FOR THIS PRODUCT IS 3824-041.

  CALL TOLL FREE: 1-800-249-2140 OR
  FAX: (847) 837-4996
  PARKSON CORPORATION
  HYCOR® CORPORATION
  ATTENTION: PARTS DEPARTMENT
  562 BUNKER COURT
  VERNON HILLS, IL 60061-1831

Delivery and Inspection

The ROMAG unit and hydraulic power pack are delivered complete with all attachments and fittings.

After the unit has been unloaded, conduct a visual inspection and count of the shipping containers to determine if any shipping damage or material shortage occurred in transit.

Be careful not to jar crates or to puncture crated materials with lifting forks.

NOTE: **You must report, in writing, any damaged or missing parts to the shipping carrier and Parkson Corporation within 48 hours of receipt of the unit. Purchaser shall bear the responsibility for the replacement of equipment which is determined to be** missing after this period.

To assist in identifying correct quantities and parts, reference the attached packing list on the shipping crate. A purchase order shall accompany any order to Parkson Corporation for replacement of parts which were damaged during shipment. The purchaser shall direct all shipment damage back charges to the carrier.

Storage

Equipment placed in storage and/or installed but awaiting start-up must be properly protected from damage. For long term, store the ROMAG unit indoors or adequately protected from weather if outdoor storage is necessary. Always store the hardware in their originally supplied shipping crates and protected from moisture, construction dust and corrosive fumes.

NOTE: **Stainless steel units will appear to rust if contaminated with weld spatter, carbon steel dust from a grinding wheel or other airborne or waterborne contaminants.**

Some material supplied for this job has had surface preparation and painting. Any bruises, mars and/or scratches caused by loading and unloading the equipment must be immediately touched up in the field prior to any storage.

NOTE: **Any equipment painted with prime coats only should get additional coats of paint (to protect the surface under field storage conditions) within 14 days after receipt. Parkson Corporation will not accept any responsibility for rusting due to material which has not received additional paint in the field.**

SECTION TWO

Hycor® ROMAG RMG-W Unit
TECHNICAL DESCRIPTION

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

Application

The Hycor ROMAG unit is a storm water overflow screen used to remove or deflect solids during a high flow event. The trapped solids are collected for removal from the flow. The screened flow is either processed for further treatment or discharged into a natural water stream.

Unit Description

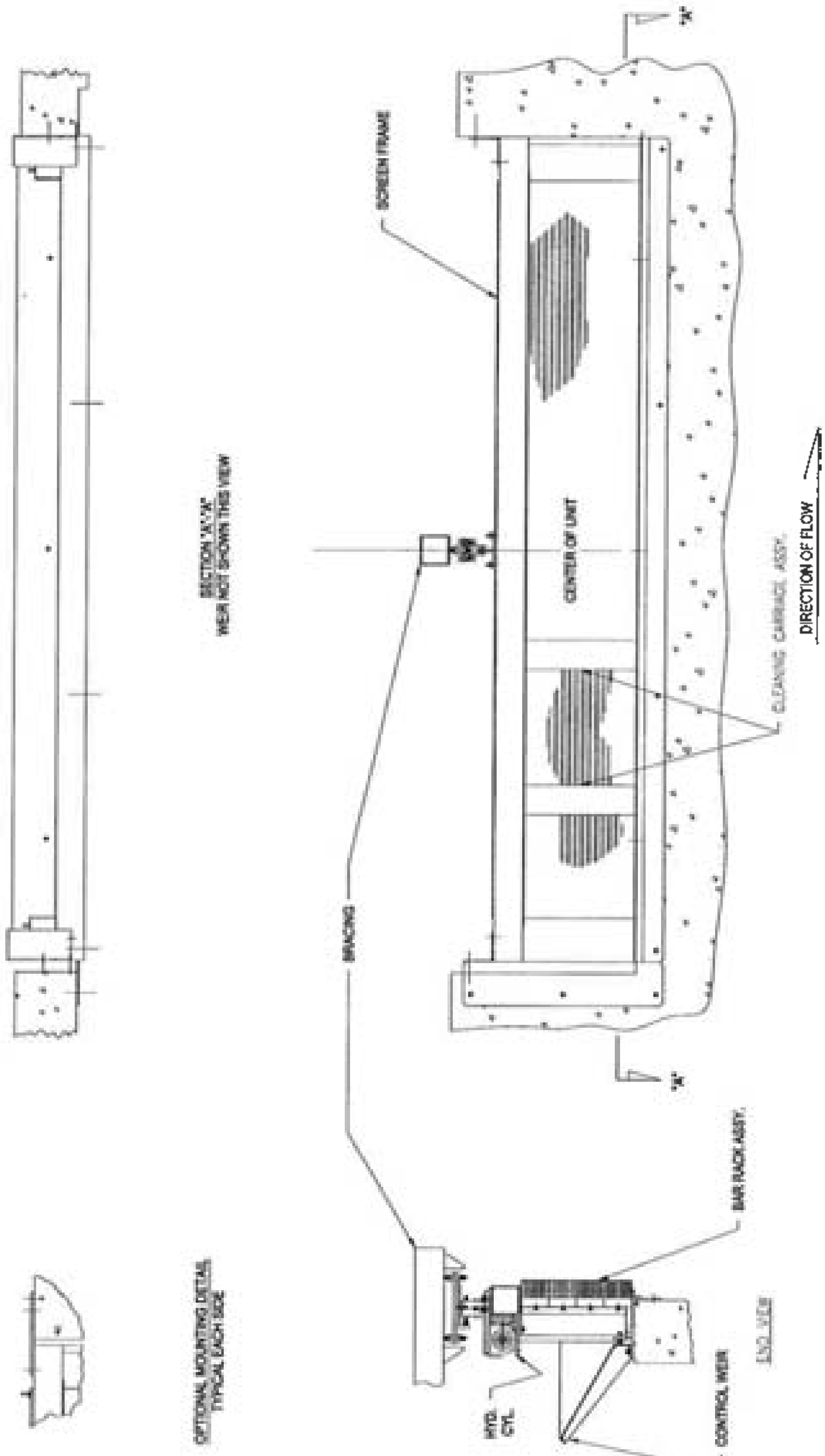
The ROMAG unit consists of a screen frame, bar rack assembly, cleaning carriage assembly, hydraulic power supply and controls.

The screen frame is furnished constructed of 316L stainless steel square tubing and angle, passivated after fabrication. Integral with the frame are the control weir and overflow weir. The control weir is designed to minimize the headloss gradient through the screen. If the water level exceeds the headloss through the ROMAG unit, the top of the frame will act as an emergency overflow weir to by-pass the unit.

The bar rack assembly is formed in modules of precision cut 316L stainless steel plates, spaced 4mm apart. Each module is fastened to the frame by socket head bolts. These bolts are also tightened to maintain tension in the bar rack assembly.

The cleaning carriage assembly is constructed of 316L stainless steel square tubing and angle framework with UHMW slide pads. Attached to the framework are combs fitted in between the bar rack spacing. These combs clean the bar rack assembly of trapped debris as well as provides support for bar racks along the unit's horizontal length.

The carriage assembly is operated by a reciprocating hydraulic cylinder. The hydraulic cylinder is connected to a yoke attached to the carriage framework and to the screen frame by means of a clamp. The cylinder's direction is automatically controlled by the operating pressures and initiated by the water level in the channel. Replaceable plastic slide blocks are installed on the carriage for reduced friction and wear.



Standard Equipment Layout

2-1A

The hydraulic power supply is a separate package suitable for operation at the unit or remotely. The package will normally consist of the following components:

- 3 phase electric motor
- hydraulic gear pump
- directional control valve
- main relief valve
- return oil filter
- pressure gauge
- oil level/temperature switch
- oil reservoir tank fitted with oil level indicator, air breather, and fill port cap
- interconnecting hydraulic hoses and fittings

(Note: For hose lengths greater than 10 feet, it is recommended that hydraulic tubing be used instead.)

The general operating parameters are as follows:

<table>
<tr><td></td><td colspan="7">Pressure Relief Valve</td></tr>
<tr><td>Length Modules</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><td>2</td><td colspan="2" rowspan="9">1750 psi</td><td colspan="2" rowspan="5">1750 psi</td><td colspan="3" rowspan="13">2200 psi</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td>5</td></tr>
<tr><td>6</td></tr>
<tr><td>7</td><td colspan="2" rowspan="8">2200 psi</td></tr>
<tr><td>8</td></tr>
<tr><td>9</td></tr>
<tr><td>10</td></tr>
<tr><td>11</td><td colspan="2" rowspan="4">1750 psi</td></tr>
<tr><td>12</td></tr>
<tr><td>13</td></tr>
<tr><td>14</td></tr>
</table>

Operation

The ROMAG unit's operation is initiated by a level sensing device in the channel. In the case of a "slow" rising/decreasing water level, screens should start just as, or slightly before, the water level in the channel reaches the lowest bars of the screen.

In the event of rapidly rising water levels, the start level should be placed at elevations lower than the bottom of the screen.

Upon sensing a start level, the cleaning carriage assembly will stroke back and forth, keeping the bar racks clear of solids. The solids are directed downstream to be captured in the flow going to the wastewater treatment plant.

The screened flow can be collected for further treatment or discharged into a receiving body of water.

Screens should shut off when the water has receded below the start point. As a general rule, the Stop point can be placed at approximately 3 inches under the start point.

Should large objects impede the motion of the cleaning carriage, the hydraulic cylinder will short stroke to prevent unit damage.

Also, the screens should not be started when water is already flowing through the screen over the control weir. Under this condition the screen will blind quickly and water will continue to rise. The hydraulics can not move a full screen of matted material under the flow and static pressure of the water.

The design and shape of the cleaning carriage combs allow wedged items to be dislodged and directed downstream for collection.

In the event of flows exceeding the capacity of the unit, or power failure, the top of the ROMAG screen acts as an overflow weir to prevent upstream flooding.

SECTION THREE

Hycor® ROMAG RMG-W Unit
INSTALLATION

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

The RMG-W type ROMAG screen is shipped in multiple assemblies for final assembly on site. The following procedures insure that installation will be speedily and safely accomplished. The following are the major steps to installing a ROMAG unit.

- Pre-Installation
- Concrete Preparation
- Lifting
- Mechanical Installation
- Hydraulic Installation
- Setting Operational Pressure
- Electrical Installation

These steps must be followed or problematic operation is likely to occur!!

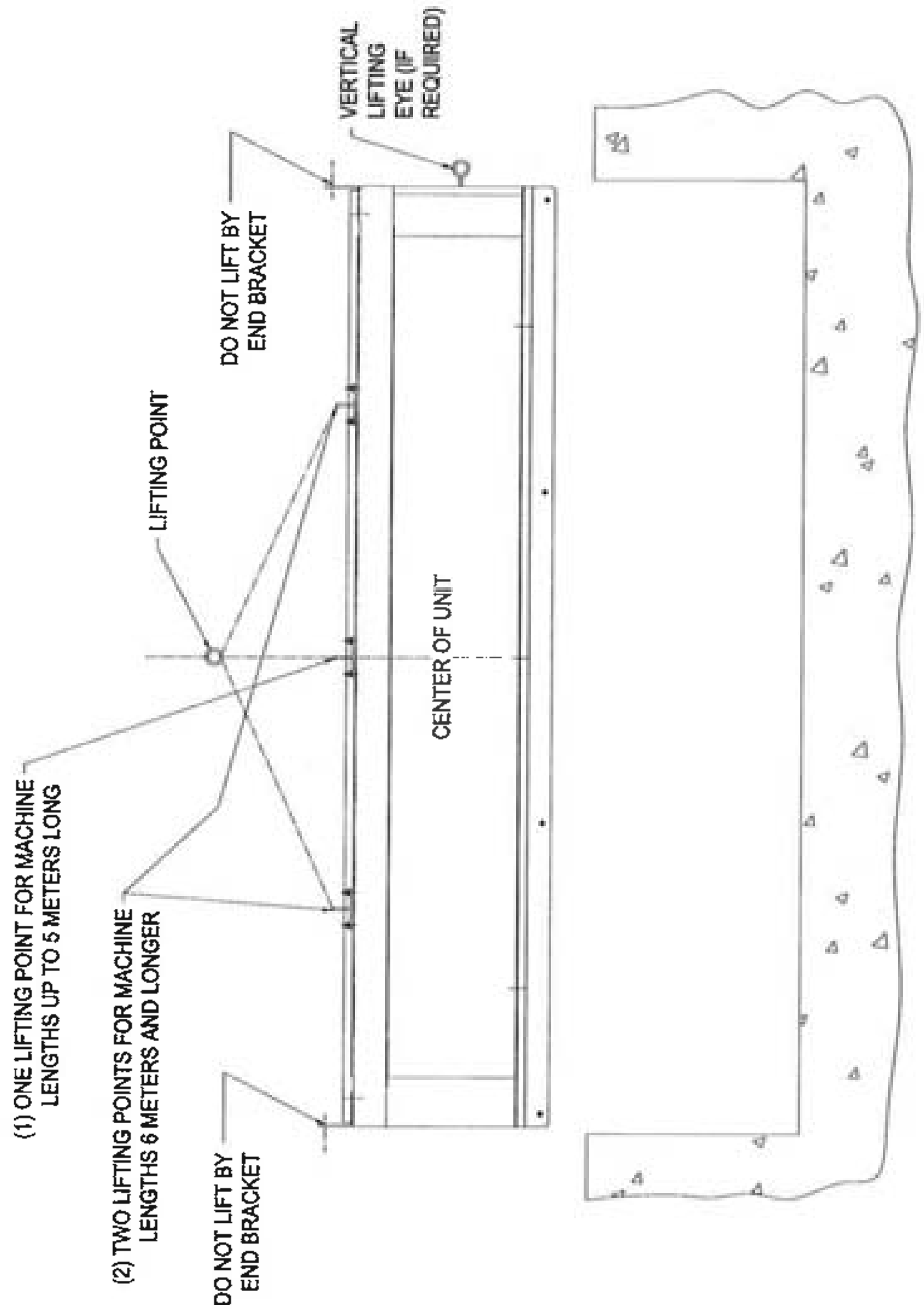
Pre-Installation

1. Verify that lifting and transport equipment of suitable capacity is available. The shipping crates most often can be lifted from underneath with a fork lift truck. However, the unit also can be hoisted by the lifting points on the top frame. If the screen is to be lowered into the chamber vertically, a lifting eye has been installed on the end of the screen. (See page 3-1A)

2. If the installation requires the screen to be leak proof, remove the control weir on the back side of the screen. Caulk the flange of the control weir and re-attach weir to the unit. If required, this can be done once the unit has been lowered into the basin.

3. When installing the screen in an existing facility, drain or pump water away from all sides of the screen.

4. If installed in and active sewer, bypass channel flow around the area where he screen is to be installed. This will insure a safe working environment. Take extreme precautions when using electric power tools around water.



<u>Lifting Points</u>

3-1A

5. If water cannot be drained, provide water tight platforms on both sides of the screen.

6. Installers and inspectors must have access to the mounting elevations of both sides of the screen. Temporary platforms should be placed on both sides of the screen if the screen mounting elevation is over 4' above the floor.

7. The area must have good lighting. Indoor installations should use portable halogen work lights.

8. A water supply with a garden hose must be provided during installation.

9. Ropes, pulleys and a come-a-long should be available to mount the support struts if the crane is not available or possible to use.

10. Wood timbers (2X4's & 4X4's) should be available to support or adjust the screen while it is being set on the concrete wall.

11. The contractor should have the following tools available during the installation:

    A. 12-18" long level.

    B. 4' long level.

    C. One set of channel locks.

    D. Two crescent wrenches - 12" - 18".

    E. One 2-5 pound sledge hammer.

    F. Clean buckets to transfer oil to the hydraulic power packs. Impress the contractor on the importance of not contaminating oil or leaving hydraulic tubing open for dirt and dust to get in system. If so, unit will have to be disassembled and cleaned.

    G. Minimum of 2 ladders suitable for the installation to give access to the screens.

    H. One 4" grinder.

    I. Two sizes of Roto-hammers for drilling anchor bolt holes. A larger one is used for normal drilling. A small one is needed to drill base plate mounting holes. For small screens, a right angle drill design is required because there is not enough clearance for even small drills.

    J. 1/2" diameter by 5" and 6" long masonry drill bits in suitable numbers to complete the installation.

K. Stainless steel shim stock available; washers in various sizes large diameters, up to 1/8" thickness. More will be required when the concrete walls are not level and square.

L. 5 to 6 tubes of silicone per unit to be installed, and a caulk gun.

M. Masking tape, paper towels, small bottle of liquid detergent, rubbing alcohol or thinner and a grease cleaner.

N. Carpenter's square.

O. Passivation paste for cleaning areas that were cut or ground off.

P. Extra bolts and a few drop in anchors for the bolts.

12. Special Care Must Be Taken To Not Contaminate The Hydraulic Tubing, Oil or Hydraulic Power Units During The Installation.

13. There are two stainless steel hydraulic lines coming out of the screen. One tall and one short, connect the short line to the "B" end of the carriage valve on the power pack.

14. The hydraulic lines should be securely anchored to the walls.

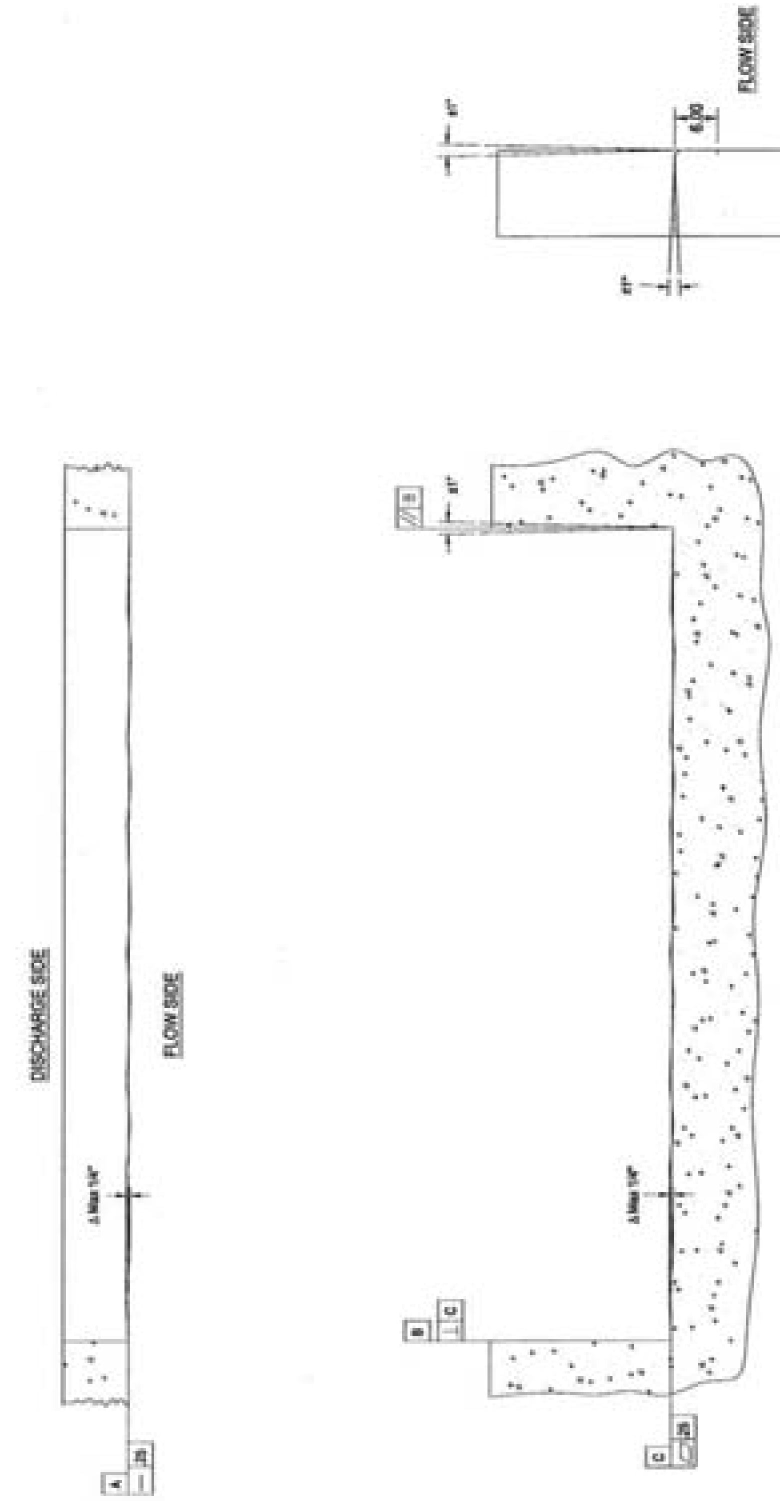
Concrete Preparation (See page 3-3A)

NOTE: **The CONDITION OF THE CONCRETE is the most critical aspect of the installation of the screen. The time and cost of installation can be increased exponentially, due to concrete quality. EVEN SLIGHT DEVIATIONS IN THE CONCRETE MAY MAKE THE SCREEN IMPOSSIBLE TO INSTALL, until corrections have been made.**

Prior to installation of the screen, the installing representative will check the condition of the concrete. If the concrete fails to meet the following test, the screen cannot be installed. From page 3-3A tolerances should be held to 1/16th of an inch.

This Pre-Installation Test involves the following:

- The end walls that the screen will attach to will be checked with a level for vertical. Tolerance 91° to 89°.
- All corners will be checked with a square. Tolerance 91° to 89°.



<u>Concrete Preparations</u>

3-3A

- The influent vertical wall will be checked with a string line. This will require drilling holes in the concrete and setting drop-in anchors and a bolt. Tolerance will be a maximum of 6 mm (1/4 inch) across the width of the opening. **[That is from the highest spot to the lowest spot, the maximum difference has to be 6 mm (1/4 inch) or less.]**

- The top of the wall that the screen will sit on will also be checked with a string line. Tolerance will be a maximum of 6 mm (1/4 inch) across the width of the opening. **[That is from the highest spot to the lowest spot, the maximum difference has to be 6 mm (1/4 inch) or less.]**
- Look for local imperfections (dips or ridges) along the to of the wall that the screen will sit on, or along the influent vertical wall. These will have to be filled in or removed.

Cut/notch or pour concrete weir to required length and depth shown on the installation drawings. A total allowance of 2" is required to facilitate the installation of the screen. The weir opening should be square and level.

After concrete work is completed, inspect concrete for square, level and flatness on the top and influent surface of the concrete.

Remove any grease, and/or scum around the concrete opening using an alcohol based cleaning agent or other suitable concrete cleanser before the screen is placed on the concrete wall.

Lifting

After the preparatory concrete work has been completed, the screen is ready to be installed.

The screen can be lifted by the support bracing mountings on the unit. Depending on the screen's length there may be one or two locations. Do not lift the unit by the end brackets. (See page 3-1A)

The screen must be lifted and installed horizontally. Do not tilt screen beyond 30°.

If your screen has to fit vertically into the containment, it will have been fitted with a removable lifting lug on the side of the unit. (See page 3-1A)

Mechanical Installation

Lay rubber pieces on top of wall to make a continuous length of seal. Cut and fit rubber as necessary.

Set the screen down into the concrete opening.

Slide the screen tight against the downstream side of the opening. There should only be a 2" gap on the tensioning bolt side of the screen. The bottom flange of the screen should be pushed up to the wall as tight as possible.

Level the screen in the opening, using a 4' level. Shim as required along the length of the screen at each bolt hole location, but do not block the bolt hole.

Just below the combs there is a horizontal angle welded to the bottom flange. With a straight edge and chalk draw a horizontal line on the concrete, on both ends of the unit, in line with the lower edge of the angle. On this line, about 8" to 10" away from the unit drill a hole and set a drop-in anchor with a screw sticking out of the concrete. (See page 3-5A)

Tie a tight string between the two bolts. Adjust the string 30 to 40 mm, (pick a specific distance, example 36mm) away from the concrete wall at the bolts. Measure in millimeters, the distance from the flange to the string at the two end mounting holes of the screen. (See page 3-5B)

If - the two end holes on the flange are roughly the same distance to the string, (+/-5 mm tolerance or 1/4 of an inch), adjust the string so that it is the same distance from the two end holes (+/- 1 mm, tolerance). (See page 3-5B)

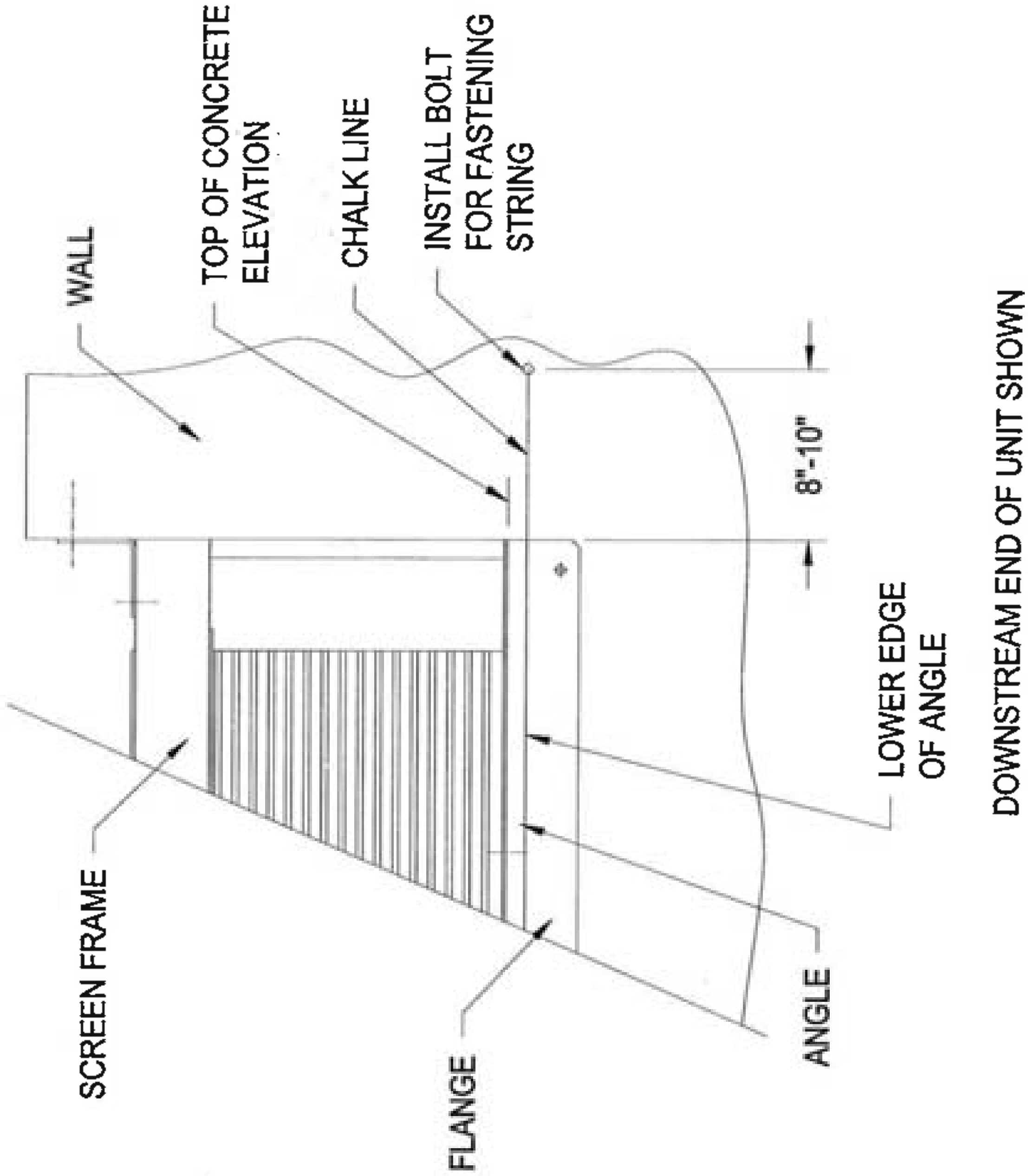
IF NOT - rotate (square) the screen so that the two ends are the same distance to the string, (+/-5 mm tolerance or 1/4 of an inch). Then, adjust the string so that it is the same distance from the two end holes (+/- 1 mm, tolerance). (See page 3-5B)

With the screen in line with the string, drill holes in the concrete using the holes in the flange as a template. Place anchor bolts in holes with enough threads available to adjust later. Shim gaps between the flange and wall with stainless steel shims. Use shims to adjust the screen so that the distance between the flange at each bolt hole, and the string is the same distance along the full length of the screen, tolerance 2 mm. Tighten unit to wall.

Plumb the screen (vertical) on the down stream end and anchor the top flange plate to the wall. Plumb the screen (vertical) on the up stream end and drill holes for anchoring. Place a stainless steel spacer between the wall and the flange in the area of the 2" gap. Anchor top flange to wall.

Drill holes in the lower flange using the bolt holes as a template. Insure that shims installed are the correct height. Remove any length of anchor bolt that will impede the travel of the cleaning carriage assembly. Passivate any areas that were cut or ground down to prevent the appearance of rusting.

<u>NOTE</u>: **Holes under the carriage may not all be accessible until the unit is operational and the carriage can be moved. Do not move the carriage until all debris has been removed from within the unit and the bottom has been thoroughly soaked down with water, to prevent damage to the cleaning carriage.**



String Installation

3-5A

Attach the support braces and brackets to the screen and wall as depicted in the equipment drawings. (Note: Very small screens may not require support braces.) The brace adjusting block, which attaches directly to the screen should be installed with all the settings in the middle of the adjustment range. Install all horizontal members using a 4' level.

Remove the shipping brace(s) on the face of the screen. Replace the bolts to prevent debris from fouling the interior of the upper and lower frames. Note: Small units may not have shipping braces.

Using two installation brackets for a string line, (install the brackets on the two outer top overflow weir bolt locations), and run a string from bracket to bracket. Adjust string distance from the frame to a set distance in millimeters (1mm tolerance) at each bracket location. (See page 3-6A)

Check distance from the frame to the string at each support mounting location, use the adjustments on the brace adjusting block to push or pull the unit into alignment with the string (1 mm tolerance). On units with two (2) or more brace locations, adjust each support mounting location and re-check previous location(s) for changes.

From the weir side of the unit, measure the internal distance from top frame to the bottom frame, at the two ends of the screen. (See page 3-6B) Measure this same distance under the mounting assembly(s). Use the adjustments on the brace adjusting block to raise or lower the top frame so that the top of the unit is level (2 mm tolerance).

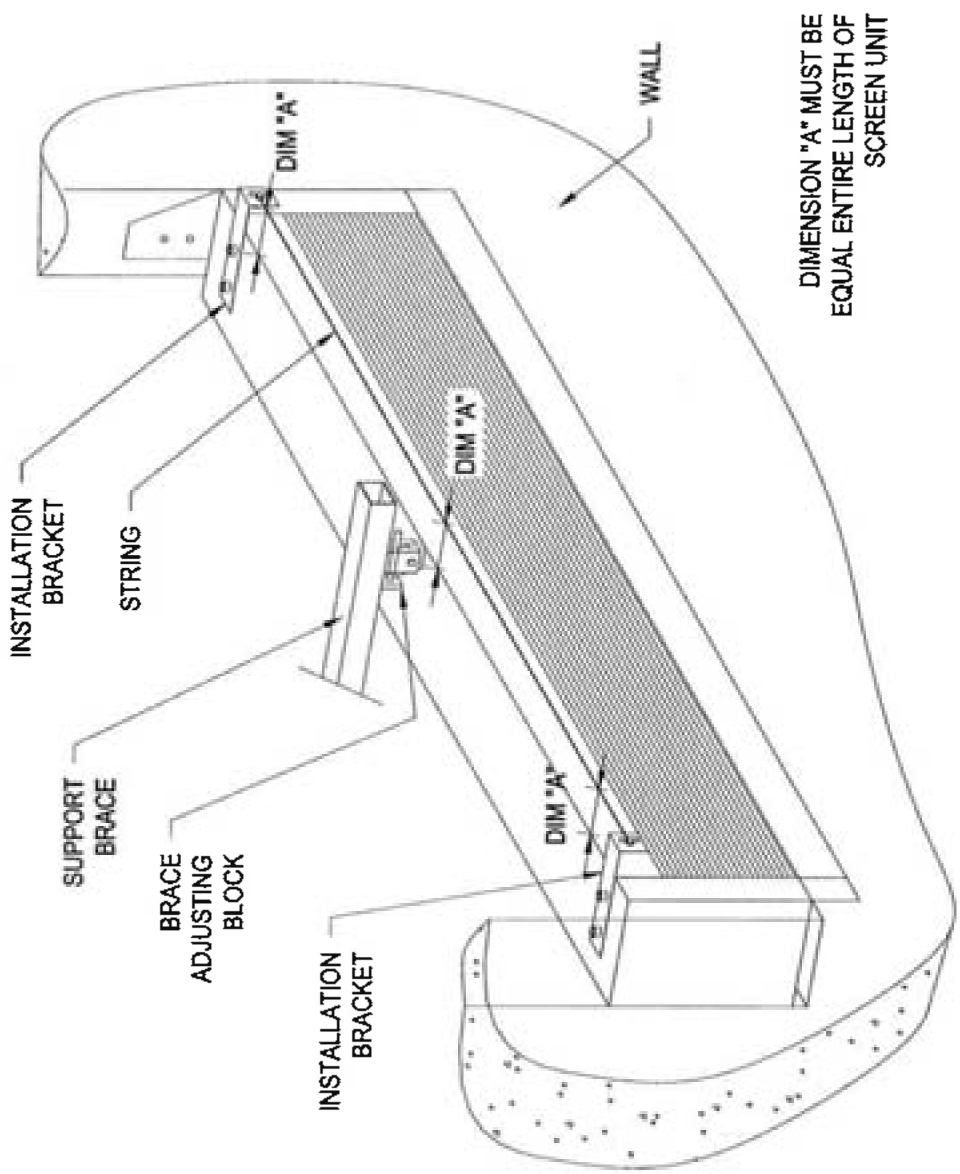
Once the top of the screen has been leveled and straightened, re-check and readjust, if the adjustments made have effected the other settings.

Attach the weir support brace(s) to the weir and concrete. The ends may have to be bent slightly to match the weir and concrete. (See 3-6C)

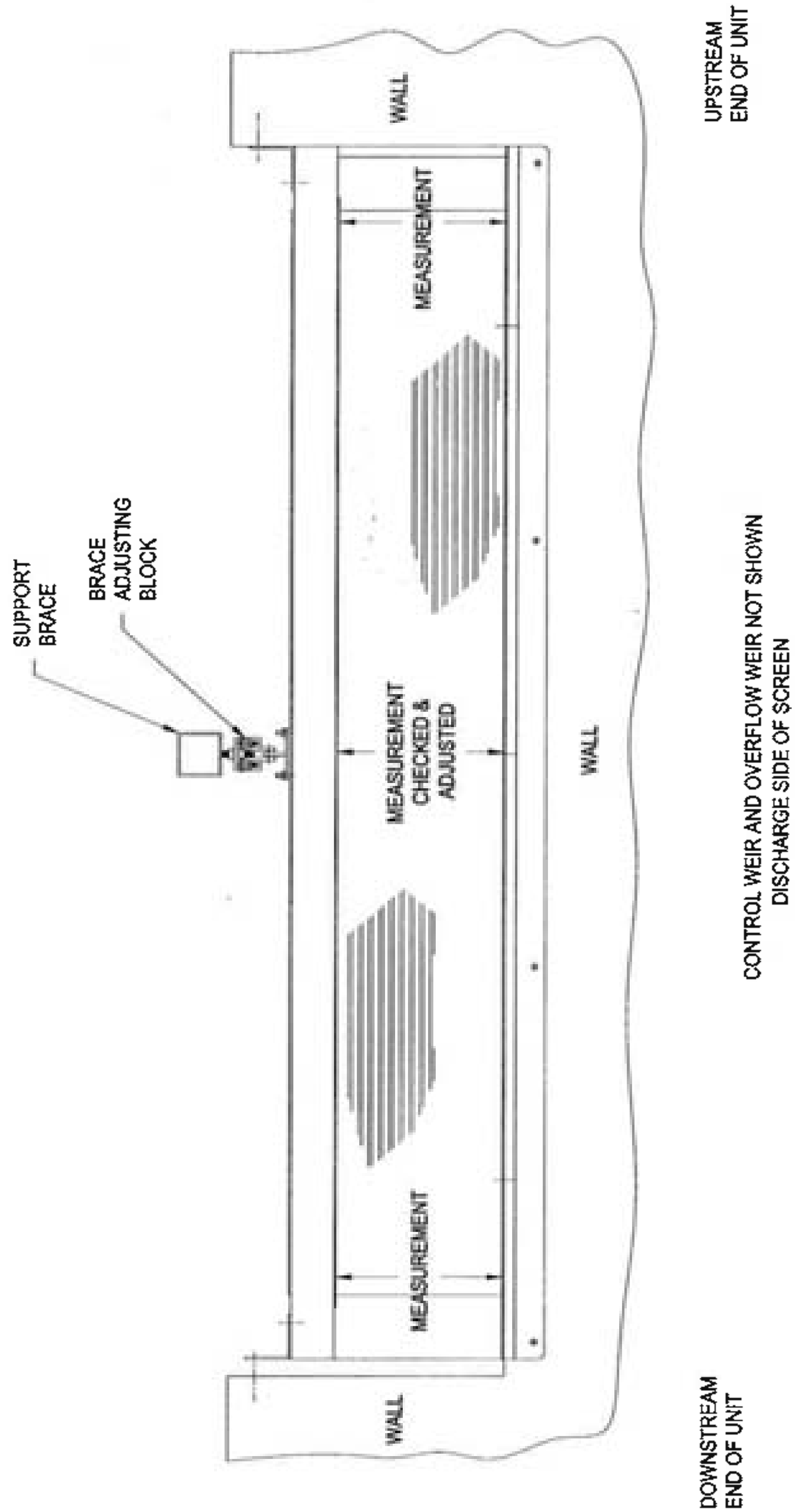
Butt the vertical end plate (See 3-6D) against the screen on the tensioning bolt end of the screen and anchor it to the wall. The plate should be touching the screen just behind the tensioning bolts. The bottom of the plate should be in line with the bottom of the flange on the screen.

Remove the spring loaded flap covering the screen tensioning bolts, if applicable. Tighten the screen tensioning bolts (See 3-6E) with a 14mm allen wrench. Start in the middle and work up and down from the center. Repeat this process on all the tensioning bolts to achieve uniform tension. Improper tensioning will result in a twisted screen frame. Uniform tension is essential for proper operation. Reattach the spring loaded flap to the screen.

	Tension Torque Value						
Length	2	3	4	5	6	7	8
	25 Nm (31 ft-lb)			30 Nm (41 ft-lb)		35Nm (48 ft-lb)	

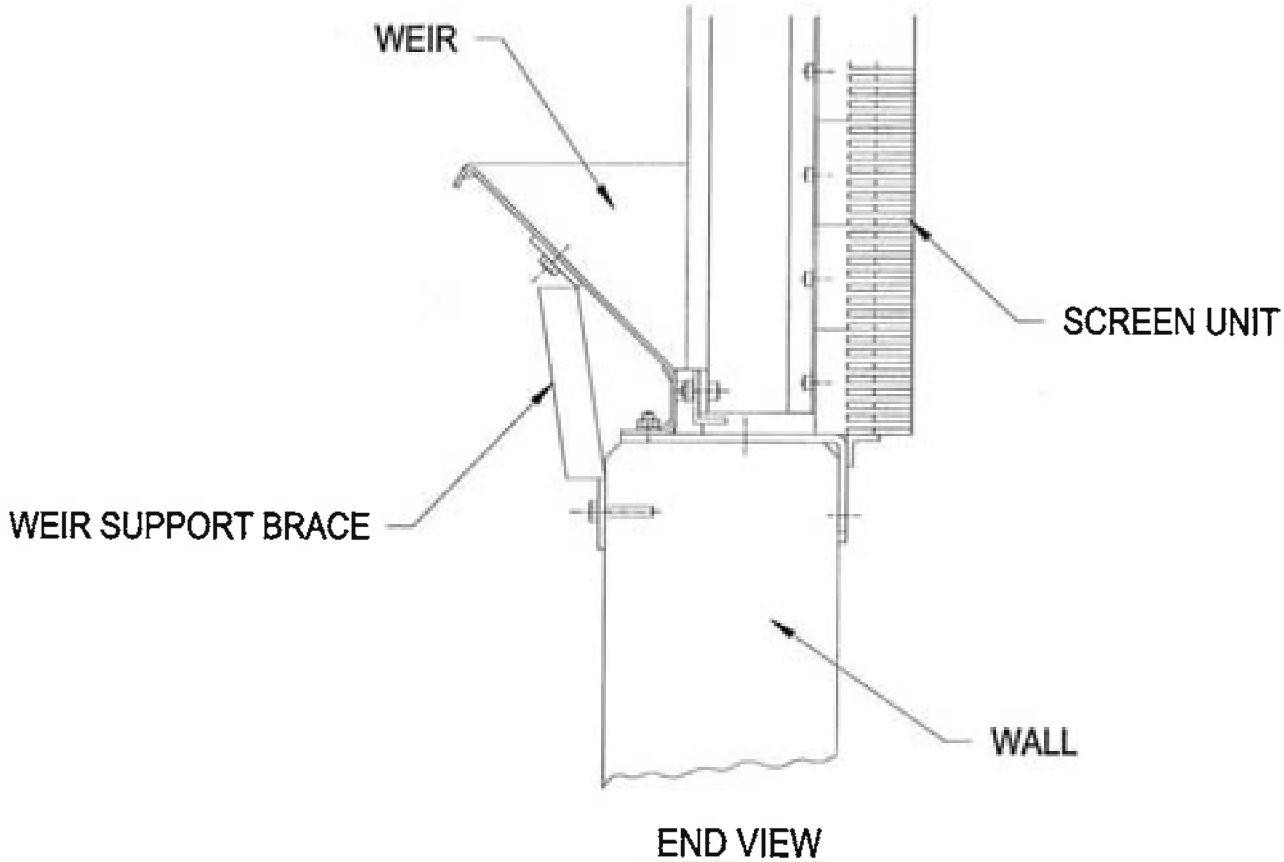


Top Frame Horizontal Alignment



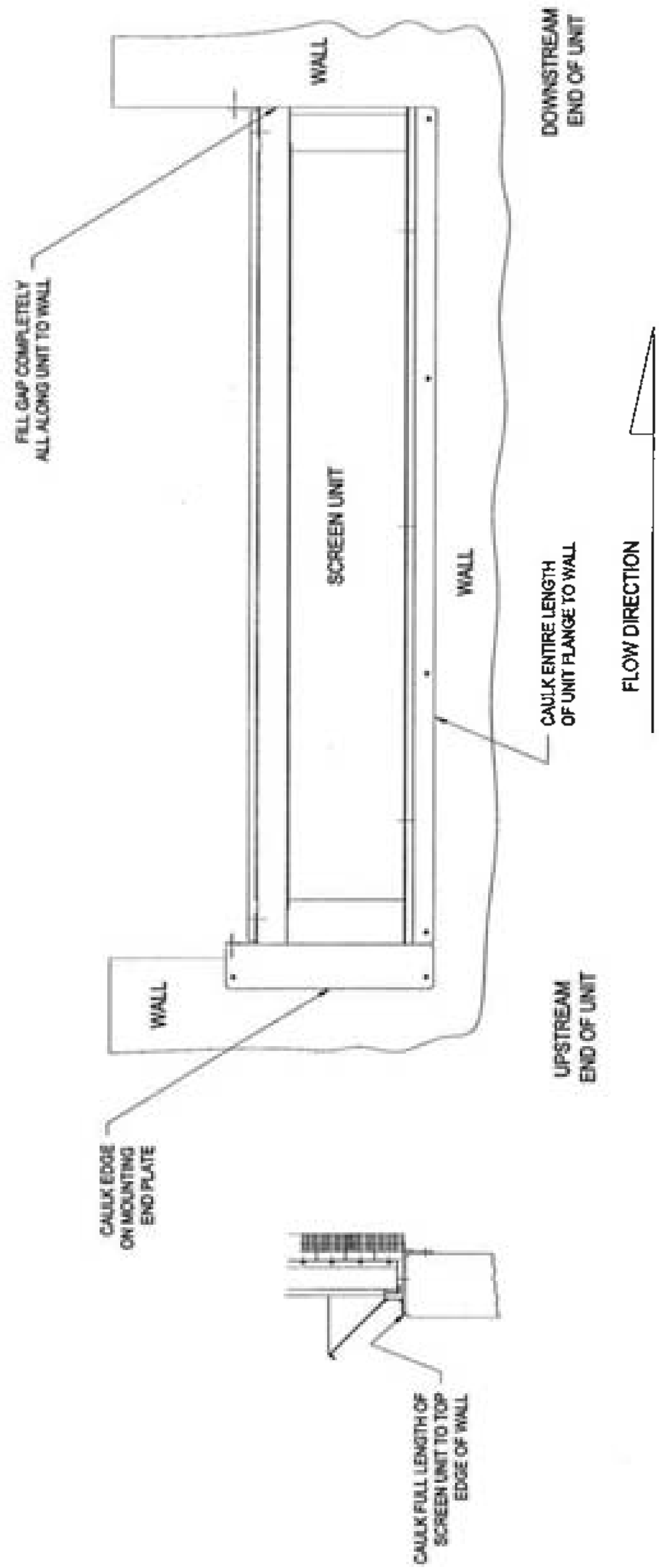
Final Vertical Alignment

3-6B



Weir Support Bracing

3-6C



Caulking Locations

With the screen and all components installed. Clean any masking tape marks left from shipping the unit with alcohol or thinner.

Wash all areas to be caulked with an alcohol based primer to remove grit or grease.

Dry all areas to be caulked.

Tape stainless steel pieces prior to chalking for a clean finish.

Apply caulk to bottom and sides of screen. (See page 3-6D)

The gap (approx. 2") between the upstream end of the screen and the concrete wall on the discharge side of the screen has to be filled with concrete up to and including the anchor bolts on the side of the screen. (See page 3-7A)

Hydraulic Installation

⚠ DANGER ⚠

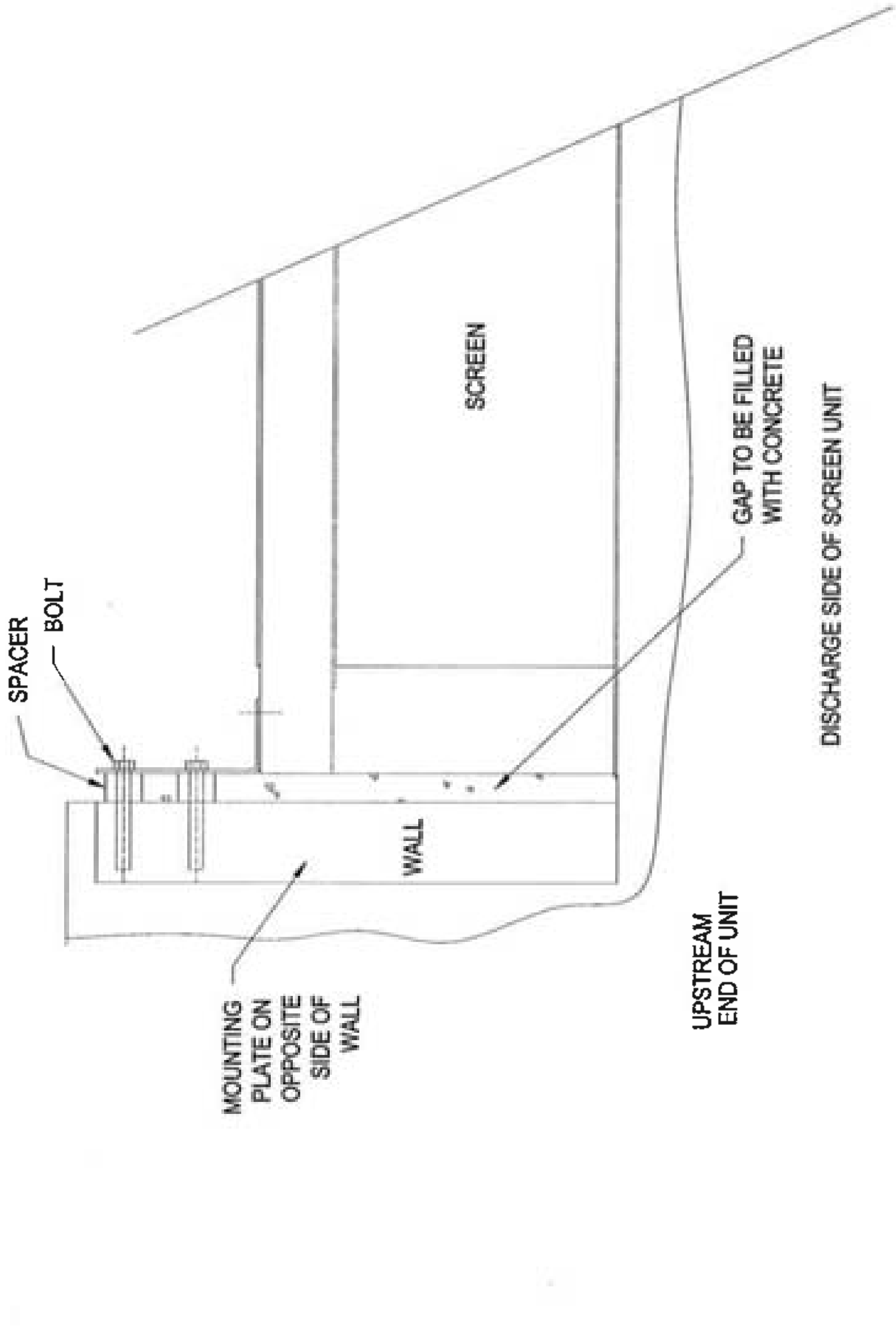
CONSULT MANUFACTURER'S MATERIAL SAFETY DATA SHEET PRIOR TO USE OF HYDRAULIC OIL. HYDRAULIC OIL MAY CAUSE SKIN IRRITATION. WASH CONTACT AREAS WITH SOAP AND WATER. HIGH-PRESSURE ACCIDENTAL INJECTIONS THROUGH THE SKIN REQUIRE IMMEDIATE MEDICAL ATTENTION FOR

POSSIBLE INCISION IRRIGATION AND/OR DEBRIDEMENT. NEVER SERVICE BEFORE RELIEVING HYDRAULIC PRESSURE. IF EYE CONTACT OCCURS, FLUSH THOROUGHLY WITH WATER. IF EYE IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

Follow all SAE recommended practices to insure good workmanship and a safe installation.

The manufacturer recommends the contractor only use long radius bends on the stainless steel hydraulic tubing.

Be sure that proper air circulation is provided to prevent overheating of the motor. If the power pack is enclosed, make provisions to allow heat dissipation from the hydraulic system.



Caulking Locations

3-7A

Secure the hydraulic power pack in place. It is recommended that the hydraulic power pack be placed in a containment curb for safety and housekeeping. It is also recommended that the hydraulic power pack be placed off the floor. To properly drain the tank, the drain plug is installed at the base of the tank. Raising the unit off the floor allows the ease in changing the hydraulic fluid.

Connect the hydraulic hose assemblies between the power pack to the hydraulic cylinder. The "B" side of the hydraulic valve should be connected to the shorter of the stainless steel stub ends on the screen.

NOTE: **Make sure that the hoses and hose connections are clean, do not remove the caps from the connections until ready to install the power unit. For distance over 10', use hydraulic tubing with short hoses on either end to complete the conduit connection. All stainless steel and rubber tubing should be securely anchored to the walls.**

If the hydraulic lines are to pass through a concrete wall, it is recommended that hydraulic tubing be grouted in the wall to conduct the hydraulic fluid through the wall. If the screen and the power pack are within 10', hose can be use to complete the conduit.

The hydraulic power pack is shipped complete, except for hydraulic fluid. The reservoir should be filled to the black upper line on the sight gauge with approximately 10 gallons of high quality anti-wear, anti-foam hydraulic fluid as listed in the Lubrication Chart on page 5-3. It is recommended that the oil be poured in the tank using a clean funnel, pouring can, or pumped directly from the oils original container.

NOTE: **Viscosity changes with temperature and it may be desirable to check with your local oil supplier for specific oils suitable for winter and summer use.**

Electrical Installation

Prepare for the electrical installation by verifying the power requirements for the hydraulic power pack's motor and the control panel. Consult the electrical control schematic for the control interconnect and supply power wiring. Be sure the unit is well grounded.

Reference the motor nameplate for proper power supply and wiring connection data. Wire leads as directed by the diagram on the motor terminal box.

Review the control schematics for termination of the accessory switches such as: channel level; hydraulic oil level; and oil heater (if required). Terminals are normally provided in the control panel for interconnection wiring by the local electrician.

⚠ DANGER ⚠

MAKE SURE ANY ELECTRICAL CONNECTIONS ARE DONE BY QUALIFIED PERSONNEL AND ARE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS.

SECTION FOUR

Hycor® ROMAG RMG-W Unit
OPERATING INSTRUCTIONS

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

THIS EQUIPMENT MUST BE OPERATED AND MAINTAINED ONLY BY AUTHORIZED PERSONNEL WHO HAVE READ AND UNDERSTAND THE OPERATOR'S MANUAL, HAVE BEEN TRAINED IN ITS USE, AND FOLLOWING ANY AND ALL APPLICABLE SAFETY PROCEDURES.

Start Up Procedures

Before starting the ROMAG unit's motor, make an installation check on the following:

- ROMAG unit installed per the installation drawing and the anchor bolts are tight.
- Clean the screen area clear of debris. It is important to clear the installation area of sand, stones and debris.
- Hydraulic hoses not damaged and all connections are tight.
- Properly identify the correct supply power with respect to motor nameplate data.
- Check that all lubrication points are lubricated.
- Check hydraulic fluid level and verify the correct fluid has been added.
- Set level sensing device.

Prepare personnel for start up. Normally, the ROMAG unit is delivered set in such a way that the work cycle starts when the electric motor of the hydraulic power supply starts.

Recheck the screen tensioning screws for proper tension after the test run.

⚠ DANGER ⚠

THIS UNIT CONTAINS A HIGH-PRESSURE HYDRAULIC CYLINDER. CONTACT WITH THE CYLINDER OR ANY MOVING PART DURING OPERATION WILL CAUSE SERIOUS INJURY.

Prior to performing the test run, open the bypass valve located near the hydraulic cylinder. This will create a closed loop in the hydraulic lines by bypassing the hydraulic cylinder and will purge the air from the hydraulic lines.

NOTE: **On initial start up, observe the direction of rotation of the motor. It should rotate in the direction of the arrow (clockwise direction when viewed looking down on the motor). Run no longer than 20 seconds. Check hydraulic oil level and refill as necessary. To reverse the motor rotation, switch any pair of input electrical power leads. Observe the pressure gauge on hydraulic power supply. If pressure builds on the gauge, wiring is correct.**

After proper motor rotation has been verified, switch the unit on "Hand".

Run the hydraulic unit for approximately 1 to 2 minutes to remove air from the hydraulic lines. For longer hydraulic lines, this process may take longer. Take all precautions to prevent contamination of the hydraulic system. Add hydraulic oil to the reservoir as needed. After air has been purged from the lines, close the bypass valve. The cleaning carriage should begin to move.

At the end of the carriage stroke, open the bypass valve to remove any air that may have been trapped in the cylinder. After running for 1 to 2 minutes, close the bypass valve. The cleaning carriage should change direction. Open the bypass valve when the cleaning carriage is extended to the opposite end of the screen and repeat the last step again. Finally, close the bypass valve and observe the carriage operation.

During the operating time, the cleaning carriage assembly is completely governed by the oil flow and the oil pressure. Consequently, no electric control is required for continuous reciprocating operation except that which runs the motor. (Should additional controls be supplied, refer to the necessary logic diagrams for control start up.) Allow the hydraulic cylinder to stroke several times. In the event the operating pressure needs to be reset or adjusted, see the step by step procedure in Section Six - Repair and Replacement.

When the unit is switched off, the carriage assembly will stop immediately.

Adding Flow

After the ROMAG unit has been dry run satisfactorily, influent can be added into the channel.

⚠ DANGER ⚠

FOLLOW LOCK OUT PROCEDURES BEFORE SERVICING: LOCK OUT POWER WITH PADLOCK FOR WHICH ONLY YOU HAVE THE KEY.

Shutdown Procedures

Short Duration - The ROMAG unit may be stopped for short durations of time without any undesirable effects. For a duration of greater than 24 hours, the cleaning carriage assembly and bar rack should be thoroughly hosed down to prevent solids from sticking to bar racks.

Long Duration - When the ROMAG unit is shut down for expected long durations, the unit should be thoroughly hosed down to remove solids from sticking to bar racks. Reference Section Six - Repair and Replacement.

SECTION FIVE

Hycor® ROMAG RMG-W Unit
MAINTENANCE

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

THIS EQUIPMENT MUST BE OPERATED AND MAINTAINED ONLY BY AUTHORIZED PERSONNEL WHO HAVE READ AND UNDERSTAND THE OPERATOR'S MANUAL, HAVE BEEN TRAINED IN ITS USE, AND FOLLOWING ANY AND ALL APPLICABLE SAFETY PROCEDURES.

FOLLOW LOCK OUT PROCEDURES BEFORE SERVICING: LOCK OUT POWER WITH PADLOCK FOR WHICH ONLY YOU HAVE THE KEY.

The ROMAG unit is a simple device needing little maintenance over its serviceable lifetime.

Make frequent visual inspections of the mechanical operation on a regular basis. Follow the maintenance instructions below and in the Maintenance Schedule on page 5-4, to extend the life of your machine and decrease the overall operating cost of your system.

<u>First Ten (10) Operating Hours</u>

Check the threaded connections on the hydraulic pipes and hoses.

Check the tension of the bars.

<u>Monthly (or after storm event)</u>

Observe that the unit functions smoothly under load conditions. If any strange sound or abnormal movement is noted, investigate the cause and correct the problem in accordance with the maintenance procedures of this manual.

Perform routine housekeeping - remove accumulated debris from screen and from level sensing components.

Monthly (cont'd.)

Visually inspect the tension of the bars.

Check all threaded connections (hydraulic, structural).

Check hydraulic oil level.

Check the level of the hydraulic fluid in the reservoir (see page 5-2A). The oil level should be approximately mid way between the low level mark (red line at the bottom of the oil level indicator) and the maximum fill level (black line at the top of the oil level indicator). The oil level indicator also has a thermometer to give the temperature of the fluid. Reservoir temperature should not exceed 150°F. (65°C). System reliability and component service life will be reduced when system is operated at higher temperatures.

Inspect the cleaning carriage assembly for excessive wear. Replace plastic and bronze cleaning combs, if necessary.

Semi-Annually

It is recommended that every 2500 hours operating time or twice a year, whichever occurs first, the hydraulic oil filter should be replaced. (See page 5-2A.)

Annually

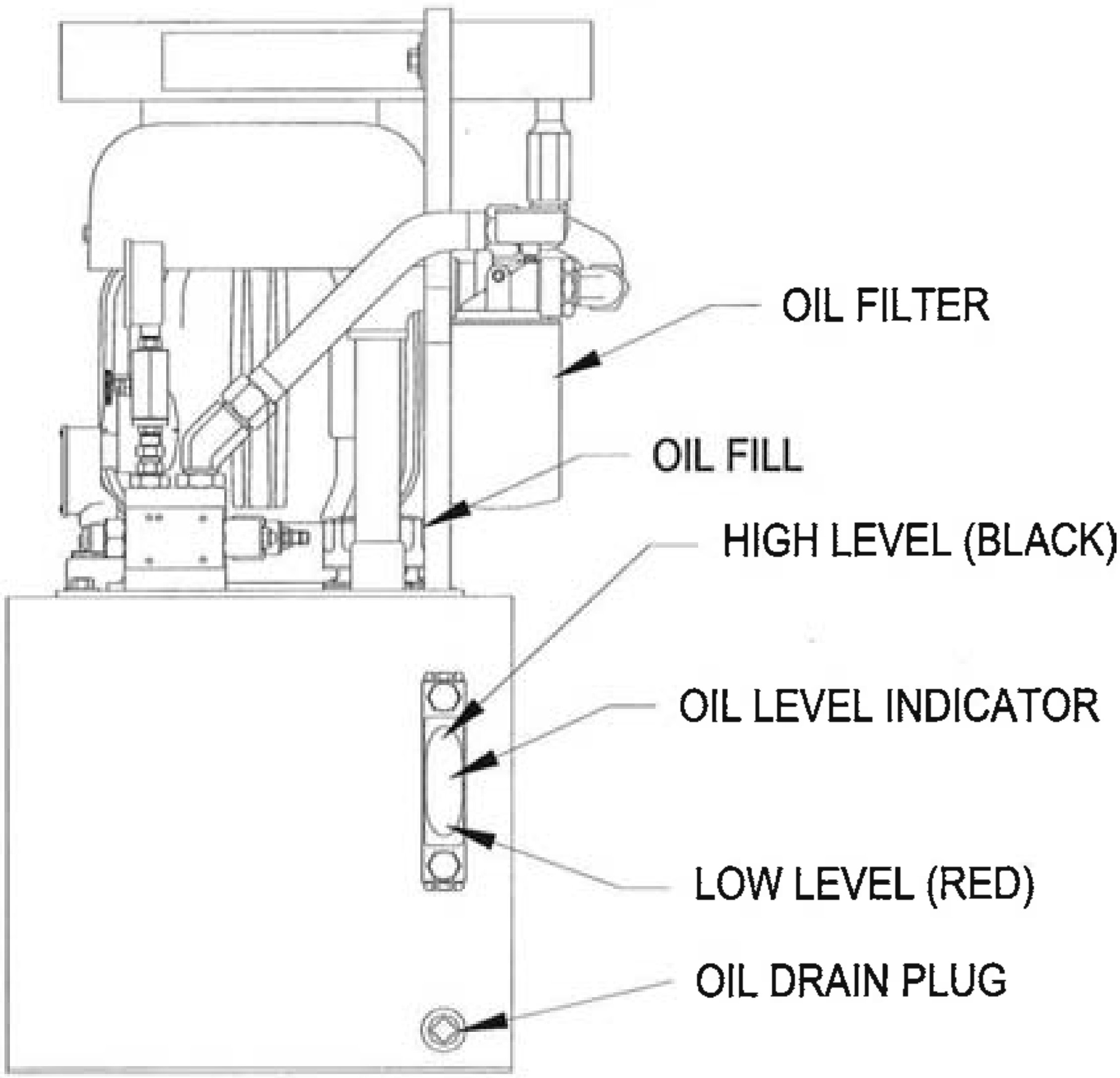
Observe the hydraulic oil operating limitations and change the oil accordingly or at least every 1000 operating hours or once a year. For high use applications, change oil after 700 working hours.

Check screen tension by testing tensioning screws at the end of bar racks.

To drain the hydraulic oil, remove the pipe plug located at the bottom of the hydraulic tank below the sight gauge (see page 5-2A). Reinstall the plug and fill with approximately 10 gallons of hydraulic fluid through the oil fill (see page 5-2A), while observing the oil level indicator (see page 5-2A). Fill until the oil level is midway between the low level mark (red line at the bottom of the oil level indicator) and the maximum fill level (black line at the top of the oil level indicator). Run the ROMAG unit through several cycles. Add oil as necessary. Always change the oil filter when changing the hydraulic oil.

Lubricate motor bearings at least every 5000 operating hours or once a year (see page 5-2A). See the chart on page 5-4 for hydraulic fluid and motor grease type.

NOTE: **When changing or adding oil, use care to maintain cleanliness.**



Hydraulic Power Pack Lubrication Points

5-2A

⚠ DANGER ⚠

CONSULT MANUFACTURER'S MATERIAL SAFETY DATA SHEET PRIOR TO USE OF HYDRAULIC OIL. HYDRAULIC OIL MAY CAUSE SKIN IRRITATION. WASH CONTACT AREAS WITH SOAP AND WATER. HIGH PRESSURE ACCIDENTAL INJECTIONS THROUGH THE SKIN REQUIRE IMMEDIATE MEDICAL ATTENTION FOR POSSIBLE INCISION IRRIGATION AND/OR DEBRIDEMENT. NEVER SERVICE MACHINE BEFORE RELIEVING HYDRAULIC PRESSURE. IF EYE CONTACT OCCURS, FLUSH THOROUGHLY WITH WATER. IF EYE IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

MAINTENANCE SCHEDULE

PROCEDURE	FIRST TEN (10) OPERATING HRS.	MONTHLY	SEMI-ANNUALLY	ANNUALLY
Check threaded connections on hydraulic pipes and hoses.	•			
Check tension of bars.	•			
General visual inspection.		•		
Routine housekeeping - remove debris from screen and from level sensing components.		•		
Visually inspect tension of the bars.		•		
Check all threaded connections.		•		
Check hydraulic oil level		•		
Inspect cleaning carriage.		•		
Change hydraulic oil filter.			•	
Check screen tension.				•
Change hydraulic oil.				•
Lubricate motor bearings.				•

LUBRICATION CHART

APPLICATION	LUBRICANT		
Hydraulic Power Unit		Oil Temperature	
		10 - 150°F.	40 - 170°F.
Hydraulic Oil	Mobil Oil Corp.: Texaco Inc.: Shell Oil Co.:	DTE24 Rando HD32 Tellus 32	DTE25 Rando HD46 Tellus 46
Environmental Oil	Bioblend: Mobil Oil Corp.:	22032 EAL-224H	22046
Motor	Texaco Inc.: Premium RB Shell Oil Co.: Dolium R Chevron Oil Co.: SRI No. 2		

SECTION SIX

Hycor® ROMAG RMG-W Unit
REPAIR AND REPLACEMENT

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

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FOLLOW LOCK OUT PROCEDURES BEFORE SERVICING: LOCK OUT POWER WITH PADLOCK FOR WHICH ONLY YOU HAVE THE KEY.

<u>Procedure for Setting Operational Pressure</u>

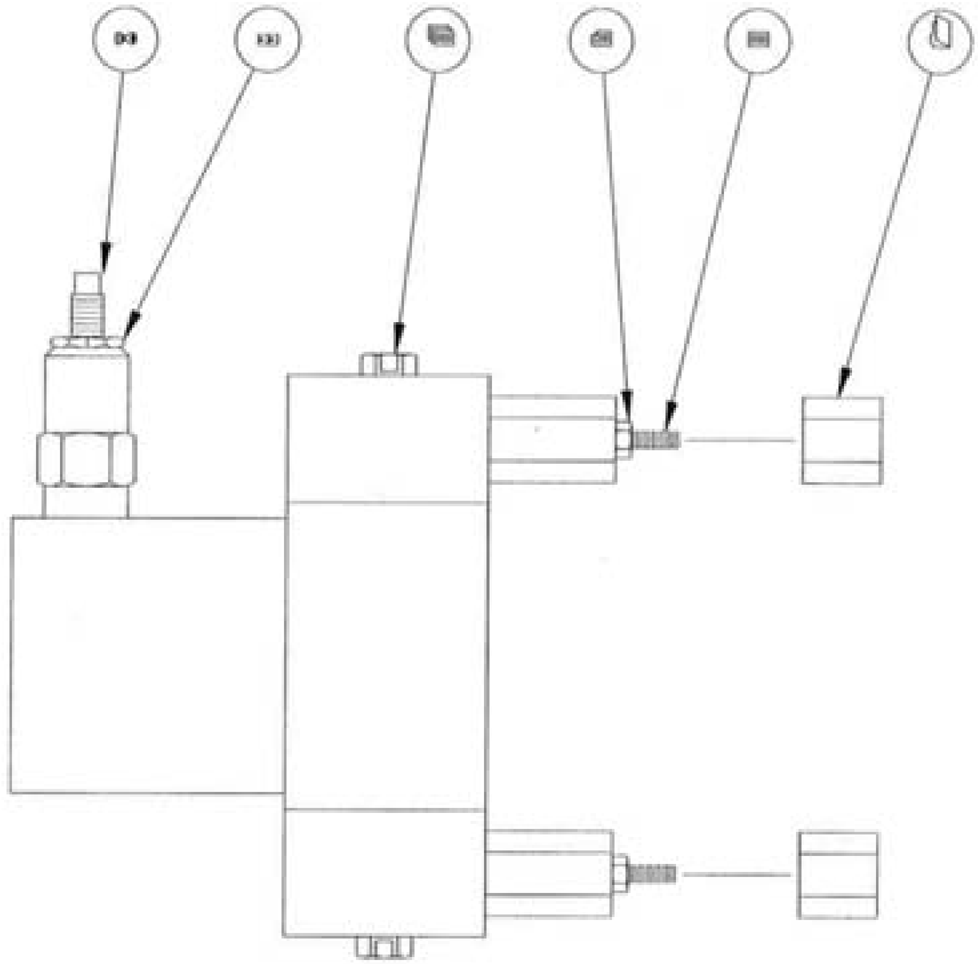
The following procedure shall be used for setting the main relief valve and the directional control valve.

1. Check the wiring schematic provided either in the junction box or attached to the motor to verify wiring is correct for the voltage provided to the unit. Start the unit and verify the motor is running in a clockwise direction when viewed from the fan end (top). (if rotation is wrong, reverse two of the power lead connections to change motor direction.)

2. Observe the cleaning carriage. The carriage may or may not move in an extend or retract direction. It is not, however, of concern at this time.

3. To set the main relief valve, first remove the two hex head caps on the stems protruding out of the directional control valve body (see page 6-1A, item 1). After removing the two hex head caps, you will observe allen-socket head set screws with locknuts (items 2 & 3). Loosen the locknuts and turn the set screws all the way closed. At this point, no flow will be going through the hydraulic hoses.

   <u>NOTE:</u> **Only tighten the set screws until the screw bottoms out. DO NOT OVER TORQUE or you may cause damage to the valve.**



Operating Pressure Adjustment

6-1A

4. Observe the pressure reading on the pressure gauge. The gauge should read 1750 psi as a starting point. To adjust this pressure, locate the main relief valve 1082

on the side of the manifold block. The main relief valve also has a locknut to hold the desired setting (see page 6-1a, items 5 & 6). Loosen the locknut and tighten or loosen the main relief valve set screw as required to bring the pressure reading on the gauge to the desired 1750 psi. (if necessary for proper operation, this pressure can be set higher, but should not exceed 2250 psi). Tighten the locknut while holding the set screw in place.

5. Return to the directional control valve set screws on the valve body and use the allen wrench to manually press in one of the actuating pistons of the valve (item 4). Then proceed with the adjustment of the valve on the opposite side of the depressed piston (item 3). Carefully unscrew the set screw counterclockwise for about 3-1/2 to 4 turns. Continue turning counterclockwise until the valve reverses. Open the valve an additional 1/4 turn and temporarily lock the set screw in position with the locknut. Now proceed to the opposite side and adjust the other set screw using the same procedure. When completed with adjustment, lock the set screw in place with the locknut.

6. Let the unit operate for several cycles to verify proper operation. Should the carriage stop at the end of its press or return stroke, adjust the directional control valve until the cylinder begins to move again. Continue the adjustment procedure until the carriage will cycle completely without any need for further fine tuning.

7. When adjustment is complete, lock the directional control valve set screws in place by tightening down the locknuts, replace the hex nut caps and shut the unit down. The hydraulic power supply and valve adjustments are now complete and the system is ready for operational use.

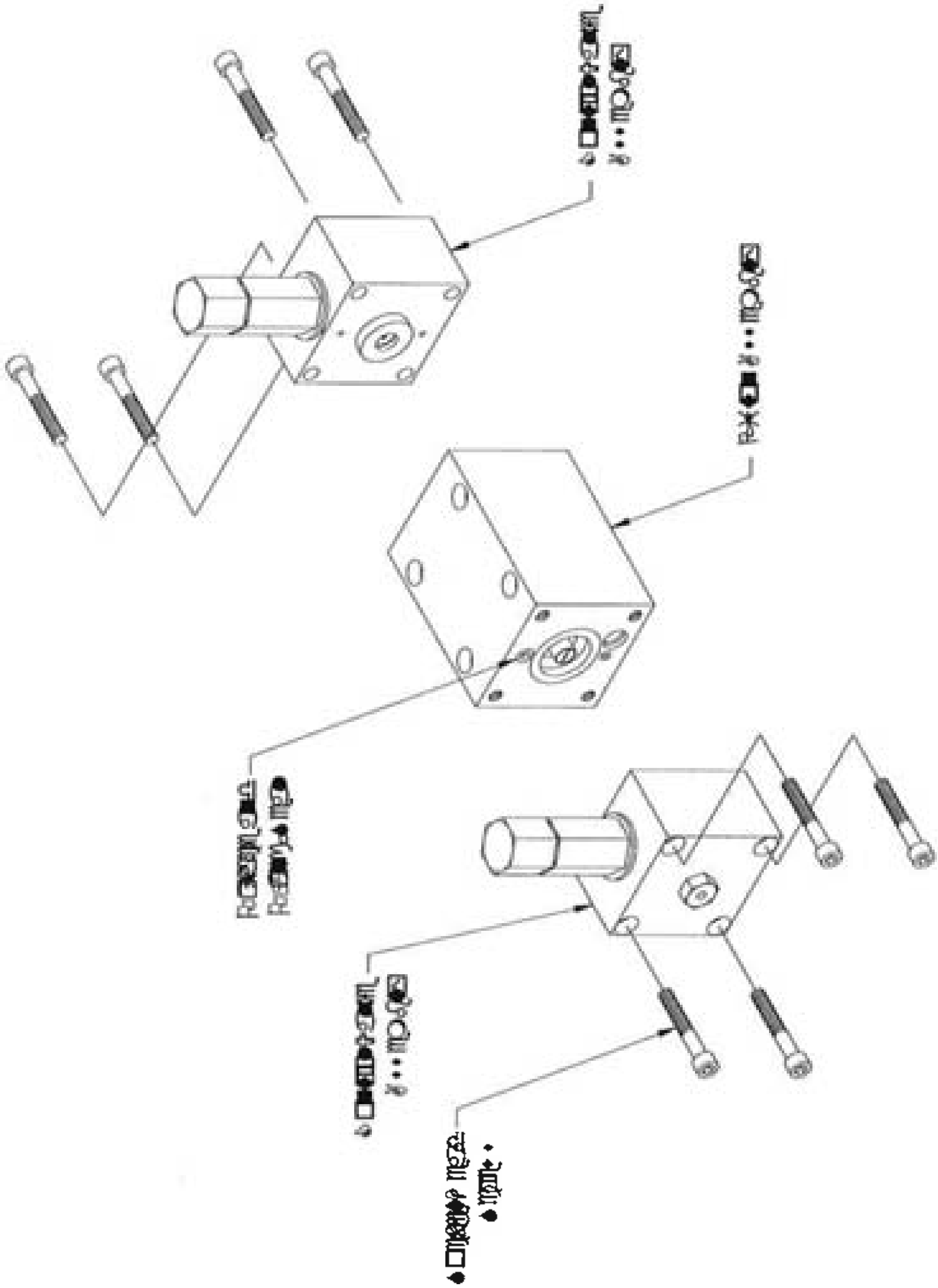
Directional Control Valve Does Not Function

Failure of the cleaning carriage to cycle may be due to a clogged orifice in the directional control valve as a result of dirty, unfiltered hydraulic oil. The following procedure should be used to clean the orifice. (See figure on page 6-2A.)

1. Remove the directional control valves by unscrewing the four screws. Carefully pull the side part from the main body so as to not damage the o-rings at the orifice interface.

2. Clean the orifice using a .4mm diameter drill bit or rod.

3. Clean and install the o-rings at the orifice interface. Place the control valve part carefully over the piston end and push it in place. Check that the o-rings are in position and install the screws, taking care that they are not overtightened.



Directional Control Valve

Hydraulic Cylinder Removal

1. Remove the bolts on the top face of the ROMAG unit to expose the hydraulic cylinder.

2. Remove link pin at the rod end.

3. Disconnect hydraulic lines and cap all ports in both hydraulic lines and the hydraulic cylinder to prevent dirt contamination. Remove the clamp securing the cylinder to the frame. Then withdraw the hydraulic cylinder from the ROMAG unit.

4. Repair or replace hydraulic cylinder as required.

5. Reinsert the repaired/new hydraulic cylinder back into the unit.

6. Secure the hydraulic cylinder to the frame with the provided clamp.

7. Replace rod end/link pin connection. Replace hydraulic hose lines and cycle hydraulic system until all air is removed. Refill hydraulic cylinder with hydraulic oil if needed.

Motor Repair (See page 6-3A & 6-3B.)

Should a motor failure occur, evidenced by high current power draw or erratic operation and assuming normal system operating pressures, the motor should be removed and checked out by an authorized Electrical Appliance Service Association (EASA) shop. Motor removal procedure:

1. Disconnect the electrical wiring to the motor and remove the electrical conduit.

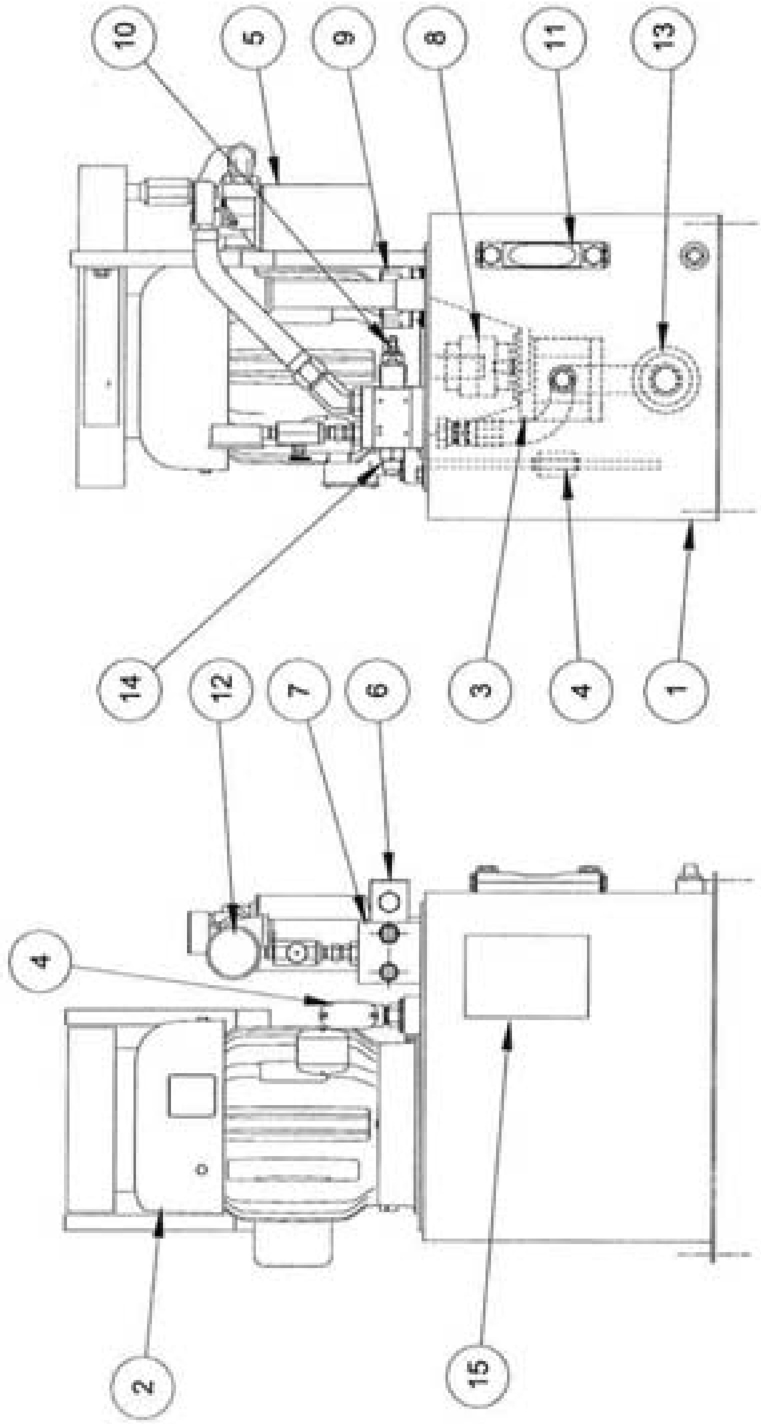
2. Remove the four (4) bolts holding the motor adapter plate to the top of the hydraulic tank.

3. Lift the motor, hydraulic pump, and hydraulic lines vertically and support the assembly on blocking.

4. Remove the four (4) bolts attaching the motor adapter plate to the motor from the underside. Lift the motor vertically to disengage the flexible couplings.

5. Loosen the set screw on the flexible coupling half attached to the motor shaft, and remove.

6. To reinstall, reverse the above procedure, aligning the flexible coupling halves while lowering the motor into position.



Hydraulic Power Supply

6-3A

HYDRAULIC POWER SUPPLY

Model RMG-W

Item No.	Description
1	Oil Tank, volume about 10 gal.
2	Electric Motor 5 HP
3	Gear Pump
4	Oil Level/Temperature Switch
5	Return Oil Filter
6	Directional Control Valve
7	Manifold
8	Shaft-coupling
9	Oil Filler Breather
10	Main Relief Valve
11	Oil Level/Temperature Gauge
12	Pressure Gauge (0-3000 psig)
13	Suction Filter
14	Hydraulic Hoses couplings
15	Warning Label

Reference unit's project number, serial number and model number when ordering replacement parts.

See Hydraulic Power Unit Data in Section Nine of this Manual for component details.

Hydraulic Pump Repair (See page 6-3A & 6-3B.)

Should a pump failure occur, the following procedure should be used to remove and repair or replace the hydraulic pump.

1. Disconnect the electrical wiring to the motor and remove the electrical conduit.

2. Remove the four (4) bolts holding the motor adapter plate to the top of the hydraulic tank.

3. Lift the motor, hydraulic pump and hydraulic lines vertically and support the assembly on blocking.

4. Disconnect the pump suction line (and suction filter) and pressure line from the hydraulic pump.

5. Remove the two (2) bolts attaching the hydraulic pump to the motor adapter plate through the pump adapter, and lower and remove the hydraulic pump. Remove the pump adapter plate.

NOTE: **The rubber cushion between the flexible coupling halves is not attached to either half. Exercise care when removing the hydraulic pump.**

6. To reinstall, reverse the above procedure, aligning the flexible coupling halves while raising the pump into position.

Oil Filter Replacement

The hydraulic filter is a 10 micron cartridge type. A new filter should be installed every 2500 hours of operation or twice a year (whichever comes first), and any time the hydraulic fluid is changed. This may vary depending on general cleanliness of the area in which the unit is installed, operating temperatures and care taken during replacement of hydraulic oil. The hydraulic fluid should be changed once a year or anytime it has been contaminated (see Lubrication Chart, page 5-3, for hydraulic fluid type).

The oil filter is located under the filler cap. It has a handle on the top for easy removal from the bowl and a helical spring to secure the element in it's location

Cleaning Comb Replacement

The tools required for performing a comb replacement are the following:

rubber mallet
5 mm allen wrench
small phillips screwdriver
thread locking fluid

NOTE: **There are six different combs used on ROMAG Screens. Consult the section below to identify which comb(s) to be replaced.**

The first step in the replacement process is to shut off and lock out the machinery. Consult your Safety Standard Operating Procedures and the Safety section of this IOM for guidelines on locking out the equipment before doing any work on the equipment. The next step is to identify which set of combs need replacing. After identifying the comb set, remove the two hex head cap screws securing the set to the comb support frame. Using the mallet, push the comb across the screen face until it is free of the comb support. When the half-moon, plastic locking pin is exposed push it down and out of the comb using the screwdriver. (These pins are only used for combs that are in the middle of the screen, that is if there are three or more sets of combs.) Use the mallet to push the comb through the screen until it can be removed by hand. Orient the new comb until its profile matches the other sets and insert its combs into the screen. It is necessary to make sure that each screen bar has a comb separating it from the next screen bar. When the comb is properly aligned and pushed into its required depth insert the half-moon locking pin and tap it flush. Tap the comb until the mounting holes are aligned with the holes in the support. If the tapped holes in the brass mounting rods have rotated, use the tip of the screwdriver to gently realign the hole. Place some thread locking fluid in the holes and insert the mounting screws. Do not over tighten the screw as it will damage the brass threads. If more than one set of combs needs to be replaced, it is recommended that adjacent sets are replaced one at a time.

Comb Identification

- Brass Combs on the down stream end of unit, there are two types:
  Solid - 13 tines and 12 tines

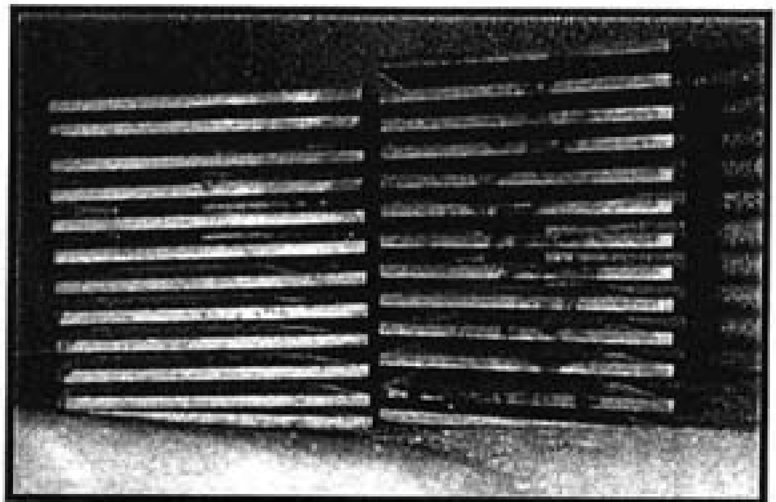
- Plastic Combs on the up stream end of unit, there are two types:
  Solid - 13 tines and 12 tines

- Plastic Combs in the middle of the unit (if applicable), there are two types:
  Hole w/half moon pin - 13 tines and 12 tines

Looking at the screen from the discharge side, if the screen pushes left, the top combs in each row will be 13 tines tall and the rest of the combs in that row will be 12 tines tall.

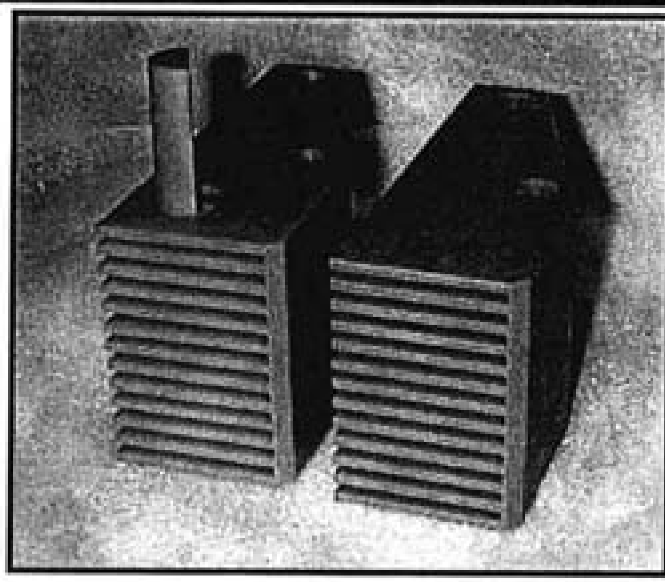
Looking at the screen from the discharge side, if the screen pushes right, the bottom combs in each row will be 13 tines tall and the rest of the combs in that row will be 12 tines tall.

There are 6 different kinds of cleaning combs so be sure to know which type is needed before you begin this operation.



- Brass combs are only used at the end of the ROMAG Screen. The combs either have 12 or 13 tines.

- Green plastic combs also come in 12 or 13 tines.

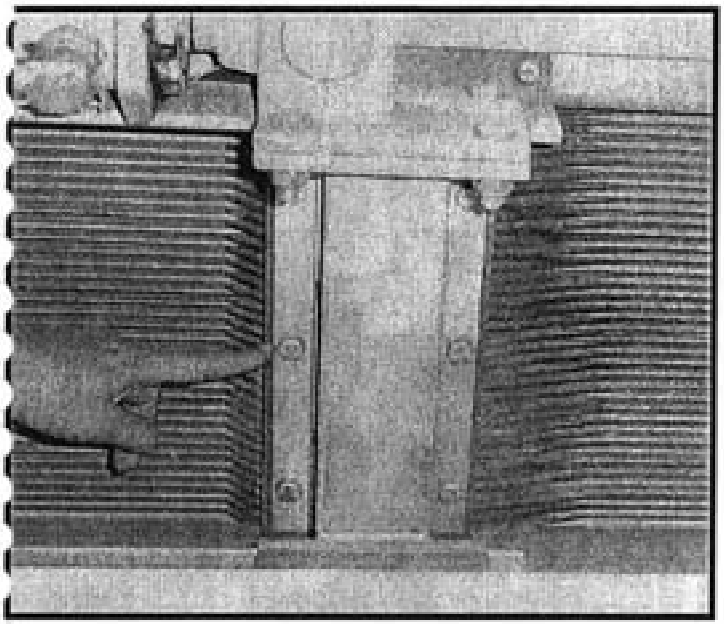


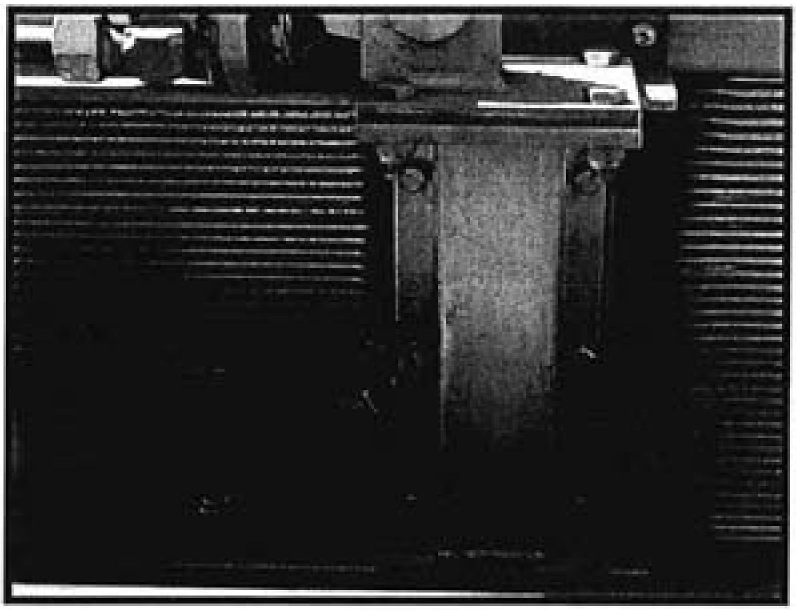
- Green plastic with half circle (moon) pins, also in 12 or 13 tines. The combs with pins are only used in the middle section of the screen as the pins will interfere with the debris take off fins at the end of the screen bars. This photo shows one of each type of comb.

To replace any green comb:

- Shut off and lock out the screen.

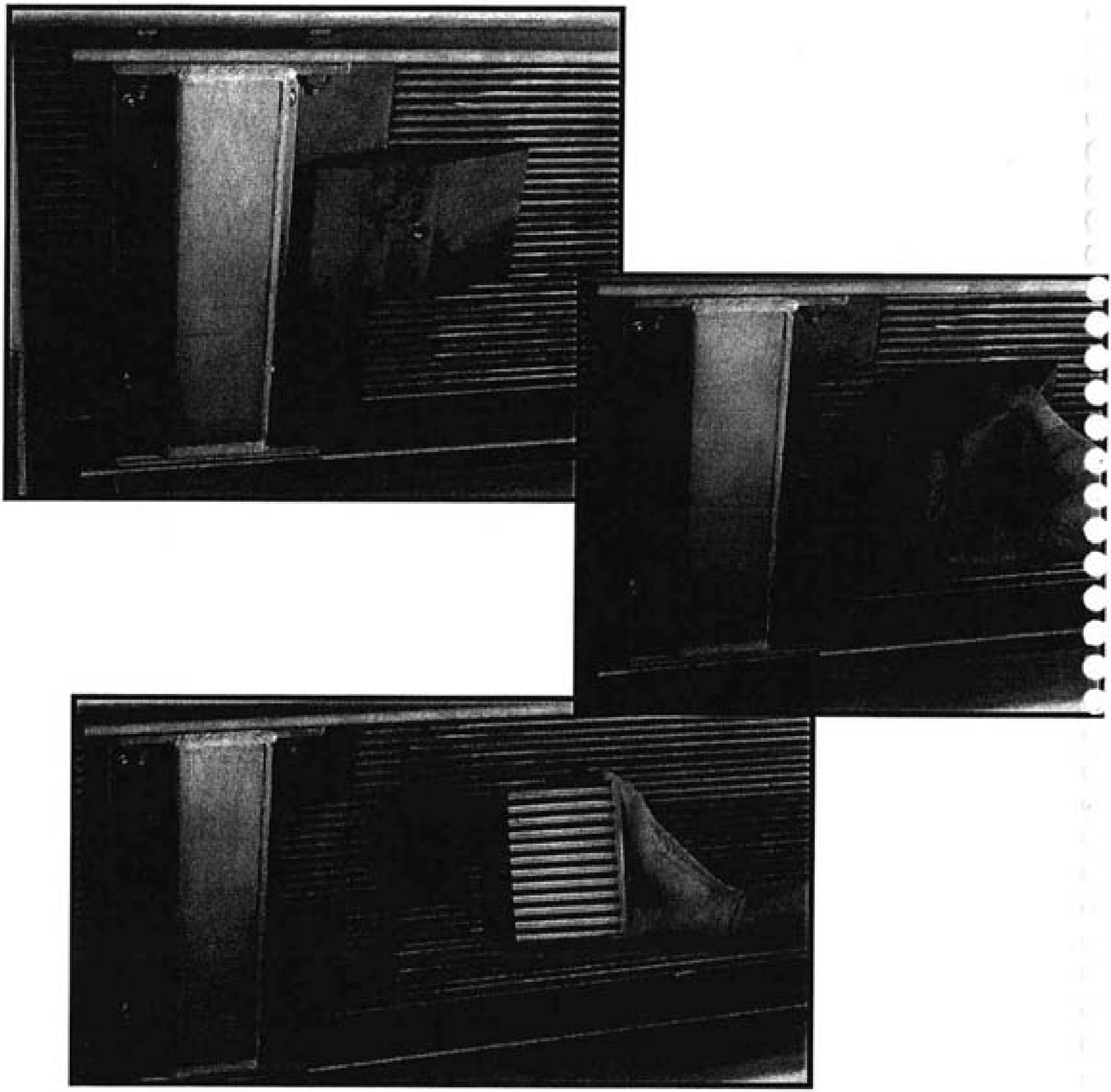
- Remove the 2 hex head cap screws securing the comb to the moving carriage. This is done from the back or rear of the screen.



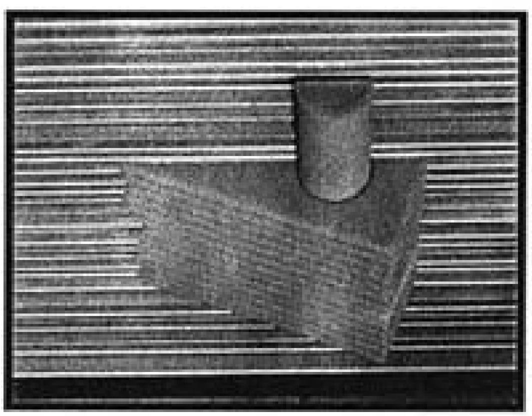


- Use a rubber mallet and gently tap the comb to be replaced forward or backward ALONG the bars until it clears the support frame.

Slide the comb along the bars until it is free of the frame and remove it.



- If the screen has a locking pin, place a screwdriver on the top of the pin and with the rubber mallet, gently knock the pin down and out to free the comb. Then slide the comb out of the bars.

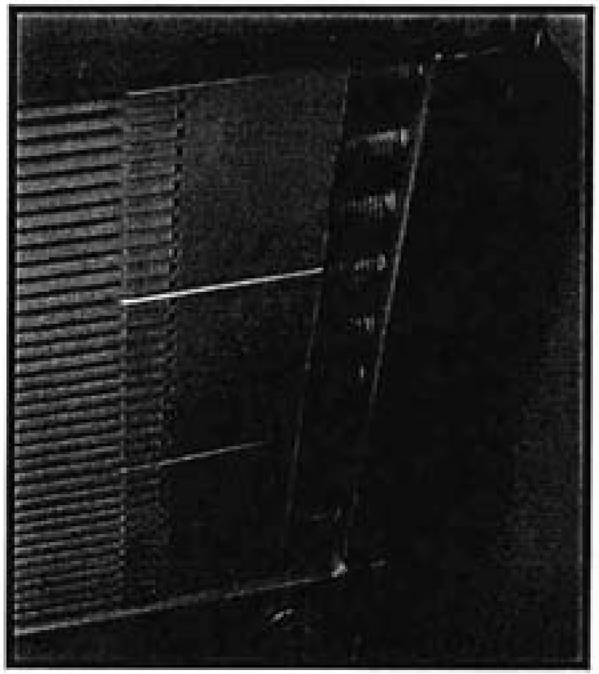


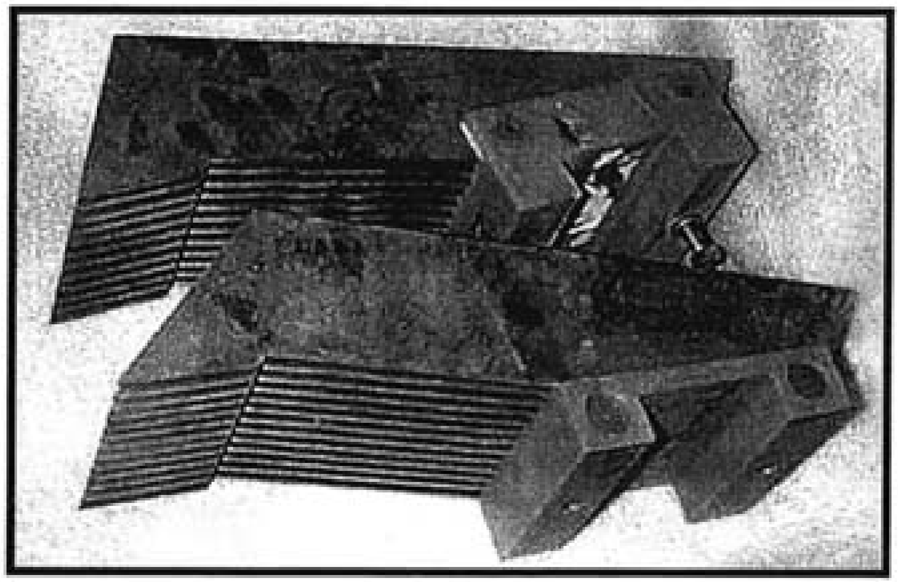
- Replace the comb with the one needing replacement and follow directions in reverse. Do not over tighten hex head screw.

To replace any BRONZE comb:

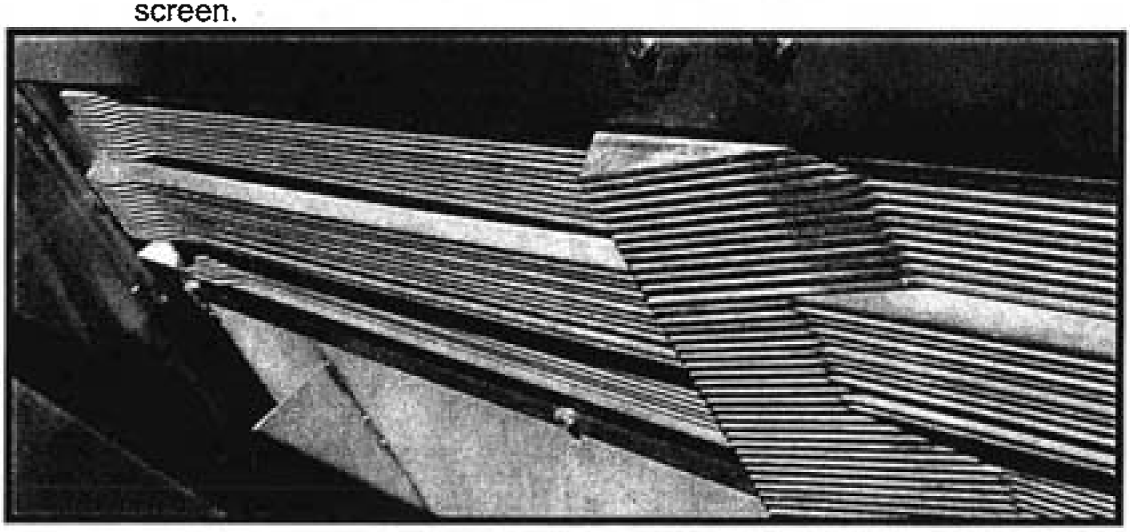
- Shut off and lock out the screen..

- The Bronze combs recess about 1/2" around the cleaning carriage frame so it is necessary to loosed one module section of bars and push that section away from the rest of the bars. First loosen the tensioning end of the bars, shown on the left below.

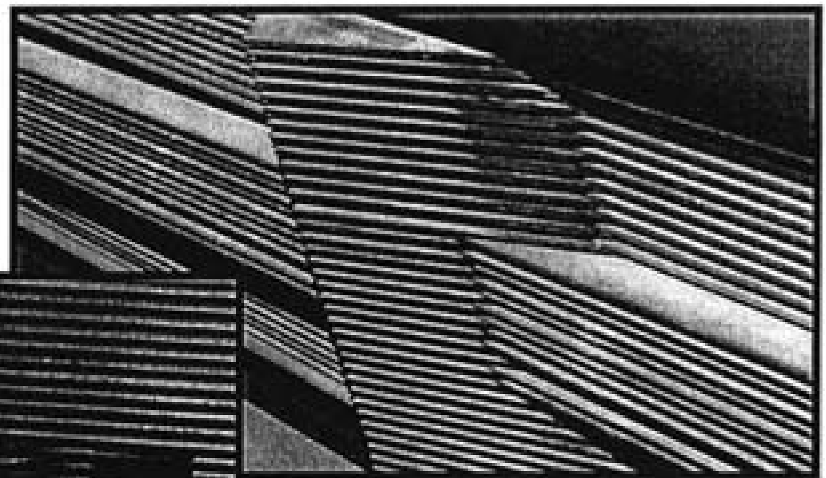


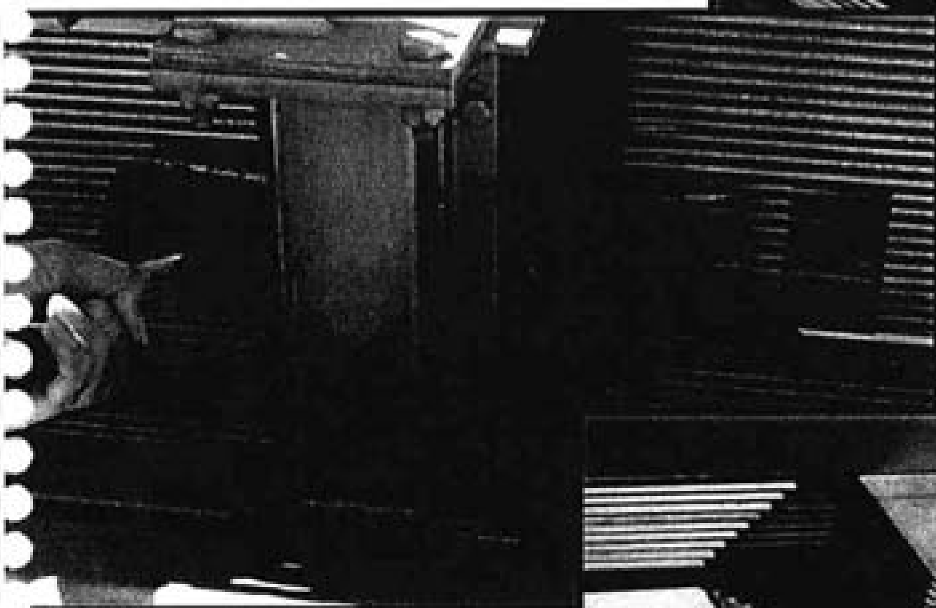


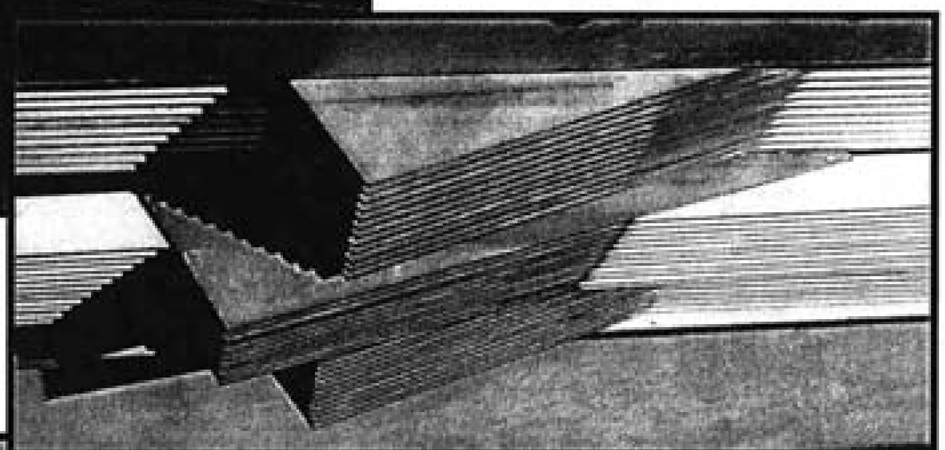
- Loosen the tensioning bolts as above and then push out the bars as shown below. Depending on where on the screen you are replacing a comb you may have to undo the bolts holding the bars to the frame on at the other end of the screen.

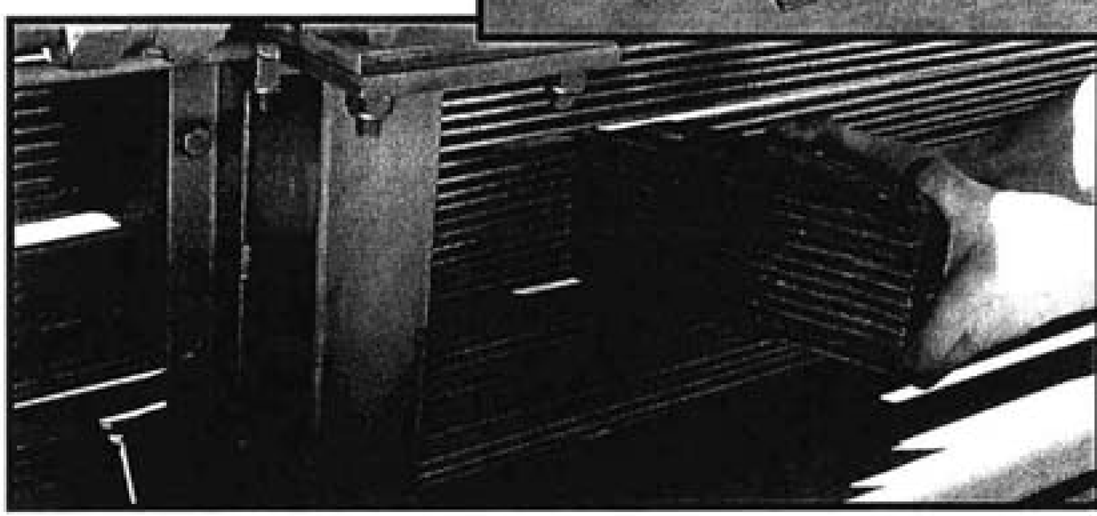


Pushing out the bar section ½ to 1.0" gives you room to slide the bronze comb over the frame. Tapping the comb with a rubber mallet will move the comb along the bars until it can be removed. A simple lubricant like WD40 can help.

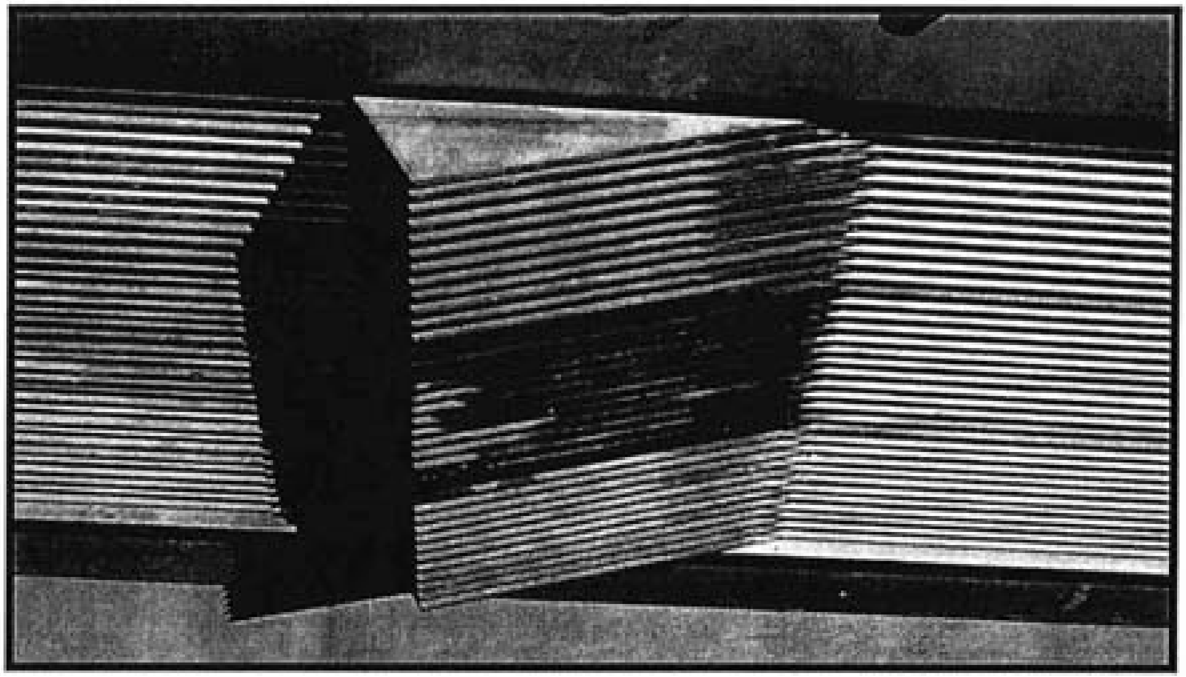








Slide out the comb to be replaced and insert a new comb by following the steps in reverse. Do not over tighten bolts.



When finished the combs should align with the other combs on the screen. Replace the bar module sections and retention the tension bolts per the IOM to 34.5 Newton meters

Unit Cleaning

When the ROMAG unit is to be shut down for an extended length of time, the carriage assembly and bar racks should be hosed down thoroughly. If this is not done, the solids could dry out and set up, making removal somewhat difficult.

⚠ DANGER ⚠

- **WHEN INSTALLING OR MAINTAINING THE ROMAG UNIT OR ASSOCIATED HARDWARE, BE SURE THAT ANY LIFTING EQUIPMENT IS OF SUFFICIENT CAPACITY BEFORE LIFTING OR MOVING THE ROMAG UNIT OR ASSOCIATED HARDWARE.**

- **MAKE SURE ANY ELECTRICAL CONNECTIONS ARE DONE BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS.**

- DO NOT OPERATE A DAMAGED OR MALFUNCTIONING MECHANISM UNTIL NECESSARY ADJUSTMENTS OR REPAIRS HAVE BEEN MADE.

- OVERLOAD AND/OR SAFETY SWITCHES ARE EMERGENCY DEVICES. DO NOT USE THE OVERLOAD OR SAFETY SWITCHES TO STOP THE MECHANISM DURING NORMAL OPERATION.

- CONTACT WITH OR EXPOSURE TO MATERIAL PROCESSED OR LUBRICANTS AND OTHER FLUIDS MAY CAUSE INFECTION OR ADVERSE REACTIONS. REPORT ANY CUTS, INJURIES OR EXPOSURE TO YOUR SUPERVISOR IMMEDIATELY AND SEEK APPROPRIATE MEDICAL ATTENTION.

- THIS PRODUCT HAS BEEN SUPPLIED WITH WARNING LABELS, SHOULD THEY BECOME DAMAGED, REMOVED OR ILLEGIBLE, PLEASE CONTACT PARKSON CORPORATION FOR NO-COST REPLACEMENT LABELS.

- WARNING LABEL PART NUMBERS FOR THIS PRODUCT IS 3824-041.

CALL TOLL FREE: 1-800-249-2140 OR
FAX: (847) 837-4996
PARKSON CORPORATION
HYCOR® CORPORATION
ATTENTION: PARTS DEPARTMENT
562 BUNKER COURT
VERNON HILLS, IL 60061-1831

SECTION SEVEN

Hycor® ROMAG RMG-W Unit
TROUBLE-SHOOTING GUIDE

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

PROBLEM	PROBABLE CAUSE	REMEDY
NON-CYCLING CLEANING CARRIAGE	Screen jammed.	Clear obstruction.
	Extremely cold temperature.	Add oil heater to hydraulic reservoir.
	Motor heater overload.	Investigate/repair fault conditions
		Check fuse or circuit breakers.
	Low oil level.	Replace hydraulic oil as required.
CLOGGED ORIFICE (Directional valve)	Dirty or unfiltered oil.	Clean orifice and change oil. (Always replace oil filter when changing oil - refer to Section Six for instructions.)
LEAKING HYDRAULIC FLUID	Cracked hoses or loose fittings.	Replace hoses and tighten fittings. NOTE: If seepage persists, replace hydraulic fittings.
HIGH OIL TEMPERATURE	Screen Jammed	Clear Obstruction
	Relief Pressure too low	Increase pressure on main relief valve (2250 psi max)

⚠ DANGER ⚠

MOTOR

Since any number of reasons could be responsible for the failure, the following guide lists usual conditions that can lead to difficulties with a motor. Should there be any indication of a premature failure, care must be taken to make certain that:

1. The original motor selection was the proper one.

2. The motor was installed correctly, particularly the electrical connections.

3. The power supply was correct.

4. The motor was of the proper size (speed and horsepower) to do the job.

Verify the above conditions have been completed. Use of the following guide in pinpointing the difficulty will lead to long service life and complete satisfaction.

PROBLEM	PROBABLE CAUSE	REMEDY
MOTOR FAILS TO START	Blown Fuses.	Replace fuses. Should be at least 125% of nameplate amperes.
	Overload Trips.	Check and reset overload in starter.
	Improper power supply.	Check to see that power supplied agrees with motor nameplate and load factor.
	Improper line connections.	Check connections with diagram supplied with motor.
	Open circuit in winding.	Indicated by humming sound when starter is closed. Check for loose wiring connections.
	Mechanical failure.	Check to see if motor and drive turn freely. Check bearings and lubrication.
	Short circuited stator.	Indicated by blown fuses, tripped circuit breakers or heaters. Motor must be rewound.
	If 3 phase, one phase may be open.	Check lines for open phase.
	Low motor voltage.	See that nameplate voltage is maintained. Check connection.

PROBLEM	PROBABLE CAUSE	REMEDY
MOTOR RUNS AND THEN STOPS	Power failure.	Check for loose connections to line, to fuses and to control
MOTOR DOES NOT COME UP TO SPEED	Voltage too low at motor terminals because of line drop.	Verify proper electrical wire size for power draw.
	Open primary circuit.	Locate fault with testing device and repair.
MOTOR TAKES TOO LONG TO ACCELERATE	Poor circuit.	Check for high resistance.
	Applied voltage too low.	Get power company to increase power tap.
WRONG ROTATION	Wrong sequence of phases.	Reverse connections at motor or at switchboard.
MOTOR OVERHEATS WHILE RUNNING UNDER LOAD	Frame or bracket vents may be clogged with dirt and prevent proper ventilation of motor.	Open vent holes and check for a continuous stream of air from the motor.
	Motor may have one phase open.	Check for voltage and make sure that all leads are well connected.
	Unbalanced terminal voltage.	Check for faulty leads, connections and transformers.
	Shorted stator.	Rewind or replace stator.

TROUBLE-SHOOTING GUIDE (cont'd.)

PROBLEM	PROBABLE CAUSE	REMEDY
MOTOR OVERHEATS WHILE RUNNING UNDER LOAD (cont'd.)	Faulty connection.	Indicated by high resistance.
	High voltage. Exceeds +10% of nameplate volts.	Check terminals of motor with a voltmeter.
	Low voltage. Exceeds -10% of nameplate volts.	Check terminals of motor with a voltmeter.
	Rotor rubs stator bore.	If not poor machining on brackets, replace worn bearings.
MOTOR VIBRATES AFTER CONNECTIONS HAVE BEEN MADE	Motor misaligned.	Realign.
	Weak support.	Strengthen base.
	Coupling out of balance.	Balance coupling.
	Defective bearing.	Replace bearing.
	Bearings not in line.	Line up properly.
	Excessive end play.	Adjust bearing or add washer.
UNBALANCED LINE CURRENT ON POLYPHASE MOTORS DURING NORMAL OPERATION	Unequal terminal volts.	Check leads and connections.
SCRAPING NOISE	Fan rubbing.	Remove interference.

TROUBLE-SHOOTING GUIDE (cont'd.)

PROBLEM	PROBABLE CAUSE	REMEDY
NOISY OPERATIONS	Air gap not uniform.	Check and correct bracket or bearing.
	Rotor unbalance.	Rebalance.
HOT BEARINGS GENERAL	Insufficient grease.	Maintain proper quantity of grease in bearing.
	Deterioration of grease or lubricant contaminated.	Remove old grease, wash bearings thoroughly in kerosene and replace with new grease.
	Excess lubricant.	Reduce quantity of grease, bearing should not be more than 1/2 filled.
	Overloaded bearing.	Check alignment, side & end thrust.
	Badly worn bearing.	Replace bearing.
	Broken ball or rough races.	Replace bearing, first clean housing thoroughly.
	Bent or sprung shaft.	Straighten or replace shaft.
	Misalignment.	Correct by alignment of drive.

SECTION EIGHT

Hycor® ROMAG RMG-W Unit
REPLACEMENT PARTS

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

THIS PRODUCT HAS BEEN SUPPLIED WITH WARNING LABELS, SHOULD THEY BECOME DAMAGED, REMOVED OR ILLEGIBLE, PLEASE CONTACT PARKSON CORPORATION, FOR NO-COST REPLACEMENT LABELS.

Replacement parts can be ordered either through your Hycor Products Representative or by contacting the Hycor Products Parts Coordinator toll free at **1-800-249-2140.**

Please have the unit's project number, serial number and model number as shown on the front cover, available. This will ensure the accuracy of the part identification.

Replacement Parts List

Hycor® ROMAG Unit
Model RMG-W

NOTE: **Please give the project number (580112), and serial numbers (58011202 and 58011203) and model number (RMG0908W) when ordering replacement parts. This will ensure accurate part identification.**

Description	Qty. Per Unit	Part No.
Motor, 5 HP, 230/460, 3 Ph, 60 Hz	1	3075-333
Level / Temp Switch	1	3654-008XP
Oil Level Indicator	1	3466-007
Hydraulic Hose	4	3442-062
Directional Control Valve	1	3443-005
Pressure Gauge	1	3444-022
Oil Filter	1	3468-022
Hydraulic Cylinder Packing Set	1 set	Consult Parkson
Hydraulic Cylinder Link Bearing	2	Consult Parkson
Hydraulic Cylinder	1	3451-018
Gear Pump	1	3469-011
Suction Filter	1	3448-008
Shaft-Coupling	1	3452-013
Main Relief Valve	1	3757-008
Plastic Cleaning Comb (12 tines)	16	3487-003
Plastic Cleaning Comb (13 tines)	2	3487-005
Bronze Cleaning Comb (12 tines)	8	3487-004
Bronze Cleaning Comb (13 tines)	1	3487-006
Plastic Cleaning Comb (w/hole -12 tines)	8	3487-007
Plastic Cleaning Comb (w/hole -13 tines)	1	3487-008

SECTION NINE

Hycor® ROMAG RMG-W Unit
COMPONENT DATA

⚠ DANGER ⚠

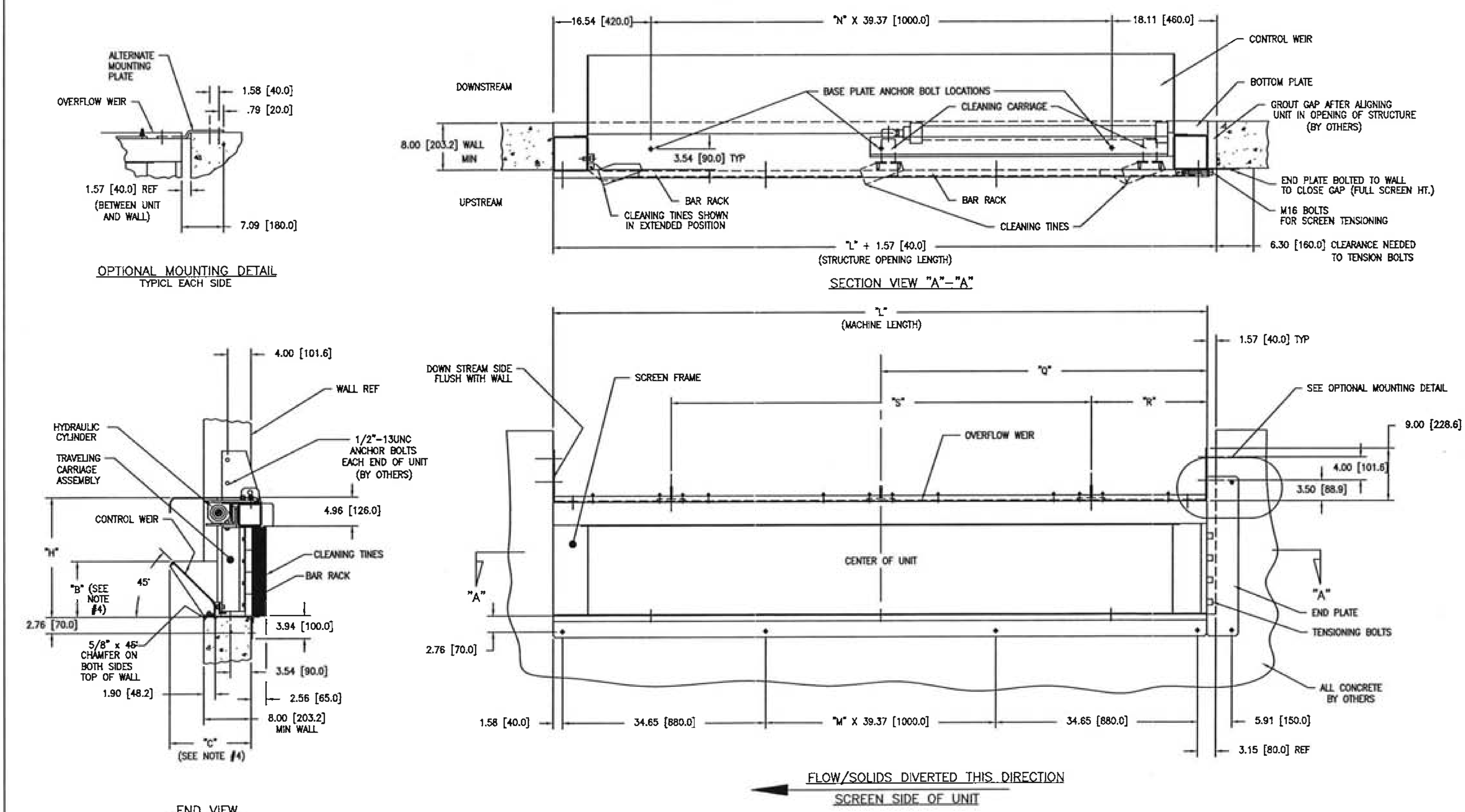
REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.

SECTION TEN

Hycor® ROMAG RMG-W Unit
DRAWINGS

⚠ DANGER ⚠

REVIEW ALL SAFETY PRACTICES LISTED IN SECTION ONE BEFORE PROCEEDING.



PARKSON CORPORATION

___ Preliminary   X Information Only
___ For Approval   ___ Dimensions Certified

This drawing is limited to functional design, general arrangement and clearance. No responsibility is accepted by PARKSON CORPORATION for other dimensions, quantities, or coordination with other equipment or drawings except as stated in the purchase order.

By ________ Date ________

REV	DESCRIPTION	DATE

REFERENCE INFORMATION
REV DATE: 06/28/01

PROJECT NAME

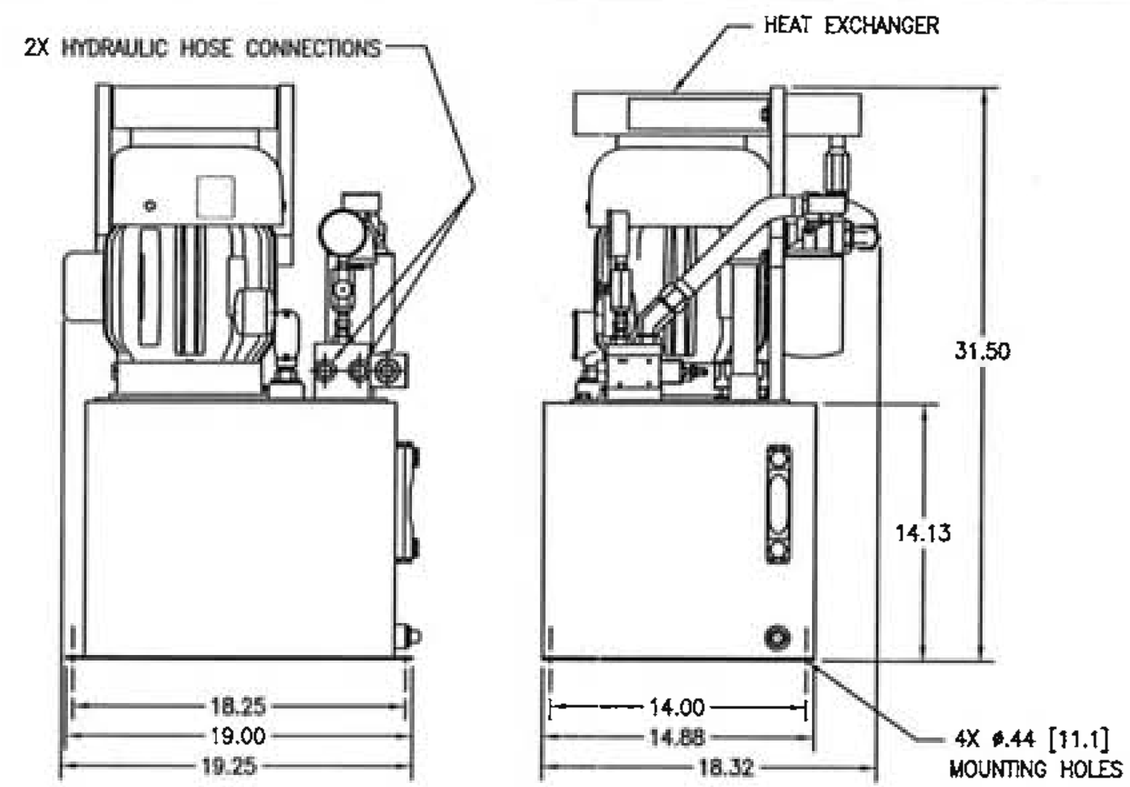
DRAWN BY	DATE
EBC	06/28/01
CHECKED BY	DATE
WWW	06/28/01
SCALE	
1/16" = 1"	

TITLE
RMG____ W
HYCOR® ROMAG® SCREEN UNIT
ELEVATIONS

DRAWING NO
REV
SHEET 1 OF 3

NOTE:

1. ALL 304L STAINLESS STEEL CONSTRUCTION EXCEPT FOR HYDRAULIC POWER UNIT, CLEANING TINES, AND SLIDE BLOCKS ON CARRIAGE ASSEMBLY.
2. HYDRAULIC POWER UNIT (ELECTRICAL CONTROLS NOT INCLUDED):
   A. MOTOR: 5 HP [3.75 kW], 1800 RPM, 230/460/3/60, "DIRTY DUTY".
   B. OIL RESERVOIR: 10 GALLONS.
3. ANCHORAGE AND DESIGN OF BRACING IS SITE SPECIFIC, CONSULT FACTORY FOR SITE SPECIFIC REQUIREMENTS.
   SCREENS WITH LENGTHS 2–5 HAVE (1) ONE BRACING POINT.
   SCREENS WITH LENGTHS 6–8 HAVE (2) TWO BRACING POINTS.
4. DIMENSIONS "B" AND "C" VARY WITH FLOW––CONTACT FACTORY FOR APPLICATION SPECIFIC DIMENSIONS.
5. WEIGHT: (SEE TABLE)
6. DIMENSIONS ARE GIVEN IN INCHES [MILLIMETERS], (FEET WHERE SHOWN).
7. ___ UNIT(S) TO BE SUPPLIED.
8. ___ MGD PEAK CSO FLOW.
9. FOR PROPER INSTALLATION, CONCRETE MUST BE LEVEL, FLAT, AND PERPENDICULAR IN ALL DIMENSIONS.
10. AN E–STOP IS PROVIDED TO BE MOUNTED BY CONTRACTOR AT AGREED UPON LOCATION.
11. IF MULTIPLE SCREENS ARE PLACED ON A COMMON WALL, THEY SHOULD BE SEPARATED BY A MINIMUM OF 1'–0". CONSULT FACTORY FOR SCREENINGS SUMP BAFFLE.
12. THE HYDRAULIC POWER PACK SHOULD IDEALLY BE MOUNTED INDOORS AND BE PROTECTED FROM FREEZING AND THE OUTDOOR ELEMENTS.



HYDRAULIC POWER UNIT
WEIGHT: 225 LBS

WEIGHT LBS [KG] (WITHOUT POWER PACK)							
NUMBER OF MODULES	LENGTH						
	2	3	4	5	6	7	8
2	673 [305]	717 [325]	1125 [510]	1301 [590]	1544 [700]	1731 [785]	1863 [845]
3	761 [345]	1036 [470]	1257 [570]	1455 [660]	1709 [775]	1918 [870]	2117 [960]
4	838 [380]	1147 [520]	1389 [630]	1610 [730]	1885 [855]	2106 [955]	2315 [1050]
5	926 [420]	1257 [570]	1510 [685]	1753 [975]	2051 [930]	2293 [1040]	2525 [1145]
6	1014 [460]	1356 [615]	1643 [745]	1852 [840]	2216 [1005]	2492 [1130]	2734 [1240]
7	1091 [495]	1466 [665]	1775 [805]	2051 [930]	2381 [1080]	2668 [1210]	2944 [1335]
8	1180 [535]	1577 [715]	1896 [860]	2194 [995]	2558 [1160]	3043 [1380]	3142 [1425]
9	1268 [575]	1687 [765]	2018 [915]	2337 [1060]	2734 [1240]	3043 [1380]	3341 [1515]
10	1356 [615]	1797 [815]	2139 [970]	2481 [1125]	2911 [1320]	3219 [1460]	3550 [1610]
11	1444 [655]	1907 [865]	2260 [1025]	2624 [1190]	3087 [1400]	3396 [1540]	3760 [1705]
12	1532 [695]	2018 [915]	2381 [1080]	2767 [1255]	3263 [1480]	3572 [1620]	3969 [1800]

NUMBER OF MODULES	H	SCREEN LENGTH DESIGNATION	MACHINE LENGTH L	STRUCTURE OPENING LENGTH L + 1.57 [40.0]	M	N	Q	R	S
2	13.03 [331.0]	2	111.81 [2840.0] (9.32')	113.38 [2880.0] (9.45')	1 X 39.37 [1000.0]	2 X 39.37 [1000.0]	55.91 [1420]	–	–
3	16.81 [427.0]	3	151.18 [3840.0] (12.60')	152.75 [3880.0] (12.73')	2 X 39.37 [1000.0]	3 X 39.37 [1000.0]	75.59 [1920]	–	–
4	20.59 [523.0]	4	190.55 [4840.0] (15.88')	192.12 [4880.0] (16.01')	3 X 39.37 [1000.0]	4 X 39.37 [1000.0]	95.28 [2420]	–	–
5	24.37 [619.0]	5	229.92 [5840.0] (19.08')	231.49 [5880.0] (19.29')	4 X 39.37 [1000.0]	5 X 39.37 [1000.0]	114.96 [2920]	–	–
6	28.15 [715.0]	6	269.29 [6840.0] (22.44')	270.87 [6880.0] (22.57')	5 X 39.37 [1000.0]	6 X 39.37 [1000.0]		95.28 [2420]	78.74 [2000]
7	31.93 [811.0]	7	308.66 [7840.0] (25.72')	310.23 [7880.0] (25.85')	6 X 39.37 [1000.0]	7 X 39.37 [1000.0]		114.96 [2920]	78.74 [2000]
8	35.71 [907.0]	8	348.03 [8840.0] (29.00')	349.60 [8880.0] (29.13')	7 X 39.37 [1000.0]	8 X 39.37 [1000.0]		114.96 [2920]	118.11 [3000]
9	39.60 [1006]								
10	43.38 [1102]								
11	47.16 [1198]								
12	50.94 [1294]								

ROMAG SCREEN MODEL NUMBER: RMG__________

BAR SPACING OF 4mm
SCREEN LENGTH DESIGNATIONS (FROM TABLE)
NUMBER OF MODULES (FROM TABLE)

PARKSON CORPORATION

___ Preliminary X Information Only
___ For Approval ___ Dimensions Certified

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By __________ Date __________

REV	DESCRIPTION	DATE	REFERENCE INFORMATION	PROJECT NAME
			REV DATE: 06/28/01	

DRAWN BY	DATE	CHECKED BY	DATE	SCALE
EBC	06/28/01	WWW	06/28/01	3/32" = 1"

TITLE
RMG_____ W
HYCOR® ROMAG® SCREEN UNIT
DIMENSIONAL DATA & HYDRAULIC UNIT

DRAWING NO
REV
SHEET 2 OF 3

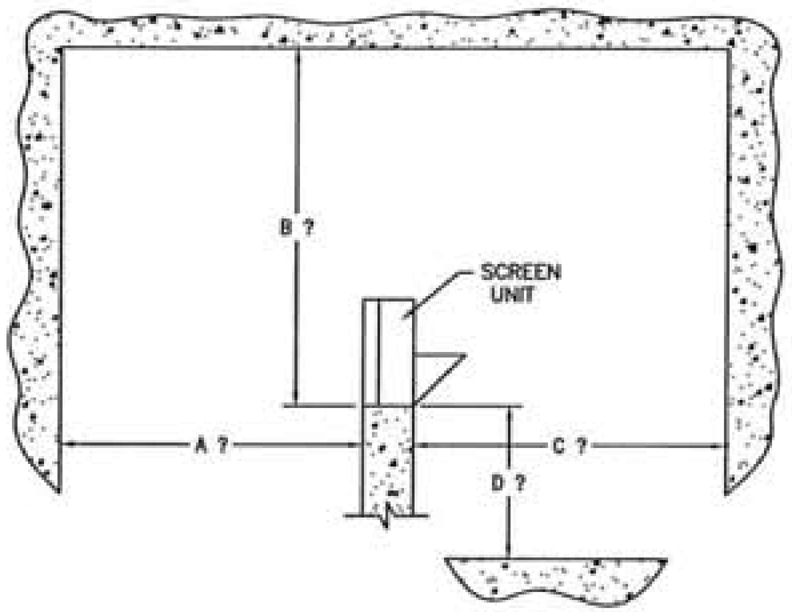
ROMAG SCREEN MODEL RMG ANCHOR BOLTS

	SCREEN LENGTH (METERS)						
	2	3	4	5	6	7	8
MODULES 2–12	13	15	17	19	21	23	25

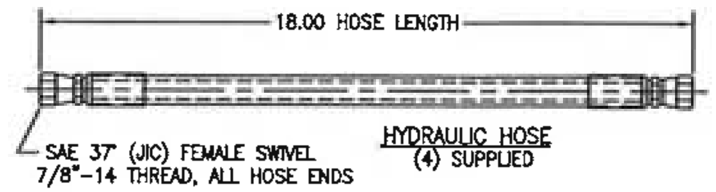
– DOES NOT INCLUDE ANCHORS FOR BRACING
– PRE DRILLED HOLES ARE 1/2" DIAMETER

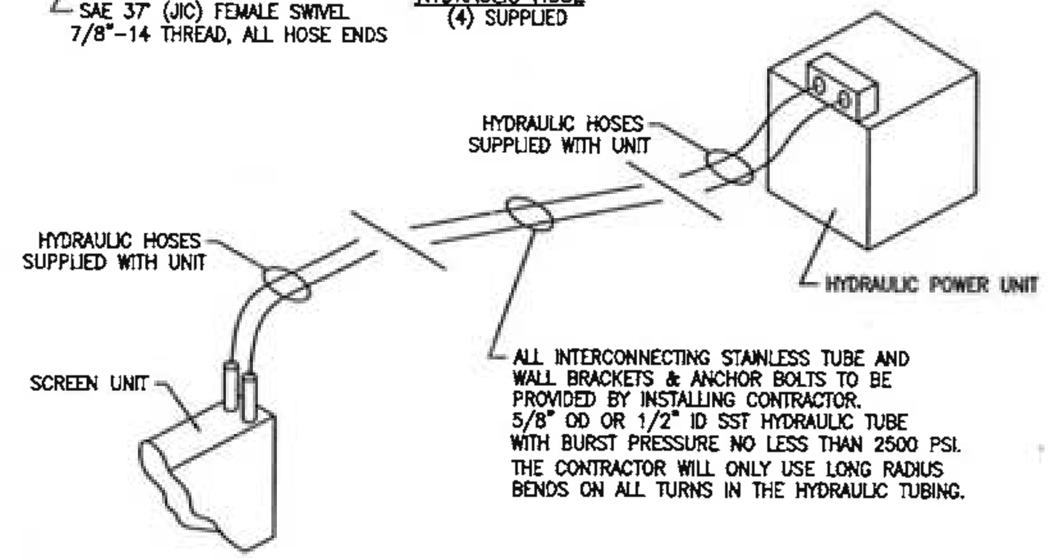
NOTE:

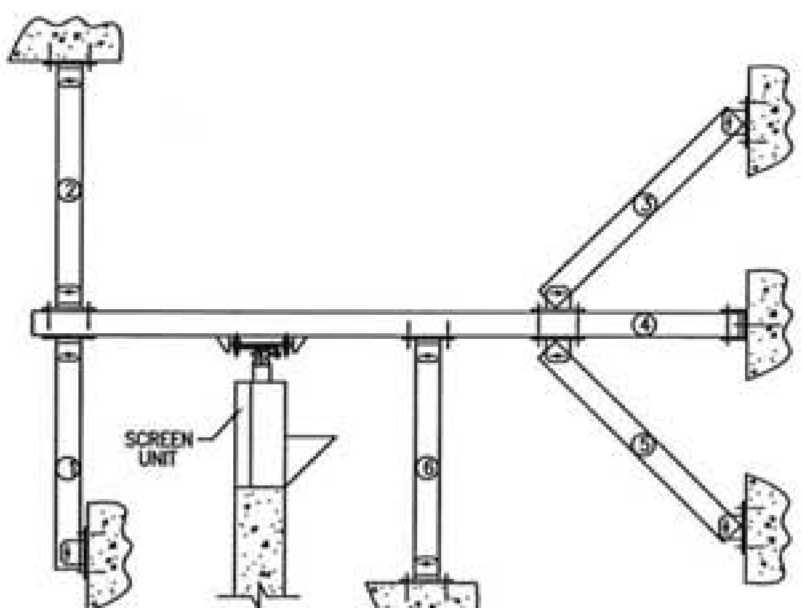
1. THE BRACING OF THE ROMAG SCREEN MODEL RSW IS DEPENDENT ON THE CHAMBER OR SITE. IT IS IMPORTANT TO BRACE THE SCREEN HORIZONTALLY AND VERTICALLY.
2. THE BRACING OPTIONS SHOWN FAR LEFT BOTTOM SHOW MANY VARIOUS BRACING CONFIGURATIONS.
3. ALL MATERIALS ARE MADE FROM 304 SST, 7 GA. SQUARE TUBING. ONCE THE DIMENSIONS TO NEAREST WALLS ARE KNOWN, WE CAN RECOMMEND A SUITABLE BRACING DESIGN.



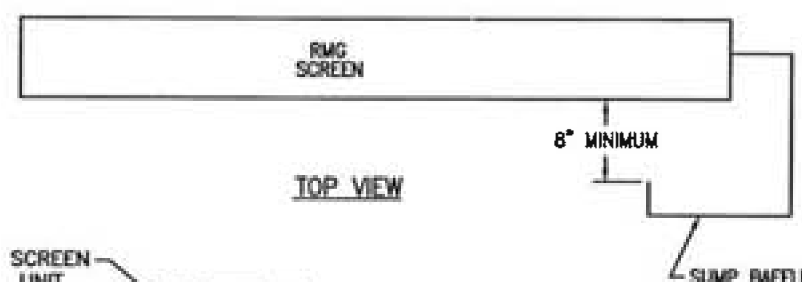
DIMENSIONS REQUIRED TO DETERMINE BRACING



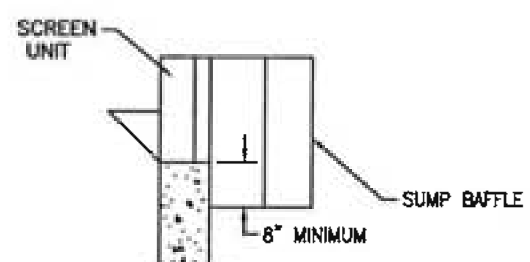




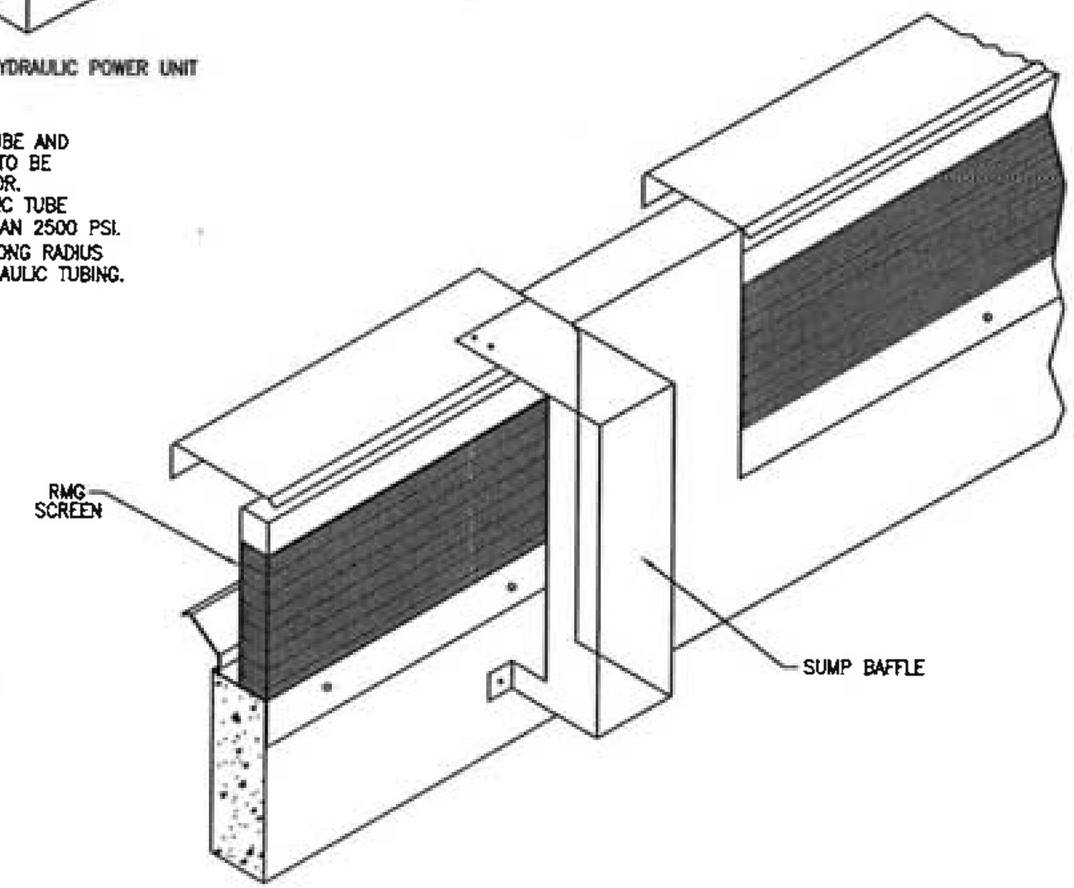
BRACING OPTIONS



TOP VIEW



END VIEW



SUMP BAFFLE DETAIL

FOR MULTIPLE SCREENS ON A COMMON WALL, A SCREENINGS SUMP BAFFLE IS RECOMMENDED AS SHOWN ABOVE. THIS CAN BE MADE OF STAINLESS STEEL OR CONCRETE.

PARKSON CORPORATION

___ Preliminary   X Information Only
___ For Approval   ___ Dimensions Certified

This drawing is limited to functional design, general arrangement and clearance. No responsibility is accepted by PARKSON CORPORATION for other dimensions, quantities, or coordination with other equipment or drawings except as stated in the purchase order.

By ________ Date ________

REV	DESCRIPTION	DATE

REFERENCE INFORMATION
REV DATE: 06/28/01

PROJECT NAME

DRAWN BY	DATE
EBC	06/28/01
CHECKED BY	DATE
WWW	06/28/01
SCALE	
NONE	

TITLE
RMG____ W
HYCOR® ROMAG® SCREEN UNIT
ROMAG MISCELLANEOUS DETAILS

DRAWING NO
REV
SHEET 3 OF 3

Appendix D

Cost Estimate Documentation

Cost Estimate Summary of Technologies at Each Site

CH2MHILL

Estimator:	Wm. Griffith / MKE
Project Mgr:	Webster, Todd/MKE
Project #:	316657
Estimate #:	Conceptual / Alternatives
Rev. #:	# 4
Est. Date:	11/29/2004

Order-of-Magnitude Estimate

		/	$849,000 High Value +50 %
Combined	**Engineer's Estimate**	**$566,000.00**	
		\	$396,200 Low Value - 30%

Facility			Alternate Vendor CDS	Equipment Footprint	Alternate Vendor KRUGER[1]	Alternate Vendor GRANDE	Alternate Vendor Fresh Creek Tech	Alternate Vendor Parkson Corp	Comments	Preferred Structural Alternative
Site # 17	Alt #1	Waldron Circle/ Wildwood	$81,000	3.5' x 4.33'	$1,797,223	$125,000	$176,049	$217,922	select smallest unit	$81,000
Site # 17	Alt #2		$273,000	10' x 15'						
Site # 17	Alt #3		$776,000	22' x 45'	43.2' x 15.1'	8.5' x 10'	4' x 16'	12.6'		
Site # 21	Alt #1	Fairfax Avenue/ Foster Park	$85,000	4.25' x 4.33'	$1,878,122	$131,000	$224,497	$231,060	select highest quality screening alternative	
Site # 21	Alt #2		$273,000	10' x 15'						$273,000
Site # 21	Alt #3		$813,000	30' x 50'	44.9' x 16.1'	8' x 8'	7.5' x 17'	12.6'		
Site # 26	Alt #1	Third Street Pump Station	$131,000	3.5' x 17.33'	$4,230,509	$197,624	$395,775	$337,366	select smallest unit	$131,000
Site # 26	Alt #2		$739,000	30' x 18'						
Site # 26	Alt #3		$1,743,000	61' x 70'	52.8' x 20.9'	20' x 10'	13.33' x 19.33	25.7'		
Site # 52	Alt #1	Concordia High School Access	$77,000	7' x 4.33'	$1,423,040	$118,918	$182,175	$180,442	select smallest unit	$77,000
Site # 52	Alt #2		$235,000	10' x 12'						
Site # 52	Alt #3		$560,324	21' x 35'	31.9' x 10.7'	6' x 8'	4's 16'	12.6'		
Subtotal -	**Base Capital Construction Costs**									**$562,000**

Operations & Maintenance Costs

Frequency	CDS - Raked Bar Annual Based on trips	CDS - GSS Annual Based on trips	CDS - FSS Annual Based on trips	Est 3 days	Alternate Vendor KRUGER1 Based per Day Quote	Alternate Vendor GRANDE	Alternate Vendor Fresh Creek Tech One trip replacement / 3 maint	Alternate Vendor Parkson Corp 4 annual Trips, elec, inspect, replace fluids	
Site # 17	$372	$2,630	$4,419	$5,083	annual	$2,086	$4,961	$335	**$372**
Site # 21	$372	$2,630	$4,419	$5,899	annual	$2,086	$4,961	$335	**$2,630**
Site # 26	$372	$2,630	$4,419	$20,140	annual	$2,086	$4,961	$335	**$372**
Site # 52	$372	$2,630	$4,419	$2,127	annual	$2,086	$4,961	$335	**$372**
Subtotal -	**Operations & Maintenance Costs**								**$3,746**

Total CCC & O-M **$566,000**
Rounded (3)

[1] Kruger's ACTIFLO process will likely require additional pre-screening best determined by site-specific analysis; therefore, it is likely that the construction price will increase to include some amount of pre-screening should this alternative move forward in selection.

Order-of-Magnitude Estimate

An order-of-magnitude estimate is made without detailed engineering data. Some examples include:

> An estimate from cost capacity curves
> An estimate using scale-up or scale-down factors
> An approximate ratio estimate, base on technologies

Typically, an order-of-magnitude estimate is prepared *at the end of the schematic design phase* of the design delivery process. It is normally expected that an estimate of this type would be accurate within **plus 50 percent to minus 30 percent of the estimated cost.** The cost estimates shown have been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. The final costs of the project will depend on actual labor and material costs, competitive market conditions, final project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimates presented herein. Because of this, project feasibility and funding needs must be carefully reviewed prior to making specific financial decisions to help ensure proper project evaluation and adequate funding.

Engineer's Estimate

PARKSON ROMAG Screen System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD =	10.0%	10.0%	10.0%	10.0%
PROFIT =	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. =	5.0%	5.0%	5.0%	5.0%
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 3
Estimate Date: 10/02/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
			Cost		Marked-up										
Park Site 17	Option 1	ROMAG RSW 4X3	$150,291		$217,922										
1.		Equipment	1.0	ea	$103,950	$103,950	171	171.0	$31.04	$5,307	$10,395	$10,395	$119,652	Vendor Quote	Lbr/Equi
2.	17 x 12 x 10'd	Excavate @ Equipment Structure	76	cy			0.29	22.0	$31.04	$68[illegible]	$5.85	$44[illegible]	$1,12[illegible]	RSM Bldg-04	P-49
3.		Stucture Base Stone	15	cy	$4.49	$6[illegible]	0.25	3.8	$31.04	$11[illegible]	$1.71	$2[illegible]	$21[illegible]	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	60	cy			0.13	8.0	$31.04	$25[illegible]	$0.23	$1[illegible]	$26[illegible]	RSM Bldg-04	P-53
5.	12' x 8'	12" Slab on Grade	96	sf	$2.89	$27[illegible]	0.03	2.5	$31.04	$7[illegible]	$0.01	$[illegible]	$35[illegible]	RSM HC-2004	P-151
6.		12" Walls, 10' FOOT HIGH	15	cy	$126.00	$1,86[illegible]	5.00	74.1	$31.04	$2,29[illegible]	$18.65	$27[illegible]	$4,44[illegible]	RSM HC-2004	P-151
7.	12' x 8'	12" Concrete Roof	3.6	cy	$159.00	$56[illegible]	5.41	19.2	$31.04	$59[illegible]	$19.35	$6[illegible]	$1,23[illegible]	RSM HC-2004	P-150
8.		Weir Allowance	1	ls	$7,500.00	$7,50[illegible]	80.6	80.6	$31.04	$2,50[illegible]	$150	$15[illegible]	$10,15[illegible]	Est Judgement	
9.	16 lf	12" Sq Beams	2	cy	$233.00	$55[illegible]	12.8	30.4	$31.04	$94[illegible]	$48	$11[illegible]	$1,60[illegible]	RSM HC-2004	P-150
10.	$875	ENR Index Price Adjustment	17.5%			$1,88[illegible]							$1,88[illegible]	Adjustment for Concrete &	
11.		Structure Subtotal			$12,713				$7,467		$1,092			$21,271	
12.		Elec & I&C % of Structure	25%	ls		$3,17[illegible]				[illegible]			$5,04[illegible]	Est Judgement	
13.									$31.04						
14.		Misc. Materials & Consumable	3%	%		$3,59[illegible]		12.8	$31.04	[illegible]		[illegible]	$4,32[illegible]		
ST		ROMAG RSW 4X3			$123,436		423.9		$15,023		$11,831				

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
			Cost		Marked-up										
Park Site 21	Option 1	ROMAG RSW 5X3	$159,352		$231,060										
1.		Equipment	1.0	ea	$112,200	$112,200	185	184.5	$31.04	$5,72[illegible]	$11,220	$11,22[illegible]	$129,14[illegible]	Vendor Quote	Lbr/Equi
2.	17 x 12 x 10'd	Excavate @ Equipment Structure	76	cy			0.29	22.0	$31.04	$68[illegible]	$5.85	$44[illegible]	$1,12[illegible]	RSM Bldg-04	P-49
3.		Stucture Base Stone	15	cy	$4.49	[illegible]	0.25	3.8	$31.04	$11[illegible]	$1.71	$2[illegible]	$21[illegible]	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	60	cy			0.13	8.0	$31.04	$25[illegible]	$0.23	$1[illegible]	$26[illegible]	RSM Bldg-04	P-53
5.	12' x 8'	12" Slab on Grade	96	sf	$2.89	$27[illegible]	0.03	2.5	$31.04	$7[illegible]	$0.01	$[illegible]	$35[illegible]	RSM HC-2004	P-151
6.		12" Walls, 10' FOOT HIGH	15	cy	$126.00	$1,86[illegible]	5.00	74.1	$31.04	$2,29[illegible]	$18.65	$27[illegible]	$4,44[illegible]	RSM HC-2004	P-151
7.	12' x 8'	12" Concrete Roof	3.6	cy	$159.00	$56[illegible]	5.41	19.2	$31.04	$59[illegible]	$19.35	$6[illegible]	$1,23[illegible]	RSM HC-2004	P-150
8.		Weir Allowance	1	ls	$7,500.00	$7,50[illegible]	80.6	80.6	$31.04	$2,50[illegible]	$150	$15[illegible]	$10,15[illegible]	Est Judgement	
9.	16 lf	12" Sq Beams	2	cy	$233.00	$55[illegible]	12.8	30.4	$31.04	$94[illegible]	$48	$11[illegible]	$1,60[illegible]	RSM HC-2004	P-150
10.	$793	ENR Index Price Adjustment	17.5%			$1,88[illegible]							$1,88[illegible]	Adjustment for Concrete &	
10.		Structure Subtotal			$10,833				$6,525		$978			$18,388	
11.		Elec & I&C % of Structure	25%	ls		$2,70[illegible]				$1,63[illegible]			$4,33[illegible]	Est Judgement	
12.									$31.04						
13.		Misc Materials & Consumable	3%	%		$3,82[illegible]		12.8	$31.04	$39[illegible]		[illegible]	$4,59[illegible]		
ST		ROMAG RSW 5X3			$131,449		437.9		$15,222		$12,681				

PARKSON ROMAG Screen System

MARK-UPS:		MAT'L	LABOR	EQUIP.	Indirects
	OVERHEAD =	10.0%	10.0%	10.0%	10.0%
	PROFIT =	5.0%	5.0%	5.0%	5.0%
	MOB/BOND/INS. =	5.0%	5.0%	5.0%	5.0%
	CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 3
Estimate Date : 10/02/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
			Cost		Marked-up										
Park Site 26	Option :	ROMAG RSW 5X7	$232,666		$337,366										
1.		Equipment	1.0	ea	$154,550	[illegible]	[illegible]	254.2	$31.04	$7,89	$15,455	$15,45	$177,89	Vendor Quote	Lbr/Equi
2.	30 x 12 x 10'd	Excavate @ Equipment Structure	133	cy			0.29	38.8	$31.04	$1,204	$5.85	$78	$1,98	RSM Bldg-04	P-49
3.		Stucture Base Stone	27	cy	$4.49	[illegible]	0.25	6.6	$31.04	$20	$1.71	$4	$37	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	107	cy			0.13	14.2	$31.04	$44	$0.23	$2	$46	RSM Bldg-04	P-53
5.	26' x 8'	12" Slab on Grade	96	sf	$2.89	$27	0.03	2.5	$31.04	$7	$0.01	$	$35	RSM HC-2004	P-151
6.		12" Walls, 10' FOOT HIGH	25	cy	$126.00	$3,17	5.03	125.9	$31.04	$3,90	$18.65	$47	$7,55	RSM HC-2004	P-151
7.	26' x 8'	12" Concrete Roof	7.7	cy	$159.00	$1,22	5.41	41.7	$31.04	$1,29	$19.35	$14	$2,66	RSM HC-2004	P-150
8.		Weir Allowance	2	ea	$7,500.00	$15,00	80.6	161.3	$31.04	$5,00	$150	$30	$20,30	Est Judgement	
9.	16 lf	12" Sq Beams	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004	P-150
9.		ENR Index Price Adjustment	17.5%			$3,540							$3,54	Adjustment for Concrete &	
10.		Structure Subtotal			$23,888				$13,073		$1,684			[illegible]	
11.		Elec & I&C % of Structure	25%	ls		$5,97				$3,26			$9,24	Est Judgement	
12.									$31.04						
13.		Misc. Materials & Consumable	3%	%		$5,53		20.3	$31.04	$52		$52	$6,69		
ST		ROMAG RSW 5X7			$189,242		695.8		$24,866		$17,859				

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
			Cost		Marked-up										
Park Site 52	Option 1	ROMAG RSW 2x3	$124,443		$180,442										
1.		Equipment	1.0	ea	$84,700	[illegible]	139	139.3	$31.04	$4,32	$8,470	$8,47	$97,49	Vendor Quote	Lbr/Equi
2.	17 x 12 x 10'd	Excavate @ Equipment Structure	76	cy			0.29	22.0	$31.04	$68	$5.85	$44	$1,12	RSM Bldg-04	P-49
3.		Stucture Base Stone	15	cy	$4.49	[illegible]	0.25	3.8	$31.04	$11	$1.71	$2	$21	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	60	cy			0.13	8.0	$31.04	$25	$0.23	$1	$26	RSM Bldg-04	P-53
5.	12' x 8'	12" Slab on Grade	96	sf	$2.89	$27	0.03	2.5	$31.04	$7	$0.01	$	$35	RSM HC-2004	P-151
6.		12" Walls, 10' FOOT HIGH	15	cy	$126.00	$1,86	5.00	74.1	$31.04	$2,23	$18.65	$27	$4,44	RSM HC-2004	P-151
7.	12' x 8'	12" Concrete Roof	3.6	cy	$159.00	$56	5.41	19.2	$31.04	$59	$19.35	$6	$1,23	RSM HC-2004	P-150
8.		Weir Allowance	1	ls	$5,500.00	$5,50	80.6	80.6	$31.04	$2,50	$150	$15	$8,15	Est Judgement	
9.	16 lf	12" Sq Beams	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004	P-150
9.		ENR Index Price Adjustment	17.5%			$1,53							$1,53	Adjustment for Concrete &	
10.		Structure Subtotal			$10,363				$7,457		$1,092			$10,921	
11.		Elec & I&C % of Structure	25%	ls		[illegible]				$1,86			$4,45	Est Judgement	
12.									$31.04						
13.		Misc. Materials & Consumable	[illegible]	%		[illegible]		11.4	$31.04	$35		[illegible]	[illegible]		
ST		ROMAG RSW 2x3			$130,583		391.3		$14,011		$9,642				

Fresh Creek System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD =	10.0%	10.0%	10.0%	10.0%
PROFIT =	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. =	5.0%	5.0%	5.0%	5.0%
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 2
Estimate Date : 09/30/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RE	
			Cost		Marked-up										
Fresh Creek Site 17		Floatable Collection Systems	$121,413		$176,049										
1.	10' x 20' x 12'd	30" x 30" x 8' x 1/2" Mesh, 19 cfs (qty 1)	1.0	ea	$97,500	[illegible]	273	272.6	$31.04	$8,46	$9,750	$9,75	$115,71	Vendor Quote	Lbr/Eq
2.		Excavate @ Equipment Structure	89	cy			0.29	25.9	$31.04	$80	$5.85	$52	$1,32	RSM Bldg-04	P-49
3.		Stucture Base Stone	15	cy	$4.49	$6	0.25	3.7	$31.04	$11	$1.71	$2	$20	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	74	cy			0.13	9.9	$31.04	$30	$0.23	$1	$32	RSM Bldg-04	P-53
5.	4' x 16'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004	P-15
6.		12" Walls, 10' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004	P-15
7.	4' x 16'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004	P-15
8.	8 lf	12" Sq Beams / Columns		cy	$233.00		12.8		$31.04		$48			RSM HC-2004	P-15
9.	#DIV/0!	ENR Index Price Adjustment	17.5%											justment for Concrete	
10		Structure Subtotal			$67				$1,223		$562			1,852	
11		Elec & I&C % of Structure	25%	ls		$1				$30			$32	st Judgement	
12.									$31.04						
		Misc. Materials & Consumable	3%	%		$2,92		9.4	$31.04	$29		$30	$3,52		
ST		Floatable Collection Systems			$100,511			321.4	$10,281		$10,622				
			Cost		Marked-up										
Fresh Creek Site 21		Floatable Collection Systems	$154,825		$224,497										
1.	12' x 22' x 12'd	30" x 30" x 8' x 1/2" Mesh, 22 cfs (qty 1)	1.0	ea	$124,250	$124,2	347	347.4	$31.04	$10,78	$12,425	$12,42	$147,45	Vendor Quote	Lbr/Eq
2.		Excavate @ Equipment Structure	117	cy			0.29	34.1	$31.04	$1,06	$5.85	$68	$1,74	RSM Bldg-04	P-49
3.		Stucture Base Stone	20	cy	$4.49	[illegible]	0.25	4.9	$31.04	$15	$1.71	$3	$27	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	98	cy			0.13	13.0	$31.04	$40	$0.23	$2	$42	RSM Bldg-04	P-53
5.	7.5' x 17'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004	P-15
6.		12" Walls, 10' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004	P-15
7.	7.5' x 17'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004	P-15
8.	15 lf	12" Sq Beams / Columns		cy	$233.00		12.8		$31.04		$48			RSM HC-2004	P-15
9.	#DIV/0!	ENR Index Price Adjustment	17.5%											justment for Concrete	
10		Structure Subtotal			[illegible]				$1,615		$742			2,445	
11		Elec & I&C % of Structure	25%	ls		$2				[illegible]			$42	Est Judgement	
12.									$31.04						
		Misc. Materials & Consumable	3%	%		$3,73		[illegible]	$31.04	[illegible]		$30	$4,49		
ST		Floatable Collection Systems			$128,091			411.4	$13,173		$13,562				

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Fresh Creek System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD =	10.0%	10.0%	10.0%	10.0%
PROFIT =	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. =	5.0%	5.0%	5.0%	5.0%
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 2
Estimate Date : 09/30/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RE	
			Cost		Marked-up										
Fresh Creek Site 26		Floatable Collection Systems	$272,948		$395,775										
1.		30" x 30" x 8' x 1/2" Mesh, 72 cfs (qty 3)	1.0	ea	$219,350	[illegible]	613	613.3	$31.04	$19,03	$21,935	$21,93	$260,321	Vendor Quote	Lbr/Eq
2.	18' x 24' x 12'd	Excavate @ Equipment Structure	192	cy			0.29	55.9	$31.04	$1,73	$5.85	$1,12	$2,857	RSM Bldg-04	P-49
3.		Stucture Base Stone	32	cy	$4.49	$144	0.25	8.0	$31.04	$247	$1.71	$5	$446	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	160	cy			0.13	21.3	$31.04	$660	$0.23	$3	$697	RSM Bldg-04	P-53
5.	13.33' x 19.33'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004	P-15
6.		12" Walls, 10' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004	P-15
7.	13.33' x 19.33'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004	P-15
8.	26.75 lf	12" Sq Beams / Columns		cy	$233.00		12.8		$31.04		$48			RSM HC-2004	P-15
9.	#DIV/0!	ENR Index Price Adjustment	17.5%											Adjustment for Concrete	
10.		Structure Subtotal			$144				$2,642		$1,215			$4,000	
11.		Elec & I&C % of Structure	25%	ls		$3				$660			$696	Est Judgement	
12.									$31.04						
		Misc. Materials & Consumable	3%	%		$6,58		[illegible]	$31.04	[illegible]		$69	$7,[illegible]		
ST		Floatable Collection Systems			$226,115		719.4		$22,989		$23,844				

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RE	
			Cost		Marked-up										
Fresh Creek Site 12		Floatable Collection Systems	$125,638		$182,175										
1.		30" x 30" x 8' x 1/2" Mesh, 8 cfs (qty 1)	1.0	ea	[illegible]	$98,67	276	275.9	$31.04	$8,56	$9,868	$9,86	$117,10	Vendor Quote	Lbr/Eq
2.	18' x 25' x 12'd	Excavate @ Equipment Structure	200	cy			0.29	58.2	$31.04	$1,80	$5.85	$1,17	$2,97	RSM Bldg-04	P-49
3.		Stucture Base Stone	33	cy	$4.49	$15	0.25	8.3	$31.04	$25	$1.71	$5	$464	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	167	cy			0.13	22.2	$31.04	$68	$0.23	$3	$72	RSM Bldg-04	P-53
5.	4' x 16'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004	P-15
6.		12" Walls, 10' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004	P-15
7.	4' x 16'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004	P-15
8.	8 lf	12" Sq Beams / Columns		cy	$233.00		12.8		$31.04		$48			RSM HC-2004	P-15
9.	#DIV/0!	ENR Index Price Adjustment	17.5%											Adjustment for Concrete	
10.		Structure Subtotal			$150				$2,752		$1,265			$4,157	
11.		Elec & I&C % of Structure	25%	ls		$3				$68			$725	Est Judgement	
12.									$31.04						
		Misc. Materials & Consumable	3%	%		$2,[illegible]		[illegible]	$31.04	[illegible]		$33	$3,[illegible]		
ST		Floatable Collection Systems			$101,828		375.5		$12,343		$11,467				

Cost Marked-up

F 52

GRANDE ACU SCREEN System

Estimator:	Wm. Griffith / MKE
Project Mgr:	Webster, Todd/MKE
Project #:	316657
Estimate #:	Conceptual / Alternatives
Rev. #:	
Estimate Date :	09/28/2004

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD =	[illegible]	[illegible]	[illegible]	[illegible]
PROFIT =	[illegible]	[illegible]	[illegible]	[illegible]
MOB/BOND/INS. =	[illegible]	[illegible]	[illegible]	[illegible]
CONTINGENCY =	[illegible]	[illegible]	[illegible]	[illegible]

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOU
GRANDE Site 17		Acu-Screen, ACU-Bend	Cost $86,065		Marked-up $124,795									
1.		Accu Screen / ACU Bend	1.0	ea	[illegible]	[illegible]	169	168.9	$31.04	[illegible]	$6,040	$6,040	$71,68	Vendor Quote Lbr/Equip -
2.	15' sq x 12'd	Excavate @ Equipment Structure	100	cy			0.29	29.1	$31.04	$90	$5.85	$58	$1,49	RSM Bldg-04 P-49 02
3.		Stucture Base Stone	6	cy	$4.49	[illegible]	0.25	1.6	$31.04	$4	$1.71	$1	$8	RSM Bldg-04 P-52 02
4.		Backfill / Vibrating Plate	94	cy			0.13	12.5	$31.04	$38	$0.23	$2	$40	RSM Bldg-04 P-53 02
5.	8.5' x 10	12" Slab on Grade	85	sf	$2.89	$24	0.03	2.2	$31.04	$6	$0.01	$	$31	RSM HC-2004 P-151 0:
6.		12" Walls, 10' FOOT HIGH	14	cy	$126.00	$1,72	5.00	68.5	$31.04	$2,12	$18.65	$25	$4,10	RSM HC-2004 P-151 0:
7.	8.5' x 10'	12" Concrete Roof	3.1	cy	$159.00	$50	5.41	17.0	$31.04	$52	$19.35	$6	$1,09	RSM HC-2004 P-150 0:
8.	17 lf	12" Sq Beams / Columns	3	cy	$233.00	$58	12.8	32.2	$31.04	$1,00	$48	$12	$1,70	RSM HC-2004 P-150 0:
9.	$433	ENR Index Price Adjustment	17.5%			$53							$53	Ajustment for Concrete & F
10.		Structure Subtotal			$3,623				$5,063		$1,056			9,742
11.		Elec & I&C % of Structure	25%	ls		[illegible]				[illegible]			$2,17	Est Judgement
12.									$31.04					
		Misc. Materials & Consumable	3%	%		$1,94		[illegible]	$31.04	[illegible]		$21	$2,47	
ST		Acu-Screen, ACU-Bend			$96,877		342.0		$11,880		$7,308			

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOU
GRANDE Site21		Acu-Screen	Cost $90,503		Marked-up $131,229									
1.		Accu Screen (GAS-HWS-168)	1.0	ea	$46,400	$46,4	130	129.7	$31.04	$4,02	$4,640	$4,64	$55,06	Vendor Quote Lbr/Equip -
2.	15' sq x 12'd	Excavate @ Equipment Structure	100	cy			0.29	29.1	$31.04	$90	$5.85	$58	$1,48	RSM Bldg-04 P-49 02
3.		Stucture Base Stone	5	cy	$4.49	[illegible]	0.25	1.2	$31.04	$3	$1.71	$	$6	RSM Bldg-04 P-52 02
4.		Backfill / Vibrating Plate	95	cy			0.13	12.7	$31.04	$39	$0.23	$2	$41	RSM Bldg-04 P-53 02
5.	8' x 8'	12" Slab on Grade	64	sf	$2.89	$18	0.03	1.7	$31.04	$5	$0.01	$	$23	RSM HC-2004 P-151 0:
6.		12" Walls, 10' FOOT HIGH	18	cy	$126.00	$2,240	5.00	88.9	$31.04	$2,75	$18.65	$33	$5,33	RSM HC-2004 P-151 0:
7.	45' x 17	12" Concrete Roof	2.4	cy	$159.00	$37	5.41	12.6	$31.04	$39	$19.35	$4	$82	RSM HC-2004 P-150 0:
8.		Weir Allowance	1	ls	$11,347	$11,34	80.6	80.6	$31.04	$2,50	$150	$15	$14,00	Grande Quote
9.	16 lf	12" Sq Beams / Columns	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004 P-150 0:
10.	$1,066	ENR Index Price Adjustment	17.5%			$2,57							$2,57	Ajustment for Concrete & F
11.		Structure Subtotal			[illegible]				$7,396		$1,257			26,538
12.		Elec & I&C % of Structure	25%	ls		$4,32				[illegible]			$6,32	Est Judgement
13.									$31.04					
		Misc. Materials & Consumable	3%	%		$2,04		[illegible]	$31.04	[illegible]		$17	[illegible]	
ST		Acu-Screen			$70,059		398.7		$14,370		$6,074			

GRANDE ACU SCREEN System

Estimator:	Wm. Griffith / MKE
Project Mgr:	Webster, Todd/MKE
Project #:	316657
Estimate #:	Conceptual / Alternatives
Rev. #:	
Estimate Date:	09/28/2004

MARK-UPS:

	MAT'L	LABOR	EQUIP	Indirects
OVERHEAD =	[illegible]	[illegible]	[illegible]	[illegible]
PROFIT =	[illegible]	[illegible]	[illegible]	[illegible]
MOB/BOND/INS. =	[illegible]	[illegible]	[illegible]	[illegible]
CONTINGENCY =	[illegible]	[illegible]	[illegible]	[illegible]

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOU
			Cost		Marked-up									
GRANDE Site 26		Acu-Screen, ACU-Band	$136,293		$197,624									
1.		Accu Screen (GAS-HWD-500	1.0	ea	[illegible]	[illegible]	182	181.7	$31.04	$5,641	$6,500	$6,50	$77,14	Vendor Quote Lbr/Equip +
2.	25' X 15' x 12'd	Excavate @ Equipment Structure	167	cy			0.29	48.5	$31.04	$1,50	$5.85	$97	$2,48	RSM Bldg-04 P-49 02
3.		Stucture Base Stone	6	cy	$4.49	[illegible]	0.25	1.6	$31.04	$4	$1.71	$1	$8	RSM Bldg-04 P-52 02
4.		Backfill / Vibrating Plate	160	cy			0.13	21.3	$31.04	$66	$0.23	$3	$69	RSM Bldg-04 P-53 02
5.	20' x 10'	12" Slab on Grade	144	sf	$2.89	$41	0.03	3.7	$31.04	$11	$0.01	$	$53	RSM HC-2004 P-151 0
6.		12" Walls, 10' FOOT HIGH	23	cy	$126.00	$2,89	5.00	114.8	$31.04	$3,56	$18.65	$42	$6,88	RSM HC-2004 P-151 0
7.	20' x 10'	12" Concrete Roof	7.4	cy	$159.00	$1,17	5.41	40.1	$31.04	$1,24	$19.35	$14	$2,56	RSM HC-2004 P-150 0
8.		Weir Allowance	1	ls	$20,000	$20,00	145.2	145.2	$31.04	$4,50	$495	$49	$25,00	Grande Quote
8.	20 lf	12" Sq Beams	3	cy	$233.00	$69	12.8	37.9	$31.04	$1,17	$48	$14	$2,01	RSM HC-2004 P-150 0
9.		ENR Index Price Adjustment	17.5%			$4,40							$4,40	Ajustment for Concrete & F
10.		Structure Subtotal			$29,612				$12,822		$2,233			44,567
11.		Elec & I&C % of Structure	25%	ls		[illegible]				$3,20			$10,60	Est Judgement
12.									$31.04					
		Misc. Materials & Consumable	[illegible]	%		[illegible]		17.8	$31.04	$55		[illegible]	[illegible]	
ST		Acu-Screen, ACU-Band			$105,075		612.7		$22,222		$8,995			
			Cost		Marked-up									
GRANDE Site 52		Acu-Screen, ACU-Bend	$82,012		$118,918									
1.		Accu Screen (GAS-HWS-107)	1.0	ea	$44,500	[illegible]	124	124.4	$31.04	$3,86	$4,450	$4,45	$52,81	Vendor Quote Lbr/Equip +
2.	15' sq x 12d	Excavate @ Equipment Structure	100	cy			0.29	29.1	$31.04	$90	$5.85	$58	$1,48	RSM Bldg-04 P-49 02
3.		Stucture Base Stone	6	cy	[illegible]	[illegible]	0.25	1.6	$31.04	$4	$1.71	$1	$8	RSM Bldg-04 P-52 02
4.		Backfill / Vibrating Plate	94	cy			0.13	12.5	$31.04	$38	$0.23	$2	$40	RSM Bldg-04 P-53 02
5.	6' x 8'	12" Slab on Grade	48	sf	$2.89	$13	0.03	1.2	$31.04	$3	$0.01	$	$17	RSM HC-2004 P-151 0
6.		12" Walls, 10' FOOT HIGH	18	cy	$126.00	$2,24	5.00	88.9	$31.04	$2,75	$18.65	$33	$5,33	RSM HC-2004 P-151 0
7.	6' x 8'	12" Concrete Roof	1.8	cy	$159.00	$28	5.41	9.6	$31.04	$29	$19.35	$3	$61	RSM HC-2004 P-150 0
8.		Weir Allowance	1	ls	$8,348	$8,34	48.4	48.4	$31.04	$1,50	$150	$15	$10,00	Grande Quote
9.	16 lf	12" Sq Beams / Columns	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004 P-150 0
10.	$917	ENR Index Price Adjustment	17.5%			$2,02							$2,02	Ajustment for Concrete & F
11.		Structure Subtotal			$13,613				$5,978		$1,249			21,739
12.		Elec & I&C % of Structure	25%	ls		$3,40				[illegible]			$5,12	Est Judgement
13.									$31.04					
		Misc. Materials & Consumable	3%	%		$1,84		10.4	$31.04	$32		$17	$2,33	
ST		Acu-Screen, ACU-Bend			$53,362		356.4		$12,762		$5,868			

KRUGER ACTIFLO System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD =	10.0%	10.0%	10.0%	10.0%
PROFIT =	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. =	5.0%	5.0%	5.0%	5.0%
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 2
Estimate Date: 09/30/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
			Cost		Marked-up										
ACT Site 31	Option 1	1 X 14 mgd Design	$1,296,257		$1,878,122										
1.		Equipment	1.0	ea	$1,050,000	$1,050,00	1,727	1,727.0	$31.04	$53,60	$105,000	$105,00	$1,208,60	Vendor Quote	Lbr/Equi
2.	20 x 50 x 10 d	Excavate @ Equipment Structure	370	cy			0.29	107.8	$31.04	$3,34	$5.85	$2,16	$5,51	RSM Bldg-04	P-49
3.		Stucture Base Stone	74	cy	$4.49	[illegible]	0.25	16.4	$31.04	$57	$1.7	$12	$1,03	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	296	cy			0.13	39.4	$31.04	$1,22	$0.23	$6	$1,29	RSM Bldg-04	P-53
5.	45' x 17'	12" Slab on Grade	765	sf	$2.89	[illegible]	0.03	19.9	$31.04	$61	$0.01	$	$2,83	RSM HC-2004	P-151
6.		12" Walls, 10' FOOT HIGH	46	cy	$126.00	$5,78	5.00	229.6	$31.04	$7,12	$18.65	$85	$13,76	RSM HC-2004	P-151
7.	45' x 17'	12" Concrete Roof	28.3	cy	$159.00	$4,50	5.41	153.3	$31.04	$4,75	$19.35	$54	$9,81	RSM HC-2004	P-150
8.	34 lf	12" Sq Beams	5	cy	$233.00	$1,17	12.8	64.5	$31.04	$2,00	$48	$24	$3,41	RSM HC-2004	P-150
9.	$372	ENR Index Price Adjustment	17.5%			$2,39							$2,39	Adjustment for Concrete &	
10.		Structure Subtotal			[illegible]				$19,643		$4,016			$40,061	
11.		Elec & I&C % of Structure	25%	ls		[illegible]				$4,91			$9,01	Est Judgement	
12.									$31.04						
13.		Misc. Materials & Consumable	3%	%		$32,11		[illegible]	$31.04	[illegible]		[illegible]	$37,58		
ST		1 X 14 mgd Design			$1,102,618		2,430.7		$80,353		$112,286				

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
			Cost		Marked-up										
ACT Site 52	Option 2	1 x 5 mgd Design	$981,407		$1,423,040										
1.		Equipment	1.0	ea	$800,000	[illegible]	1,316	1,315.8	$31.04	$40,83	$80,000	$80,00	$920,83	Vendor Quote	Lbr/Equi
2.	40 x20 x 12'd	Excavate @ Equipment Structure	296	cy			0.29	86.2	$31.04	$2,67	$5.85	$1,73	$4,40	RSM Bldg-04	P-49
3.		Stucture Base Stone	59	cy	$4.49	$26	0.25	14.8	$31.04	$45	$1.71	$10	$82	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	237	cy			0.13	31.5	$31.04	$97	$0.23	$5	$1,03	RSM Bldg-04	P-53
5.	32' X 12'	12" Slab on Grade	384	sf	$2.89	$1,11	0.03	10.0	$31.04	$31	$0.01	$	$1,42	RSM HC-2004	P-151
6.		12" Walls, 10' HIGH	33	cy	$126.00	$4,10	5.00	162.9	$31.04	$5,05	$18.65	$60	$9,77	RSM HC-2004	P-151
7.	45' x 17'	12" Concrete Roof	14.2	cy	$159.00	$2,26	5.41	76.9	$31.04	$2,38	$19.35	$27	$4,92	RSM HC-2004	P-150
8.	24 lf	12" Sq Beams	4	cy	$233.00	$82	12.8	45.5	$31.04	$1,41	$48	$17	$2,41	RSM HC-2004	P-150
9.		ENR Index Price Adjustment	17.5%			$1,45							$1,45	Adjustment for Concrete &	
10		Structure Subtotal			[illegible]				$13,281		$2,947			$28,253	
11.		Elec & I&C % of Structure	25%	ls		$2,50				[illegible]			$5,82	Est Judgement	
12.									$31.04						
13		Misc. Materials & Consumable	3%	%		$24,37		[illegible]	$31.04	$1,62		$2,42	[illegible]		
ST		1 x 5 mgd Design			$836,908		1,796.0		$59,064		$85,435				

KRUGER ACTIFLO System

Estimator:	Wm. Griffith / MKE	
Project Mgr:	Webster, Todd/MKE	
Project #:	316657	
Estimate #:	Conceptual / Alternatives	
Rev. #:	# 2	
Estimate Date :	09/30/2004	

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD =	10.0%	10.0%	10.0%	10.0%
PROFIT =	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. =	5.0%	5.0%	5.0%	5.0%
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESC	
ACT Site 17	Option 3	1 x 12 mgd Design	Cost $1,239,464		Marked-up $1,797,223										
1.		Equipment	1.0	ea	$1,000,000	[illegible]	1,645	1,644.7	$31.04	$51,048	$100,000	$100,000	$1,151,048	Vendor Quote	Lbr/Equi
2.	60 x 25' x 12'd	Excavate @ Equipment Structure	444	cy			0.29	129.3	$31.04	$4,014	$5.85	$2,600	$6,614	RSM Bldg-04	P-49
3.		Stucture Base Stone	51	cy	$4.49	[illegible]	0.25	12.7	$31.04	$395	$1.71	$87	$711	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	393	cy			0.13	52.3	$31.04	$1,624	$0.23	$90	$1,714	RSM Bldg-04	P-53
5.	43' x 22'	12" Slab on Grade	695	sf	$2.89	$2,004	0.03	18.1	$31.04	$561	$0.01	$7	$2,572	RSM HC-2004	P-151
6.		12" Walls, 10' HIGH	56	cy	$126.00	$7,000	5.00	277.7	$31.04	$8,620	$18.65	$1,036	$16,656	RSM HC-2004	P-151
7.	53' x 22'	12" Concrete Roof	25.7	cy	$159.00	$4,092	5.41	139.2	$31.04	$4,321	$19.35	$498	$8,912	RSM HC-2004	P-150
8.	32 lf	12" Sq Beams	5	cy	$233.00	$1,108	12.8	60.7	$31.04	$1,884	$48	$228	$3,218	RSM HC-2004	P-150
9.		ENR Index Price Adjustment	17.5%			$2,486							$2,486	Adjustment for Concrete &	
10.		Structure Subtotal			$16 920				$21 418		$4,548			[illegible].885	
11.		Elec & I&C % of Structure	25%	ls		$4,230				[illegible]			$9,58[illegible]	Est Judgement	
12.									$31.04						
13.		Misc. Materials & Consumable	3%	%		[illegible]		[illegible]	$31.04	$2,174		$3,134	[illegible]		
ST		1 x 12 mgd Design			$1,051,785			2,404.9		$79,997		$107,683			
ACT Site 26	Option 4	2 x 24 mgd Design	Cost $2,917,593		Marked-up $4,230,509										
1.		Equipment	1.0	ea	$2,400,000	[illegible]	3,947	3,947.4	$31.04	$122,518	$240,000	$240,000	$2,762,518	Vendor Quote	Lbr/Equi
2.	60 x 25' x 12'd	Excavate @ Equipment Structure	667	cy			0.29	194.0	$31.04	$6,021	$5.85	$3,903	$9,921	RSM Bldg-04	P-49
3.		Stucture Base Stone	111	cy	$4.49	[illegible]	0.25	27.7	$31.04	$859	$1.71	$190	$1,548	RSM Bldg-04	P-52
4.		Backfill / Vibrating Plate	556	cy			0.13	73.9	$31.04	$2,293	$0.23	$128	$2,421	RSM Bldg-04	P-53
5.	53' x 22	12" Slab on Grade	1,166	sf	$2.89	$3,370	0.03	30.3	$31.04	$941	$0.01	$12	$4,322	RSM HC-2004	P-151
6.		12" Walls, 10' FOOT HIGH	56	cy	$126.00	$7,000	5.00	277.7	$31.04	$8,620	$18.65	$1,036	$16,656	RSM HC-2004	P-151
7.	53' x 22'	12" Concrete Roof	43.2	cy	$159.00	$6,868	5.41	233.6	$31.04	$7,251	$19.35	$836	$14,954	RSM HC-2004	P-150
8.	44 lf	12" Sq Beams	7	cy	$233.00	$1,519	12.8	83.5	$31.04	$2,591	$48	$313	$4,422	RSM HC-2004	P-150
9.		ENR Index Price Adjustment	17.5%			$3,282							$3,282	Adjustment for Concrete &	
10.		Structure Subtotal			[illegible]				$29 576		$6 414			[illegible]7.526	
11.		Elec & I&C % of Structure	25%	ls		$5,634				$7,144			$12,776	Est Judgement	
12.									$31.04						
13.		Misc. Materials & Consumable	3%	%		[illegible]		146.0	$31.04	$4,533		$7,393	[illegible]		
ST		2 x 24 mgd Design			$2,501,015			5,014.1		$152,771		$253,806			

CDS System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	
OVERHEAD =	10.0%	10.0%	10.0%	
PROFIT =	5.0%	5.0%	5.0%	
MOB/BOND/INS. =	5.0%	5.0%	5.0%	
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MI
Project #: 318657
Estimate #: Conceptual / Alter
Rev. #: # 2
Estimate Date: 09/30/2004

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 17	Alt #1	**Raked Bar Screen - 4mm Spacing**	Cost $55,867		Marked-up $81,008									
1.		Racked Bar Screen	1.0	ea	$38,000	[illegible]	106.25	106.3	$31.04	$3,29	$3,800.00	$3,80	$45,09	Vendor Quote
2.	10 sq x 10'd	Excavate @ Equipment Structure	37	cy			0.29	10.8	$31.04	$33	$5.85	$21	$55	RSM Bldg-04
3.		Stucture Base Stone	7	cy	$4.49	[illegible]	0.25	1.8	$31.04	$5	$1.71	$1	$10	RSM Bldg-04
4.		Backfill / Vibrating Plate	30	cy			0.13	3.9	$31.04	$12	$0.23	$	$12	RSM Bldg-04
5.	8' x 8' x 1'	12" Slab on Grade	64	sf	$2.89	$18	0.03	1.7	$31.04	$5	$0.01	$	$23	RSM HC-2004
6.		12" Walls, 10' High	12	cy	$126.00	$1,49	5.00	59.2	$31.04	$1,83	$18.65	$22	$3,55	RSM HC-2004
7.	8' x 8'	12" Concrete Roof	2.4	cy	$159.00	$37	5.41	12.8	$31.04	$39	$19.35	$4	$82	RSM HC-2004
8.	16 lf	12" Sq Beams	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004
9.	$393	ENR Index Price Adjustment	17.5%			$45							$45	Ajustment for (
10.		Structure Subtotal			$3,737				$3,745		$617			$7,459
11.		Elec & I&C % of Structure	25%	ls		$77				$93			$1,71	Est Judgement
12.														
		Misc. Materials & Consumable	3%	%		$1,29		[illegible]	[illegible]	[illegible]		$13	$1,60	
ST		Raked Bar Screen - 4mm Spacing			$43,127		233.7		$8,190		$4,550			

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 17	Alt #2	**CDS-GSS - 1 mm Screening (200 micron effective)**	Cost $187,941		Marked-up $272,514									
1.		1 mm Screening	1.0	ea	[illegible]	$80,00	171	171.1	$31.04	$5,30	$8,000.00	$8,00	$93,30	Vendor Quote
2.		Automation	1	ea	[illegible]	$75,00	123	123.4	$31.04	$3,82			$78,82	Vendor Quote
3.	15x20 x 14'd	Excavate @ Equipment Structure	156	cy			0.29	45.3	$31.04	$1,40	$5.85	$91	$2,31	RSM Bldg-04
4.		Stucture Base Stone	22	cy	$4.49	$10	0.25	5.5	$31.04	$17	$1.71	$3	$31	RSM Bldg-04
5.		Backfill / Vibrating Plate	133	cy			0.13	17.7	$31.04	$55	$0.23	$3	$58	RSM Bldg-04
6.	10' x 15' x 1'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004
7.		12" Walls, 12' HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004
8.	10' x 15' x 1'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004
9.	20 lf	12" Sq Beams		cy	$233.00		12.8		$31.04		$48			RSM HC-2004
10.		ENR Index Price Adjustment	17.5%											Ajustment for (
11.		Structure Subtotal			$100				$2,127		$979			$3,206
12.		Elec & I&C % of Structure	46%	ls		$1,78				$95			$2,74	Est Judgement
13.		20 hp Pump	1	ea	$3,874.00	$3,87	[illegible]	17.1	$31.04	$53			$4,40	RSM Mech
		Misc. Materials & Consumable	3%	%		$4,82		11.4	$31.04	$35		$26	$5,44	
ST	CDS-GSS - 1 mm Screening (200 micron effective)				$165,585		391.5		$13,108		$9,248			

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CDS System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	
OVERHEAD =	10.0%	10.0%	10.0%	
PROFIT =	5.0%	5.0%	5.0%	
MOB/BOND/INS. =	5.0%	5.0%	5.0%	
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MI
Project #: 316657
Estimate #: Conceptual / Alter
Rev. #: # 2
Estimate Date: 09/30/2004

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 17	Alt #3	**CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens**	Cost $535,395		Marked-up $776,323									
1.		1 mm Screening	1.0	ea	$350,000.0	$350,00	748	748.4	$31.04	$23,22	$35,000.00	$35,00	$408,22	Vendor Quote
3.	30 x 50 x 17 d	Excavate @ Equipment Structure	944	cy			0.29	274.8	$31.04	$8,53	$5.85	$5,52	$14,05	RSM Bldg-04
4.		Stucture Base Stone	73	cy	$4.49	$32	0.25	18.3	$31.04	$56	$1.71	$12	$1,02	RSM Bldg-04
5.		Backfill / Vibrating Plate	871	cy			0.13	115.9	$31.04	$3,59	$0.23	$20	$3,79	RSM Bldg-04
6.	22' x 45' x 1'	12" Slab on Grade	990	sf	$2.89	$2,86	0.03	25.7	$31.04	$79	$0.01	$1	$3,67	RSM HC-2004
7.		12" Walls, 14' HIGH	69	cy	$126.00	$8,75	5.00	347.3	$31.04	$10,78	$18.65	$1,29	$20,83	RSM HC-2004
8.	22' x 45' x 1'	12" Concrete Roof	36.7	cy	$159.00	$5,83	5.41	198.4	$31.04	$6,15	$19.35	$71	$12,69	RSM HC-2004
9.	44 lf	12" Sq Beams	7	cy	$233.00	$1,51	12.8	83.5	$31.04	$2,59	$48	$31	$4,42	RSM HC-2004
10.	$427	ENR Index Price Adjustment	17.5%			$3,31							$3,31	Adjustment for (
11.		Structure Subtotal			$22,513				$83,020		$3,173			$1,911
12.		Elec & I&C % of Structure	25%	ls		$5,65				$6,25			$13,90	Est Judgement
13.		5 hp Pump	1	ea	$2,210.00	$2,21	10.67	10.7	$31.04	$33			$2,54	RSM Mech
14.		20 hp Pump	1	ea	$3,874.00	$3,87	17.14	17.1	$31.04	$53			$4,40	RSM Mech
15.		Control Bldg	225	sf	$112.00	$25,20	0.15	33.8	$31.04	$1,04	$4.00	$90	$27,14	RSM Bldg-04
		Misc. Materials & Consumable	3%	%		$12,28		56.2	$31.04	$1,74		$1,32	$15,35	
ST		CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens			$421,836		1,930.0		$68,158		$45,401			

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 21	Alt #1	**Raked Bar Screen - 4mm Spacing**	Cost $58,312		Marked-up $84,553									
1.		Racked Bar Screen	1.0	ea	$40,000.00	$40,000	111.84	111.8	$31.04	$3,47	$4,000.00	$4,00	$47,47	Vendor Quote
2.	10 sq x 10'd	Excavate @ Equipment Structure	37	cy			0.29	10.8	$31.04	$33	$5.85	$21	$55	RSM Bldg-04
3.		Stucture Base Stone	7	cy	$4.49	$3	0.25	1.8	$31.04	$5	$1.71	$1	$10	RSM Bldg-04
4.		Backfill / Vibrating Plate	30	cy			0.13	3.9	$31.04	$12	$0.23	$	$12	RSM Bldg-04
5.	8' x 8' x 1'	12" Slab on Grade	64	sf	$2.89	$18	0.03	1.7	$31.04	$5	$0.01	$	$23	RSM HC-2004
6.		12" Walls, 10' High	12	cy	$126.00	$1,49	5.00	59.2	$31.04	$1,83	$18.65	$22	$3,55	RSM HC-2004
7.	8' x 8'	12" Concrete Roof	2.4	cy	$159.00	$37	5.41	12.8	$31.04	$39	$19.35	$4	$82	RSM HC-2004
8.	16 lf	12" Sq Beams	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004
9.	$393	ENR Index Price Adjustment	17.5%			$45							$45	Adjustment for (
10.		Structure Subtotal			$3,097				$3,745		$617			$7,459
11.		Elec & I&C % of Structure	25%	ls		$77				$93			$1,71	Est Judgement
12.									$31.04					
		Misc. Materials & Consumable	3%	%		$1,31		7.0	$31.04	$21		$13	$1,67	
ST		Raked Bar Screen - 4mm Spacing			$45,187		239.5		$8,369		$4,756			

CDS System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	
OVERHEAD =	10.0%	10.0%	10.0%	
PROFIT =	5.0%	5.0%	5.0%	
MOB/BOND/INS. =	5.0%	5.0%	5.0%	
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MI
Project #: 316657
Estimate #: Conceptual / Alter
Rev. #: # 2
Estimate Date: 09/30/2004

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 21	Alt #2	CDS-GSS - 1 mm Screening (200 micron effective)	Cost $188,313		Marked-up $273,344									
1.		1 mm Screening	1.0	ea	$80,000.00	$80,000	171	171.1	$31.04	$5,308	$8,000.00	$8,000	$93,308	Vendor Quote
2.		Automation	1	ea	$75,000.00	$75,000	123	123.4	$31.04	$3,828			$78,628	Vendor Quote
3.	20 sq x 12'd	Excavate @ Equipment Structure	178	cy			0.29	51.7	$31.04	$1,604	$5.85	$1,040	$2,644	RSM Bldg-04
4.		Stucture Base Stone	22	cy	$4.49	$100	0.25	5.5	$31.04	$172	$1.71	$38	$310	RSM Bldg-04
5.		Backfill / Vibrating Plate	156	cy			0.13	20.7	$31.04	$642	$0.23	$36	$678	RSM Bldg-04
6.	10' x 15' x 1'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004
7.		12" Walls, 12' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004
8.	10' x 15' x 1'	12" Concrete Roof		cy	$159.00		6.41		$31.04		$19.35			RSM HC-2004
9.	20 lf	12" Sq Beams		cy	$233.00		12.8		$31.04		$48			RSM HC-2004
10.		ENR Index Price Adjustment	17.5%											Adjustment for (
11.		Structure Subtotal			$170				$2,420		$1,114			$3,703
12.		Elec & I&C % of Structure	45%	ls		$1,788				$1,088			$2,877	Est Judgement
13.		20 hp Pump	1	ea	$3,874.00	$3,874	17.14	17.1	$31.04	$532			$4,406	RSM Mech
		Misc. Materials & Consumable	3%	%		$4,821		11.7	$31.04	$363		$271	$5,455	
ST	CDS-GSS - 1 mm Screening (200 micron effective)				$165,585			431.2	$13,541		$9,387			

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 21	Alt #3	CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens	Cost $560,607		Marked-up $812,880									
1.		1 mm Screening	1.0	ea	$350,000.00	$350,000	746	748.4	$31.04	$23,227	$35,000.00	$35,000	$408,227	Vendor Quote
3.	40 x 60 x 15'd	Excavate @ Equipment Structure	1,333	cy			0.29	388.0	$31.04	$12,043	$5.85	$7,800	$19,843	RSM Bldg-04
4.		Stucture Base Stone	111	cy	$4.49	$499	0.25	27.7	$31.04	$859	$1.71	$190	$1,548	RSM Bldg-04
5.		Backfill / Vibrating Plate	1,222	cy			0.13	162.6	$31.04	$5,048	$0.23	$281	$5,329	RSM Bldg-04
6.	30' x 50' x 1'	12" Slab on Grade	1,500	sf	$2.89	$4,335	0.03	39.0	$31.04	$1,211	$0.01	$15	$5,560	RSM HC-2004
7.		12" Walls, 12' FOOT HIGH	74	cy	$126.00	$9,333	5.00	370.3	$31.04	$11,493	$18.65	$1,381	$22,208	RSM HC-2004
8.	30' x 50' x 1'	12" Concrete Roof	55.6	cy	$159.00	$8,833	5.41	300.6	$31.04	$9,329	$19.35	$1,075	$19,237	RSM HC-2004
9.	60 lf	12" Sq Beams / Columns	9	cy	$233.00	$2,071	12.8	113.8	$31.04	$3,531	$48	$427	$6,030	RSM HC-2004
10.	$433	ENR Index Price Adjustment	17.5%			$4,303							$4,303	Adjustment for (
11.		Structure Subtotal			$29,372				$43,512		$11,169			$84,053
12.		Elec & I&C % of Structure	25%	ls		$7,343				$10,878			$18,221	Est Judgement
13.		5 hp Pump	1	ea	$2,210.00	$2,210	10.67	10.7	$31.04	$331			$2,541	RSM Mech
14.		15 hp Pump	1	ea	$3,874.00	$3,874	17.14	17.1	$31.04	$532			$4,406	RSM Mech
15.		Control Bldg	225	sf	$112.00	$25,200	0.15	33.8	$31.04	$1,048	$4.00	$900	$27,148	RSM Bldg-04
		Misc. Materials & Consumable	3%	%		$12,543		66.4	$31.04	$2,061		$1,413	$16,017	
ST	CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens				$430,539			2,278.2	$81,587		$48,461			

CDS System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	
OVERHEAD =	10.0%	10.0%	10.0%	
PROFIT =	5.0%	5.0%	5.0%	
MOB/BOND/INS. =	5.0%	5.0%	5.0%	
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator:	Wm. Griffith / MKE
Project Mgr:	Webster, Todd/MI
Project #:	316557
Estimate #:	Conceptual / Alter
Rev. #:	# 2
Estimate Date:	09/30/2004

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 26	Alt #1	Raked Bar Screen - 4mm Spacing	Cost $90,495		Marked-up $131,218									
1.		Racked Bar Screen	1.0	ea	$65,000.00	$65,000	181.74	181.7	$31.04	$5,641	$6,500.00	$6,50	$77,14	Vendor Quote
2.	10 X 10 X 12'D	Excavate @ Equipment Structure	89	cy			0.29	25.9	$31.04	$80	$5.85	$52	$1,32	RSM Bldg-04
3.		Stucture Base Stone	7	cy	$4.49	[illegible]	0.25	1.8	$31.04	$5	$1.71	$1	$10	RSM Bldg-04
4.		Backfill / Vibrating Plate	81	cy			0.13	10.8	$31.04	$33	$0.23	$1	$35	RSM Bldg-04
5.	3.5' X 17.33'	12" Slab on Grade	72	sf	$2.89	$20	0.03	1.9	$31.04	$5	$0.01	$	$26	RSM HC-2004
6.		12" Walls, 10' High	15	cy	$126.00	$1,94	5.00	77.1	$31.04	$2,39	$16.65	$28	$4,62	RSM HC-2004
7.	8' x 8'	12" Concrete Roof	2.4	cy	$159.00	$37	5.41	12.8	$31.04	$39	$19.35	$4	$82	RSM HC-2004
8.	8 lf	12" Sq Beams	1	cy	$233.00	$27	12.8	15.2	$31.04	$47	$48	$5	$80	RSM HC-2004
9.	$406	ENR Index Price Adjustment	17.5%			$49							$49	Ajustment for (
10		Structure Subtotal			$3,329				$4,518		$943			$8,793
11.		Elec & I&C % of Structure	25%	ls		$83				$1,12			$1,96	Est Judgement
12									$31.04					
		Misc. Materials & Consumable	3%	%		[illegible]		9.8	$31.04	[illegible]		$22	$2,60	
ST		Raked Bar Screen - 4mm Spacing			$71,237		337.1		$11,593		$7,666			

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 26	Alt #2	CDS-GSS - 1 mm Screening (200 micron effective)	Cost $509,379		Marked-up $738,599									
1.		1 mm Screening	1.0	ea	$300,000.00	$300,00	641	641.4	$31.04	$19,90	$30,000.00	$30,00	$349,90	Vendor Quote
2.		Automation	1	ea	$110,000.00	$110,00	18'	180.9	$31.04	$5,61			$115,61	Vendor Quote
3.	40 X 30' x 14 d	Excavate @ Equipment Structure	622	cy			0.29	181.1	$31.04	$5,62	$5.85	$3,64	$9,26	RSM Bldg-04
4.		Stucture Base Stone	89	cy	$4.49	$39	0.25	22.1	$31.04	$68	$1.71	$15	$1,23	RSM Bldg-04
5.		Backfill / Vibrating Plate	533	cy			0.13	70.9	$31.04	$2,20	$0.23	$12	$2,32	RSM Bldg-04
6.	30' x 18' x 1'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004
7.		12" Walls, 12' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004
8.	30' x 18' x 1'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004
9.	36 lf	12" Sq Beams		cy	$233.00		12.6		$31.04		$48			RSM HC-2004
10.	#DIV/0!	ENR Index Price Adjustment	17.5%											Ajustment for (
11.		Structure Subtotal			$399				$8,509		$3,915			$12,822
12.		Elec & I&C % of Structure	45%	ls		$3,66				$3,82			$7,49	Est Judgement
13.		20 hp Pump	2	ea	$3,874.00	$7,74	17.14	34.3	$31.04	$1,06			$6,81	RSM Mech
		Misc. Materials & Consumable	3%	%		$12,65		33.9	$31.04	$1,05		$1,01	$14,72	
ST		CDS-GSS - 1 mm Screening (200 micron effective)			$434,468		1,164.7		$39,979		$34,932			

CDS System

MARK-UPS:

	MAT'L	LABOR	EQUIP.	
OVERHEAD =	[illegible]	[illegible]	[illegible]	
PROFIT =	[illegible]	[illegible]	[illegible]	
MOB/BOND/INS. =	[illegible]	[illegible]	[illegible]	
CONTINGENCY =	[illegible]	[illegible]	[illegible]	[illegible]

Estimator:	Wm. Griffith / MKE
Project Mgr:	Webster, Todd/MI
Project #:	316657
Estimate #:	Conceptual / Alter
Rev. #:	# 2
Estimate Date :	09/30/2004

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
			Cost		Marked-up									
CDS Site 20	Alt #3	CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens	$1,202,230		$1,743 233									
1.		1 mm Screening	1.0	ea	$750,000.00	$750,00	1,604	1,603.6	$31.04	$49,77	$75,000.00	$75,00	$874,77	Vendor Quote
2.	70 X 83' x 20'd	Excavate @ Equipment Structure	4,148	cy			0.29	1,207.1	$31.04	$37,46	$5.85	$24,26	$61,73	RSM Bldg-04
3.		Stucture Base Stone	415	cy	$4.49	$1,86	0.25	103.3	$31.04	$3,20	$1.71	$70	$5,77	RSM Bldg-04
4.		Backfill / Vibrating Plate	3,733	cy			0.13	496.5	$31.04	$15,41	$0.23	$85	$16,27	RSM Bldg-04
5.	61' X 70' X 20'd	12" Slab on Grade	4,270	sf	$2.89	$12,34	0.03	111.0	$31.04	$3,44	$0.01	$4	$15,82	RSM HC-2004
6.		12" Walls, 20' FOOT HIGH	194	cy	$122.00	$23,67	4.09	794.5	$31.04	$24,66	$15.25	$2,96	$51,28	RSM HC-2004
7.	61' x 70' x 1'	12" Concrete Roof	158.1	cy	$159.00	$25,14	5.41	855.6	$31.04	$26,55	$19.35	$3,06	$54,76	RSM HC-2004
8.	*22 lf	12" Sq Beams	18	cy	$233.00	$4,21	12.8	231.4	$31.04	$7,18	$48	$86	$12,26	RSM HC-2004
9.		ENR Index Price Adjustment	17.5%			$11,44							$11,44	Adjustment for (
10.		Structure Subtotal			$78,677				$117,328		$32,765			$229,370
11.		Elec & I&C % of Structure	15%	ls		$11,80				$17,68			$29,49	Est Judgement
13.		5 hp Pump	1	ea	$2,210.00	$2,21	10.67	10.7	$31.04	$33			$2,54	RSM Mech
14.		15 hp Pump	1	ea	$3,874.00	$3,87	17.14	17.1	$31.04	$53			$4,40	RSM Mech
15.		Control Bldg	225	sf	$112.00	$25,20	0.15	33.8	$31.04	$1,04	$4.00	$90	$27,14	RSM Bldg-04
		Misc. Materials & Consumable	3%	%		$26,15		[illegible]	[illegible]	[illegible]		$3,26	$34,50	
ST	CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens				$897,315		5,626.6		$192,389		$114,925			

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 52	Alt #1	Raked Bar Screen - 4mm Spacing	$53,423		$77,463									
1.		Racked Bar Screen	1.0	ea	$36,000.00	$36,00	100.66	100.7	$31.04	$3,12	$3,600.00	$3,60	$42,72	Vendor Quote
2.	10 sq x 10'd	Excavate @ Equipment Structure	37	cy			0.29	10.8	$31.04	$33	$5.85	$21	$55	RSM Bldg-04
3.		Stucture Base Stone	7	cy	$4.49	[illegible]	0.25	1.8	$31.04	$5	$1.71	$1	$10	RSM Bldg-04
4.		Backfill / Vibrating Plate	30	cy			0.13	3.9	$31.04	$12	$0.23	$	$12	RSM Bldg-04
5.	8' x 8' x 1'	12" Slab on Grade	64	sf	$2.89	$18	0.03	1.7	$31.04	$5	$0.01	$	$23	RSM HC-2004
6.		12" Walls, 10' High	12	cy	$126.00	$1,49	5.00	59.2	$31.04	$1,83	$18.65	$22	$3,55	RSM HC-2004
7.	8' x 8'	12" Concrete Roof	2.4	cy	$159.00	$37	5.41	12.8	$31.04	$39	$19.35	$4	$82	RSM HC-2004
8.	16 lf	12" Sq Beams	2	cy	$233.00	$55	12.8	30.4	$31.04	$94	$48	$11	$1,60	RSM HC-2004
9.	$393	ENR Index Price Adjustment	17.5%			$45							$45	Adjustment for (
10.		Structure Subtotal			$3,097				$3,745		$617			$7,459
11.		Elec & I&C % of Structure	25%	ls		$77				$93			$1,71	Est Judgement
12.									$31.04					
		Misc. Materials & Consumable	3%	%		$1,19		[illegible]	$31.04	[illegible]		$12	$1,52	
ST		Raked Bar Screen - 4mm Spacing			$41,367		227.9		36,011		$4,344			

CDS System

MARK-UPS:

	MAT.	LABOR	EQUIP.	
OVERHEAD =	10.0%	10.0%	10.0%	
PROFIT =	5.0%	5.0%	5.0%	
MOB/BOND/INS. =	5.0%	5.0%	5.0%	
CONTINGENCY =	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKI
Project Mgr: Webster, Todd/MI
Project #: 316857
Estimate #: Conceptual / Alter
Rev. #: # 2
Estimate Date: 09/30/2004

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 52	Alt #2	**CDS-GSS - 1 mm Screening (200 micron effective)**	Cost $162,413		Marked-up $235,499									
1.		1 mm Screening	1.0	ea	$60,000.00	$60,00	128	128.3	$31.04	$3,98	$6,000.00	$6,00	$69,96	Vendor Quote
2.		Automation	1	ea	$75,000.00	$75,00	123	123.4	$31.04	$3,82			$78,82	Vendor Quote
3.	15 X 7' x 13'd	Excavate @ Equipment Structure	123	cy			0.29	35.7	$31.04	$1,10	$5.85	$71	$1,82	RSM Bldg-04
4.		Stucture Base Stone	19	cy	$4.49	$8	0.25	4.7	$31.04	$14	$1.71	$3	$26	RSM Bldg-04
5.		Backfill / Vibrating Plate	104	cy			0.13	13.8	$31.04	$42	$0.23	$2	$45	RSM Bldg-04
6.	10' x 12' x 1'	12" Slab on Grade		sf	$2.89		0.03		$31.04		$0.01			RSM HC-2004
7.		12" Walls, 12' FOOT HIGH		cy	$126.00		5.00		$31.04		$18.65			RSM HC-2004
8.	10' x 12 x 1'	12" Concrete Roof		cy	$159.00		5.41		$31.04		$19.35			RSM HC-2004
9.	20 lf	12" Sq Beams		cy	$233.00		12.8		$31.04		$48			RSM HC-2004
10	#DIV/0!	ENR Index Price Adjustment	17.5%											Adjustment for (
11		Structure Subtotal			$35				$1,684		$774			$2,543
12		Elec & I&C % of Structure	45%	ls		$1,6				$75			$2,37	Est Judgement
13		12-15 hp Pump	1	ea	$3,510.00	$3,51	15.00	15.0	$31.04	$46			$3,97	RSM Mech
		Misc. Materials & Consumable	3%	%		$4,20		9.6	$31.04	$29		$20	$4,70	
ST	CDS-GSS - 1 mm Screening (200 micron effective)				$144,419			330.5	$11,016		$6,978			

Site 17	Alt / Size	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	
CDS Site 52	Alt #3	**CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens**	Cost $386,430		Marked-up $560,324									
1.		1 mm Screening	1.0	ea	$250,000	$250,00	535	534.5	$31.04	$16,59	$25,000.00	$25,00	$291,59	Vendor Quote
2.	26 X 40 x 14'd	Excavate @ Equipment Structure	539	cy			0.29	156.9	$31.04	$4,87	$5.85	$3,15	$8,02	RSM Bldg-04
3.		Stucture Base Stone	56	cy	$4.49	$25	0.25	14.0	$31.04	$435	$1.71	$9	$78	RSM Bldg-04
4.		Backfill / Vibrating Plate	483	cy			0.13	64.2	$31.04	$1,994	$0.23	$11	$2,10	RSM Bldg-04
5.	18' x 28'	12" Slab on Grade	735	sf	$2.89	$2,12	0.03	19.1	$31.04	$593	$0.01	$7	$2,72	RSM HC-2004
6.		12" Walls, 12' FOOT HIGH	50	cy	$122.00	$6,07	4.09	203.8	$31.04	$6,325	$15.25	$75	$13,15	RSM HC-2004
7.	61' x 70' x 1'	12" Concrete Roof	27.2	cy	$159.00	$4,32	5.41	147.3	$31.04	$4,571	$19.35	$52	$9,42	RSM HC-2004
8.	42 lf	12" Sq Beams	6	cy	$233.00	$1,45	12.5	79.7	$31.04	$2,473	$48	$29	$4,22	RSM HC-2004
9.	$389	ENR Index Price Adjustment	17.5%			$2,44							$2,44	Adjustment for (
10.		Structure Subtotal			$16,673				$21,251		$4,954			$42,888
11.		Elec & I&C % of Structure	15%	ls		$2,50				$3,189			$5,69	Est Judgement
12.		12-15 hp Pump	2	ea	$3,510.00	$7,02	15.00	30.0	$31.04	$931			$7,95	RSM Mech
13.		Control Bldg	225	sf	$112.00	$25,20	0.15	33.8	$31.04	$1,048	$4.00	$90	$27,14	RSM Bldg-04
		Misc. Materials & Consumable	3%	%		$9,84		38.5	$31.04	$1,195		$92	$11,16	
ST	CDS-FSS Chemically Enhanced Flocculation w/ 1mm Screens				$310,436			1,321.8	$44,215		$31,779			

Operations & Maintenance

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD :	10.0%	10.0%	10.0%	10.0%
PROFIT :	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. :	5.0%	5.0%	5.0%	5.0%
CONTINGENCY :	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffin / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 3
Estimate Date : 10/02/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOURCE
	Trips		Cost		Marked-up									
1	1	Alternate Vendor CDS - Raked Bar Screen	$287		$372									
1	1	2 person crew	4.0	hrs			1	4.0	$31.04	$124			$124	2 person crew 4 hrs per trip
2	1	Vehicles / fuel	1.0	Trip					$31.04		$100.00	$100	$100	50k truck x .25% / 100trips = trip unit @ 80%
3	1	Utilities / Power							$31.04					
4	1	Equipment Replacement							$31.04					
5	1	Veg Oil	1	ea	$25.00	$25			$31.04				$25	
6	1								$31.04					
7	1								$31.04					
		Misc. Materials & Consumable	3%	%		$1		0.1	$31.04	$4		$3	$7	
ST		Alternate Vendor CDS - Raked Bar Screen				$26		4.1		$128		$103		
	Trips		Cost		Marked-up									
1	4	Alternate Vendor CDS Type GSS	$1,814		$2,630									
1	4	2 person crew	4.0	hrs			1	16.0	$31.04	$497			$497	2 person crew 4 hrs per trip
2	4	Vehicles / fuel	1.0	ea					$31.04		$100.00	$400	$400	50k truck x .25% / 100trips = trip unit @ 80%
3	4	Utilities / Power	1	ea	$500.00	$500			$31.04				$500	Est JudgementAllowance
4	4	Equipment Replacement	1	ea	$60.00	$240	4.00	4.0	$31.04	$124			$364	Est JudgementAllowance
5	4	Chemicals							$31.04					
6	4								$31.04					
7	4								$31.04					
		Misc. Materials & Consumable	3%	%		$22		0.6	$31.04	$19		$12	$53	
ST		Alternate Vendor CDS Type GSS				$762		20.6		$639		$412		
	Trips		Cost		Marked-up									
1	6	Alternate Vendor CDS Type FSS	$3,048		$4,419									
1	5	2 person crew	4.0	hrs			1	24.0	$31.04	$745			$745	2 person crew 4 hrs per trip
2	5	Vehicles / fuel	1.0	ea					$31.04		$100.00	$600	$600	50k truck x .25% / 100trips = trip unit @ 80%
3	5	Utilities / Power	1	ea	$650.00	$650			$31.04				$650	Est JudgementAllowance
4	5	Equipment Replacement	1	ea	$65.00	$390	4.00	4.0	$31.04	$124			$514	Est JudgementAllowance
5	5	Chemicals	1	ea	$75.00	$450			$31.04				$450	Est JudgementAllowance
6	5								$31.04					
7	5								$31.04					
		Misc. Materials & Consumable	3%	%		$45		0.8	$31.04	$26		$18	$89	
ST		Alternate Vendor CDS Type FSS				$1,535		28.8		$895		$618		
			Cost		Marked-up									
2	1	Alternate Vendor KRUGER1	$231		$335									
1	1	2 person crew	4.0	hrs			1	4.0	$31.04	$124			$124	2 person crew 4 hrs per trip
2	1	Vehicles / fuel	1.0	Trip					$31.04		$100.00	$100	$100	50k truck x .25% / 100trips = trip unit @ 80%

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Operations & Maintenance

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD :	10.0%	10.0%	10.0%	10.0%
PROFIT :	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. :	5.0%	5.0%	5.0%	5.0%
CONTINGENCY :	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 3
Estimate Date : 10/02/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOURCE
3.	1.	Utilities / Power							$31.04					
4.	1.	Equipment Replacement							$31.04					
5.	1.	Chemicals							$31.04					
6.	1.								$31.04					
7.	1.								$31.04					
[redacted]		Misc. Materials & Consumable	3%	%				0.1	$31.04	$4		$3	$7	
ST		Alternate Vendor KRUGER1						4.1		$128		$103		

Cost	Marked-up

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Operations & Maintenance

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD :	10.0%	10.0%	10.0%	10.0%
PROFIT :	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. :	5.0%	5.0%	5.0%	5.0%
CONTINGENCY :	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 3
Estimate Date : 10/02/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOURCE
3	4	**Alternate Vendor GRANDE**	$1,439		$2,083									
1.	4.	2 person crew	4.0	hrs			1	16.0	$31.04	$497			$497	2 person crew 4 hrs per trip
2.	4.	Vehicles / fuel	1.0	Trip					$31.04		$400.00	$400	$400	50k truck x .25% / 100trips = trip unit @ 80%
3.	4.	Utilities / Power							$31.04					
4.	4.	Equipment Replacement							$31.04					
5.	4.	Chemicals							$31.04					
6.	4.	Fluids	1		$125.00	$500			$31.04				$500	
7.	4.								$31.04					
		Misc. Materials & Consumable	3%	%		$15		0.5	$31.04	$15		$12	$42	
ST		Alternate Vendor GRANDE			$515			16.5		$512	$412			

Item	CSI Div	DESCRIPTION	Cost	Marked-up
4	1	**Alternate Vendor Fresh Creek Tech**	$1,088	$1,578

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOURCE
1	1.	2 person crew	8.0	hrs			2	16.0	$31.04	$497			$497	2 person crew 4 hrs per trip
2.	1.	Vehicles / fuel	1.0	Trip					$31.04		$100.00	$100	$100	50k truck x .25% / 100trips = trip unit @ 80%
3.	1.	Utilities / Power							$31.04					
4.	1.	Equipment Replacement	1	ea	$125.00	$125			$31.04		$335	$335	$460	9-28 email
5.	1.	Chemicals							$31.04					
6.	1.								$31.04					
7.	1.								$31.04					
		Misc. Materials & Consumable	3%	%		$4		0.5	$31.04	$15		$13	$32	
ST		Alternate Vendor Fresh Creek Tech			$129			16.5		$512	$448			

Annual

Item	CSI Div	DESCRIPTION	Cost	Marked-up
4	4	**Alternate Vendor Parkson Corp**	$3,421	$4,961

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOURCE
1.	4.	2 person crew	8.0	hrs			2	64.0	$31.04	$1,987			$1,987	2 person crew 4 hrs per trip
2.	4.	Vehicles / fuel	1.0	Trip					$31.04		$100.00	$400	$400	50k truck x .25% / 100trips = trip unit @ 80%
3.	4.	Utilities / Power	1	ea	$25.00	$100			$31.04				$100	
4.	4.	Equipment Replacement	1	ea	$125.00	$500			$31.04		$335	$335	$835	9-28 email
5.	4.	Chemicals							$31.04					
7.	4.								$31.04					
		Misc. Materials & Consumable	3%	%		$18		1.9	$31.04	$60		$23	$100	
ST		Alternate Vendor Parkson Corp			$618			65.9		$2,046	$757			

Cost	Marked-up

1134

Operations & Maintenance

MARK-UPS:

	MAT'L	LABOR	EQUIP.	Indirects
OVERHEAD :	10.0%	10.0%	10.0%	10.0%
PROFIT :	5.0%	5.0%	5.0%	5.0%
MOB/BOND/INS. :	5.0%	5.0%	5.0%	5.0%
CONTINGENCY :	25.0%	25.0%	25.0%	25.0%

Estimator: Wm. Griffith / MKE
Project Mgr: Webster, Todd/MKE
Project #: 316657
Estimate #: Conceptual / Alternatives
Rev. #: # 3
Estimate Date : 10/02/2004

Item	CSI Div	DESCRIPTION	QTY	UNIT	MATERIALS UNIT $	MATERIALS AMOUNT	LABOR Unit MH	LABOR Man-Hrs	LABOR RATE	LABOR AMOUNT	Equipment UNIT $	Equipment AMOUNT	TOTAL	RESOURCE
5	1	**Comments**	$231		$335									
1	1	2 person crew	4.0	hrs			1	4.0	$31.04	$124			$124	2 person crew 4 hrs per trip
2	1	Vehicles / fuel	1.0	Trip					$31.04		$100.00	$100	$100	50k truck x .25% / 100trips = trip unit @ 80%
3	1	Utilities / Power							$31.04					
4	1	Equipment Replacement							$31.04					
5	1	Chemicals							$31.04					
6	1								$31.04					
7	1								$31.04					
		Misc. Materials & Consumable	3%	%				0.1	$31.04	$4		$3	$7	
ST		Comments						4.1		$128		$103		

Appendix E

Application of the Setback Rule to CSO Projects (draft)

Application of the Setback Rule to CSO Projects

DRAFT FOR DISCUSSION PURPOSES
8/13/04

Communities in the process of developing Combined Sewer Overflow (CSO) Long Term Control Plans have requested that IDEM provide an interpretation of the setback requirement found in 327 IAC 3-2-6, particularly as applied to the construction of CSO treatment/control projects. These communities have indicated that the applicability of this requirement may impact their evaluation/selection of long term CSO controls.

327 IAC 3-2-6 states:

> (a) Setback distances for **new wastewater treatment sites** must comply with the following:
>
> (1) No less than five hundred (500) feet shall separate a water pollution treatment/control facility, including aerated lagoon systems, from a dwelling, unless that dwelling is an office owned, occupied by, and located on the property of the owners of the water pollution treatment/control facility, as measured from the outside edge of the equipment involved with the treatment/control of water pollution to the outside edge of the dwelling.
>
> (2) No less than one-fourth (¼) of a mile shall separate a nonaerated facultative treatment lagoon from a dwelling, unless that dwelling is an office owned, occupied by, and located on the property of the owners of the nonaerated facultative treatment lagoon, as measured from the outside edge of the nonaerated facultative treatment lagoon to the outside edge of the dwelling.
>
> (b) The separation distances required in subsection (a) may be modified if the affected dwelling owners agree to a shortened separation distance and record such agreement as easements and deed restrictions with the county recorder's office for the affected property.

327 IAC 3-2-6 (emphasis added).

A community proposing to construct *a wastewater treatment/control device at a new wastewater treatment site* is subject to the requirements of this rule. While there is no legal definition of the phrase "new wastewater treatment site," IDEM considers it to mean a location at which:

1) wastewater treatment is not currently provided; and

2) construction of a wastewater treatment device is proposed as part of the project for which a construction permit is being sought.

Examples of the application of this rule, in the context of the proposed construction of CSO storage or treatment projects, include the following:

Construction of a "Satellite" Basin: A community proposing to construct a basin in order to store wastewater for future conveyance to a wastewater treatment plant is not subject to the 500'setback requirement, as long as the basin is not designed to overflow to the environment/waters of the state. The setback requirement applies to construction of a water pollution treatment/control device occurring at a new wastewater treatment site. A new wastewater treatment site is a location at which wastewater treatment is not currently provided and construction of a wastewater treatment device is proposed. A basin designed solely for the purpose of storage is not considered to be a wastewater treatment device. Accordingly, construction of such a basin does not constitute construction at a new wastewater treatment site, and therefore, the setback requirement is not applicable.

Construction of "End-of-Pipe" Treatment at an Existing CSO outfall: A community proposing to construct "end-of-pipe" treatment at an existing CSO outfall, where no treatment is currently provided, is subject to the 500'setback requirement. The setback requirement applies to construction of a water pollution treatment/control device occurring at a new wastewater treatment site. A new wastewater treatment site is a location at which wastewater treatment is not currently provided and construction of a wastewater treatment device is proposed. The installation of treatment at a location at which treatment is not currently provided constitutes construction at a new wastewater treatment site, and therefore, the setback requirement is applicable.

Construction of "Satellite" Disinfection Facilities and an Equalization Basin: A community proposing to construct satellite disinfection facilities, and an equalization basin to equalize the flows transported to the satellite disinfection facilities, at a location at which treatment is not currently provided, is subject to the 500' setback requirement with respect to both the disinfection facilities and the equalization basin. The setback requirement applies to construction of water pollution treatment/control devices occurring at a new wastewater treatment site. A new wastewater treatment site is a location at which wastewater treatment is not currently provided and construction of a wastewater treatment device is proposed. The construction of disinfection facilities at a location at which treatment is not currently provided constitutes construction at a new wastewater treatment site, and therefore, the setback requirement applies to the construction of the disinfection facilities. Further, the equalization basin is a water pollution treatment/control device proposed to be constructed at a new wastewater treatment site, and therefore, the setback requirement is applicable to it as well.

A community that is seeking to construct a water pollution treatment/

control device at a new wastewater treatment site, and is therefore subject to the 500' setback requirement, may be permitted to utilize a shorter separation distance if the requirements of 327 IAC 3-2-6(b) are satisfied. A community that is unable to satisfy the requirements of 327 IAC 3-2-6(b) should consider acquiring, through eminent domain, the property or easement needed to comply with the setback requirement. Alternatively, a community that is unable to meet the 500' setback requirement, and unable to satisfy the requirements of 327 IAC 3-2-6(b), may be able to obtain a variance, pursuant to IC 13-14-8-8, from the 500' setback requirement.

Regardless of whether the setback requirement is applicable, communities should consider both satellite storage and satellite/end-of pipe treatment for CSO discharges in their evaluation of alternatives, in order to ensure that an evaluation of a full range of alternatives is conducted. Additionally, information generated during the evaluation of alternatives could help support a request for variance from the setback requirement.

Furthermore, it should be noted that regardless of whether the setback requirement is applicable, the construction of any water pollution treatment/control device requires a construction permit from IDEM, in accordance with 327 IAC 3, unless an exclusion contained in 327 IAC 3-2-4 applies. In all of the above noted examples, a construction permit would be required.

EXHIBIT F-3

Report Clarification

TO: Pat Callahan/City of Fort Wayne

FROM: Todd Webster/CH2M HILL - Fort Wayne
Rita Fordiani/CH2M HILL - Sudbury

DATE: November 22, 2004

The following excerpt is from the EPA CSO Guidance for Nine Minimum Controls (EPA 832-B-95-003), Control of Solid and Floatable Materials in CSOs – Documentation:

The following list provides examples of documentation that could be submitted to demonstrate diligent effort in evaluating this minimum control, and a clear understanding of the measures being implemented:

- *An engineering evaluation of procedures or technologies considered for controlling solid and floatable materials*
- *A description of CSO controls in place for solid an floatable materials*
- *A cost estimate and implementation schedule for each control measures being implemented*
- *An estimate of the decrease in solids and floatables expected from the minimum control efforts*
- *Documentation of any additional controls to be installed or implemented*

This memo documents a response to each of the above points.

Engineering Evaluation of Procedures/Technologies Considered

This was provided in the November Report entitled, *City of Fort Wayne CSO Solids and Floatables Control Plan for Selected Sites*, CH2M HILL November 2004 (November Report).

Description of CSO Controls in Place

This was provided in the November Report and highlights the many non-structural programs currently in place which prevent solids and floatables from reaching surface waters.

Cost Estimate and Implementation Schedule

This was provided in the November Report for structural controls. As recommended in the report, thorough tracking of the costs and benefits of the non-structural programs would provide the data needed to evaluate program effectiveness.

Estimate of the Decrease in Solids and Floatables

Tables 2-5 of the November Report provide an estimate of the decrease in solids and floatables as a result of non-structural programs. Table 8 of the November Report provides an estimate of the decrease in solids and floatables as a result of future structural programs based on typical CSO discharge quality. However, the sites in Fort Wayne did not exhibit typical CSO quality. As presented in a memorandum, *City of Fort Wayne Recommended CSO Sites for Further Solids and Floatables Investigation*, July 23, 2004, CH2M HILL (July Memo), a majority of the CSO discharge sites were relatively free of sewer-related debris (see field notes and photos in the July Memo). For this reason the recommendations in the November Report focus more on maintaining better documentation of existing non-structural programs currently in place and implementing one structural control at Fairfax/Foster Park (Site #21) as a pilot program to better evaluate the cost-effectiveness of the non-structural and structural controls, respectively, before large financial commitments are made by the City.

Documentation of Any Additional Controls

This was provided in the November Report.

EXHIBIT F-4

Status of Follow Up Investigations

Items Noted in "City of Fort Wayne Recommended CSO Sites for Further Solids and Floatables Investigation" dated July 23, 2004

Date: 5-07

Overflow Point No. 004

Comment in Report: Suggest reviewing/correcting operation of tide flex – river backs into system at a high rate.
Action Status: Field investigation revealed that "duck bill" at discharge point was in need of replacement, and the internal upstream flap gate is in need of repair. Project to be developed to address this problem.

Overflow Point No. 007

Comment in Report: Suggest reviewing tide gate operation.
Action Status: Field investigation revealed that the gate was in need of replacement. Gate was replaced.

Overflow Point No. 011

Comment in Report: Suggest reviewing/correcting cause of regulator manhole surcharge and problem with river water entering submerged outfall.
Action Status: Staff unsure why manhole had surcharged. Daily inspections do not observe similar incidents. Tide gate for submerged outfall is normally closed as adjacent pump station (discharge point 012) is primary discharge point for overflows. Gate scheduled to be inspected and identified for yearly maintenance.

Overflow Point No. 013

Comment in Report: Suggest review of sewer maintenance practices in regards to plugged sewer lines in area.
Action Status: WPCM staff is not aware of any unusual or above average maintenance issues in the area that need to be addressed. Intend to "flag" area to watch if overflow occurs again and determined to be due to plugged lines in area.

Overflow Point No. 016

Comment in Report: Suggest looking into closing off CSO discharge point.
Action Status: CSO discharge piping has been bulk headed and not an active discharge point any more.

Overflow Point No. 020

Comment in Report: Suggest reviewing/correcting operation of flap gate.
Action Status: Flap gate is at regulator, over 1500' from discharge point at river. The river does back up into the outfall, but does no significant harm unless regulator flap gate does not operate properly. Regular maintenance is performed on regulator.

Overflow Point No. 023

Comment in Report: Suggest reviewing/correcting operation of flap gate.
Action Status: Field investigation revealed nothing unusual. Flap gate normally submerged and closed. Sealing around gate to be inspected and any obstructions to be removed. Gate scheduled to be inspected and identified for yearly maintenance.

Overflow Point No. 024 and 025

Comment in Report: Suggest reviewing/correcting operation of flap gate.
Action Status: Flap gate normally submerged and closed. Sealing around gate to be inspected and any obstructions to be removed. Gates scheduled to be inspected and identified for yearly maintenance.

Overflow Point No. 032

Comment in Report: Suggest reviewing if river water an intrusion or condition of backflow prevention.
Action Status: Outfall normally submerged completely. River intrusion only reported to be problematic if river level very high. Site scheduled to be inspected to determine if any corrective actions are necessary.

Overflow Point No. 050

Comment in Report: Suggest reviewing/correcting operation of flap gate.
Action Status: Outfall normally submerged completely. Gate scheduled to be inspected and identified for maintenance as necessary.

7.0 POLLUTION PREVENTION PROGRAMS TO REDUCE CONTAMINANTS IN CSOs

7.1 OVERVIEW

The City uses an interdisciplinary and wide-ranging approach to address the seventh minimum control measure, pollution prevention. The City's Pollution Prevention Program focuses on nonstructural approaches to prevent or intercept solids, floatables and other contaminants before they enter the combined sewer system.

The idea behind this minimum control measure is that pollution should be prevented or reduced at the source whenever possible in order to reduce the contaminants entering the combined sewer system, and thus the receiving waters via CSOs. The pollution prevention program is applied to reducing the overall mass of solids and floatables that enters waterways, thereby reducing the aesthetic problems and nuisances associated with this particular kind of waste stream. Pollution prevention programs are also aimed at preventing or intercepting certain less visible but equally objectionable contaminants before they enter the overflow stream. A final benefit of pollution prevention, particularly floatable control, is that by controlling trash and debris before they enter the combined sewer system, the City reduces the risk that trash will interfere with a regulator or flap gate – possibly causing a dry weather overflow.

Although this strategy does not reduce or eliminate the solids and floatables associated with sanitary sewage, it is intended to control the discharge of the considerable amounts of debris carried into the combined sewer system during rain storms. Even citizens who may not understand many of the issues involved with combined sewer overflows may be aware of trash and debris along the City's riverbanks and in the rivers. While their concerns may be specifically related to appearance and aesthetics of the streams, it may be possible to amplify their interest and cause a behavioral change.

Because the techniques involved in the Pollution Prevention Program are not "end of pipe" solutions, this control strategy is not associated with particular outfalls. It is applied community wide, and not just in combined sewer area. However, it is possible that the level of effort can be adapted for particular drainage areas to ensure that outfalls that are typically problematic receive more intensive efforts to relieve the problem. For example, the the City Street Department cleans downtown streets more frequently than streets in residential areas. The downtown area is more likely to accumulate more trash and debris on the streets and the downtown area is served primarily by combined sewers. So a more intense focus downtown is likely to yield a greater pollution prevention benefit.

While much of the Pollution Prevention Program focuses on physical activities and efforts such as trash collection, recycling, street sweeping and inlet cleaning, a vital part of the program is public education and involvement. The goals of educating the public about and involving them in the pollution prevention effort are to cause behavioral change in both short term and long term. A one-day riverbank cleanup may result in an increased awareness of the effect of throwing a pop bottle out of a car window. This could result in a long-term increase in recycling and a reduction in littering overall.

As part of the implementation of this minimum control measure, City programs that have been going on as part of routine city services for decades are being refocused and outcomes tracked. Also, many components of this pollution prevention program are also required under the City's Stormwater NPDES Phase II program. The emphasis on pollution prevention as part of both the CSO and stormwater programs provides opportunities to educate City departmental and other agency employees about the importance of their efforts to the City's compliance with this control measure.

7.2 POLLUTION PREVENTION ACTIVITIES

The City, through various departments, conducts a variety of routine and specialized pollution prevention activities:

- Street sweeping
- Leaf collection
- Trash collection and curbside recycling
- Yard waste pickup
- Great American Clean-Up/Riverbank cleanup
- Adopt-A-Greenway
- Trash collection in parks
- Neighborhood cleanup days
- Tire collection
- Household Hazardous Waste collection
- Hazardous spill response
- Inlet and Catch basin cleaning
- Industrial pre-treatment
- Dead animal pickup

Each of these programs, including scope, goals, expected benefits and measures, is detailed in Exhibit G-1. The City's curbside recycling program began in 1995. The Great American Clean-Up/Riverbank cleanup, Yard waste pickup and Neighborhood Cleanup days have been ongoing for at least the last 15 years. The Adopt-A-Greenway program began during the 1990s. All other of the above activities have been ongoing for the 20 years (more precise implementation dates are not available). A Pet Waste Management Program is also under development and consideration.

7.3 PUBLIC EDUCATION AND PARTICIPATION

In addition to actually carrying out the programs listed above and described in the exhibits to this chapter, the City invests in an aggressive public education and outreach program to make citizens aware of the Pollution Prevention Program efforts and to encourage their involvement. The City employs a Public Information Officer and contributes funding, support and program guidance for an education specialist employed by the Allen County Partnership for Water Quality. The City also works closely with the Allen County Solid Waste District on the development and cross-promotion of pollution prevention and waste reduction programs.

The reason that the City invests so heavily in public education is because we believe that public awareness of water resource issues may result in public involvement in efforts to reduce the amount of solids, floatables and other pollutants entering the combined sewer system and thereby, the receiving waterways. Reducing litter in streets, properly disposing of leaves and household hazardous material, and paying attention to the kind of material being disposed of in toilets and storm sewer inlets, especially those in the combined sewer area, are all vital to the Pollution Prevention Program

The City's website (www.cityoffortwayne.org) includes information about the City-sponsored pollution prevention activities detailed in Exhibit G-1 of this chapter. The website also provides information about pollution prevention activities that may be conducted by other agencies or area businesses. While tire recycling events and hazardous waste disposal events sponsored by public agencies are held only sporadically during the year, the City's website give the names and locations of local businesses that recycle tires, oil, hazardous and other material. Most of these businesses charge a fee for accepting and handling these items. The Allen County Solid Waste District also publishes an annual Waste-Watcher newspaper insert and pays for television and radio advertising to promote the appropriate disposal of solid and hazardous waste.

The Partnership for Water Quality provides educational opportunities and materials to help citizens learn more about watersheds and water resource issues generally. The Partnership for Water Quality has created a variety of materials that are made available at the Partnership Office and through the City. The Partnership also hosts a booth at several annual community events such as the Three Rivers Festival, the Allen County Fair and Black Expo where educational materials are distributed. A list of available educational materials and samples may be found in Exhibit G-2.

In addition to providing information about programs, the City uses a variety of tools to educate citizens about the nature of the combined sewer system itself -- how it operates, why it exists and the efforts underway to better control overflows. The City's CSO Public Notification Program (see Chapter 8) is intended primarily to inform the public of the possible health and environmental effects of combined sewer overflows, to make them aware of when CSOs are occurring or are likely to occur, and to educate them about the City's efforts to manage CSO discharges in accordance with federal mandates. Although public notification does not reduce the frequency of CSO discharges or pollutant loads, such notice can reduce the potential risk of adverse health effects. CSO outfall locations are marked with signage including the telephone number for a Water Quality Hotline that provides information about the nature of CSO and whether overflows are occurring. While many of these efforts have been intended to meet federal program requirements, they are also intended to gain public confidence and demonstrate the City's sincere commitment to environmental stewardship.

The City has been actively committed to involving the public in making decisions about how pollution reduction in local waterways will be accomplished and providing updates on the status of established CSO control programs. A voluntary citizen-based Sewer Advisory Group meets bi-monthly to receive updates on the City's sewer operation and maintenance activities, progress in carrying out combined sewer capacity improvement projects and to give input on program priorities. The Sewer Advisory Group has been actively helping the City make decisions about its sewer utility operations since 1995.

7.4 PROGRAM EVALUATION

The goal of the Pollution Prevention Program is to use a combination of pollution prevention, reduction and management tools that will reduce the amount of pollution entering the combined sewer system. For each activity in the Pollution Prevention Program the City has established goals and methods for evaluating outcomes on an annual basis. Another goal is to expand the public's knowledge of the combined sewer system and its impact on rivers and streams and to increase public involvement in activities that may improve river quality.

The degree to which pollution prevention can reduce contamination of receiving water bodies through CSOs is unknown. In theory, the cost for each unit of pollution reduced through prevention should be lower than the cost to collect and physically treat the same unit at the CSO outfall. In some circumstances, however, source control measures sufficient to provide effective pollution control over a diffuse area could be more costly than control measures at CSO outfalls.

The effectiveness of pollution prevention efforts is sometimes difficult to ascertain. Water quality sampling is only one measure of an effective pollution prevention program. Another water quality based measure is how citizens feel about the cleanliness of the environment including rivers and streams. Effectiveness can also be measured in terms of the number of people involved in activities that may have a pollution prevention outcome – tons of material recycled, number of volunteers participating in the Great American Clean-Up or the number of people who drop-off material during the annual Household Hazardous Waste collection day.

Even in cases where pollution prevention measures provide limited tangible benefits, they may have two important ancillary benefits. Reductions in the quantity of pollutants entering the combined sewer system will reduce the City's operation and maintenance on any overflow control that may be implemented as part of a CSO control program. In addition, public participation in pollution prevention activities will serve to heighten awareness of CSO issues and may increase public support for the overall program.

7.5 RECORD KEEPING

The Pollution Prevention Program relies on the on-going activities of a variety of City Departments and some outside agencies. Each department or agency is aware of their role in the Pollution Prevention Program and the requirement that they track certain data to be compiled on an annual basis.

The City's Planning and Design Services Department is responsible for collecting relevant data from each department or organization annually. He or she will annually summarize information related to each pollution prevention activity which will be kept at Exhibit G-3. A sample format for the summary may be found at Exhibit G-3.

DIRECTORY FOR APPENDIX G
(Items Presented in Order of Appearance in Appendix G)

EXHIBIT G-1

Polution Prevention Activities - Details

Program Name: **STREET SWEEPING**

Responsible Party: Fort Wayne Street Department under the direction of the Street Commissioner

Description of Activity, Scope and Expected Benefits:
Street sweeping reduces the amount of debris entering the combined and storm sewers by collecting it before it has the opportunity to wash into a catch basin or inlet. This control is highly applicable to developed and established urban areas with curbed streets and stormwater collection facilities. In addition to collecting trash and debris – potential floatables – street sweeping reduces grit and heavy metals that can easily be transported to receiving streams through overflows.

The goal of the street sweeping program in Fort Wayne is to sweep each City street at least four times per year. Fort Wayne uses vacuum sweepers that have higher efficiency than mechanical sweepers. The City is divided into five street sweeping areas. During daytime hours, one street sweeper is assigned to each of four quadrants. Each quadrant has a predetermined route and streets are swept according to that route. One street sweeper and operator is assigned to the third shift. Overnight when traffic and parking are reduced, this sweeper cleans streets in the downtown area Sunday thru Thursday night. Arterials are swept as time permits and as sweepers are traveling to residential areas. Sweepers also respond as needed to clean up glass and debris on arterials. Currently concrete and asphalt alleys are not swept as part of regular street sweeping routes but are swept on a request basis. Streets are swept spring, summer and fall. City Street Dept sweeps approx 16,000 curb miles per year spending 1,200 staff hours.

During the summer months – April through September – a two-person team (Clean Team) uses a sidewalk sweeper to clean alleys, sidewalks and streets of solid and floatable material and to beautify the downtown area.

Goals:
Sweep each City street at least four times per year
Sweep 16,000 curb miles per year
Respond as requested to clean up glass and debris on arterials
Sweep concrete and asphalt alleys as requested

Measures:
Number of times each street is swept
Number of curb miles swept each year
Tonnage of material collected by the sweepers
Debris collected by the Clean Team:
(This is counted in terms of number of 33-gallon trash bags filled)

Polution Prevention Activities - Details

Program Name: **LEAF COLLECTION**

Responsible Party: Fort Wayne Street Department under the direction of the Street Commissioner

Description of Activity, Scope and Expected Benefits:
The City's Street Department operates a neighborhood leaf collection program annually from mid-October through mid-December. The City is divided into three areas, north, central and south, and leaf collection crews spend three weeks in each area on a rotating basis. The program is intended to remove the majority of leaves from residential neighborhoods in a timely manner so that they will not accumulate over catch basins and inlets. Clogged inlets are a major contributor to street flooding. Leaf removal is important to keep leaves and leaf debris from entering the combined sewer system and possibly interfering with regulator or flap gate operation. From a public safety perspective, dry leaves on an unimproved street may contribute to fires if cars are parking over piles of leaves, and wet leaves can make it difficult for cars to brake effectively.

Much of the effectiveness of the program depends on public involvement. Residents receive utility bill stuffers notifying them of the dates when leaf crews will be in their area of the City. Residents are asked to rake their leaves to the curb but not into the street during the week when leaf collection crews will be in their area of the City. Leaves may also be placed in biodegradable yard waste bags and placed at the curb. Street Dept crews use front-end loaders to collect the leaves, placing them in dump trucks for transport to the city's yard waste recycling facility. In some areas, particularly areas with unimproved streets, leaf vacuums are used to collect leaves. A street sweeper also follows each leaf collection crew.

The effectiveness of leaf collection as a pollution prevention activity is somewhat difficult to measure. Measuring tons of leaves doesn't quite suit since tonnage depends on the fullness of trees. Tonnage also depends on whether the leaves collected are wet or dry and on whether the snow removal interferes with completion of leaf collection.

Goals:
Complete leaf collection

Measures:
Leaf collection completed

Polution Prevention Activities - Details

Program Name: **TRASH COLLECTION AND CURBSIDE RECYCLING**

Responsible party: Fort Wayne's Solid Waste Department through its trash collection contractor National Serv-All

Description of activity, scope and expected benefits:
The City of Fort Wayne employs a private firm to collect trash/garbage on a weekly basis. The same company provides curbside recycling on the same day as trash collection but on a bi-weekly basis. Each household is provided with two 18-gallon recycling bins – one for newspapers, magazines, catalogues, cardboard, fiberboard and phonebooks – the other for glass, plastic and metal recyclables.

The City's contractor also collects bulky items including heavy furniture and non-Freon appliances if they are placed with the trash/garbage either at the curb or in the alley. Items that cannot be placed for collection by the contractor include tires, hazardous waste, large amounts of construction and demolition debris (over 60 pounds per week) and Freon appliances.

The effectiveness of trash collection and recycling programs is dependent upon the level of public participation. For citizens to participate the programs must be clearly communicated, convenient and low cost. Fort Wayne's Solid Waste Department provides on-going education for the community concerning trash collection and recycling. The City's website (www.cityoffortwayne.org) includes an extensive section that details material that can be recycled as well as information about proper disposal of unusual items such as Freon appliances, asphalt, batteries, computer equipment, fluorescent bulbs, hazardous waste, paint and tires that cannot be recycled or collected by the city's trash hauler. The City encourages private collection companies to keep charges for collecting these materials as reasonable as possible to discourage illegal dumping

In addition to website, other public information/education programs include:
- Annual utility bill stuffers outlining what can be recycled;
- Mailers to newly annexed residents about trash collection and recycling;
- Cooperative efforts with the Allen County Solid Waste District to distribute information about what can be recycled and options for disposal of material that cannot be recycled or placed in the trash;
- Presentations to schools regarding recycling;
- Information at community events such as the Home and garden Show;
- Magnets mailed to homes designating them as either week "A" or week "B" recyclers along with phone numbers to call for more information.

Convenient programs for trash disposal and recycling can result in less trash and debris being dumped in remote areas or along streambanks. Another expected benefit of an effective trash and recycling program is an increase in the tonnage of recycled material collected and a reduction in street trash and litter that can eventually make its way into the combined sewer system. Beginning in 2006, every homeowner will receive a garbage cart to be used to hold trash and garbage when it is placed out for collection. Use of the carts should eliminate the possibility of bags breaking on the street or being torn open and spilling. This should further reduce the amount of trash on City streets.

Polution Prevention Activities - Details

Goals:
Create a convenient and well-understood trash and recycling collection program

Measures:
Tons of material recycled per year
Number of educational programs presented

Polution Prevention Activities - Details

Program Name: **YARD WASTE RECYCLING**

Responsible party: City of Fort Wayne through its trash collection contractor National Serv-All and at the Biosolids Handling Facility

Description of activity, scope and expected benefits:
Yard waste, except leaves, can be placed with the garbage for collection all year long by the City's trash collection contractor. Grass clippings may be bagged in plastic bags or placed in refuse containers. Biodegradable yard bags may also be used. Branches will be collected and there is no limit on the amount so long as they are prepared appropriately

One City operated site and one private site are also available for yard waste disposal. The City operated a yard waste recycling facility accepts leaves, garden waste, purnings, vines, grass clippings and brush. There is a small charge for disposal at both sites. Construction debris, wood fencing, tires and garbage are NOT accepted at either site.

The City's site also makes mulch, recycled lime sludge and recycled sewage biosolids available for pickup by citizens.

The Fort Wayne Solid Waste Department and Allen County District work to encourage property owners to mulch grass clippings rather than put them out for collection.

Goals:
Increase public awareness of options for recycling yard waste
Increase tonnage of yard waste collected at drop-off sites

Measures:
Tons of yard waste collected at recycling sites

Polution Prevention Activities - Details

Program Name: **GREAT AMERICAN CLEAN-UP/RIVERBANK CLEANUP**

Responsible party: Fort Wayne's Solid Waste Department

Description of activity, scope and expected benefits:
The Great American Cleanup in Fort Wayne is a one-day per year event that is focused on cleaning up the community. Fort Wayne's Solid Waste Management Department recruits and organizes several thousand volunteers, matching volunteer groups specific clean up projects or areas. Activities include neighborhood trash and debris removal, used tire collections, and riverbank cleanups. Items collected include furniture, appliances, plastic bottles, tires, Styrofoam and other trash. The event also includes a litter prevention education program and is organized in conjunction with Keep America Beautiful, Inc. The City also recruits sponsors for the event whose contributions help to pay for gloves, trash bags and flower seeds that are provided to the volunteers. Tee shirts are also provided to volunteers so they have an on-going reminder of the project they carried out and an incentive to carry on litter prevention activities throughout the year.

Riverbank cleanup activities and the removal of litter and debris from neighborhoods and streets reduces the amount of these materials that are likely to make their way into the combined sewer system and thus into Fort Wayne's rivers. The litter prevention education that goes on as part of the Great American Cleanup program can help to increase awareness of the problems caused by litter.

Goals:
Recruit volunteers to carry out cleanup projects identified by the Solid Waste Department
Educate volunteers on the importance of reducing litter throughout the year
Reduce trash and debris on streets, in neighborhoods and along riverbanks

Measures:
Number of volunteers
Number of sites/projects
Tons of trash/debris collected

Polution Prevention Activities - Details

Program Name: **ADOPT-A-GREENWAY**

Responsible party: Fort Wayne Department of Parks and Recreation

Description of activity, scope and expected benefits:
The Fort Wayne Department of Parks and Recreation manages the Rivergreenway Trail, a 15.5 mile long linear park along the banks of the St. Mary's, St. Joseph and Maumee Rivers in Fort Wayne. In addition to providing a limited access park that is ideal for walking, running, rollerblading and bicycling, the Rivergreenway offers natural vistas and scenic overlooks within an urban environment. The greenway also creates a natural area to accommodate overflow from the rivers during periods of high water and flooding.

The Adopt-A-Greenway program to help keep Fort Wayne's Rivergreenway Trail maintained. Organizations agree to adopt a two-mile section of the Greenway and to clean their section of the tail three times a year. In exchange for a group's assistance, a sign is placed along their section recognizing the group. The program helps to keep trash and debris from entering the adjacent rivers. In addition, the Fort Wayne Parks and Recreation Department website provides a way for greenway users to notify the Parks Department of problems along the greenway that may be in need of clean up or repair.

Goals:
Increase awareness of the benefits of the Rivergreenway
Increase the number of organizations participating in the Adopt-A-Greenway Program

Measures:
Number of participating organizations
Number of cleanups per year
Number of volunteers

Polution Prevention Activities - Details

Program Name: **TRASH COLLECTION IN PARKS**

Responsible party: Fort Wayne Department of Parks and Recreation

Description of activity, scope and expected benefits:
The Fort Wayne Department of Parks and Recreation collects trash and empties trash cans and dumpsters in all 84 of Fort Wayne's parks at least daily. The department owns and uses its own trash collection truck to perform collections.

While the primary goal of the Parks trash collection program is to project an image that the parks are clean and safe places for children to play, pollution prevention is an ancillary benefit. The majority of Fort Wayne's parks are located adjacent to one of the City's three rivers or they contain open drains or small streams. Regular trash collection helps to keep trash and other contaminants from directly entering waterways and also reduces the amount of debris that may enter the combined sewer system from the parks that are located in the combined sewer area.

Goals:
Empty trash cans in parks every weekday

Measures:
Trash cans in parks are emptied every weekday

Polution Prevention Activities - Details

Program Name: **NEIGHBORHOOD CLEANUP DAYS**

Responsible party: Fort Wayne Division of Community Development and Fort Wayne Solid Waste Department

Description of activity, scope and expected benefits:
The Division of Community Development uses funds from the Community Development Block Grant program to help fund neighborhood cleanups from April through October of each year. The program aims to help clean up poorly maintained, vacant lots, alleys and individual properties. Neighborhoods must meet certain income eligibility guidelines in order to quality for the program, and the majority of the income eligible neighborhoods are located within the City's combined sewer system area.

Community Development offers each eligible neighborhood an opportunity to schedule two clean up days per year. The City provides roll-off dumpsters and removal. Items that may be collected and disposed of include trash, construction debris and yard waste. This program helps to remove trash and other debris that might otherwise find its way into the combined sewer system and into waterways as pollution. By providing a convenient way to dispose of construction debris, this program makes it less likely that such material will find its way into a catch basin, possible interfering with a flap gate or regulator and causing a dry weather overflow. Keeping construction debris out of sewer lines also helps to maintain the capacity of the sewer system.

The Solid Waste Department offers a similar program in neighborhoods that do not meet the CDBG eligibility guidelines.

Goals:
Organize as many cleanup days in neighborhoods and funding and resources allow

Measures:
Number of neighborhoods participating
Number of clean-up days held per year
Tons of material collected

Polution Prevention Activities - Details

Program Name: **WASTE TIRE DISPOSAL**

Responsible party: Allen County Solid Waste District, Fort Wayne Community Development Division

Description of activity, scope and expected benefits:
Very few products are considered to be worn out when they are only 5% used – except tires. Used tires are a constant solid waste problem. Because there is often a cost to dispose of or recycle tires, they often find their way into rivers and streams. Along river and stream banks, dumped tires become breeding grounds for many pests including mosquitoes, which may carry diseases that are harmful to humans.

Within the Fort Wayne area, two programs offer alternatives to dumping or stockpiling waste tires. Each year the Allen County Solid waste District sponsors a Tire Amnesty Day on one Saturday in October when residents may drop off tires at a designated location for recycling. A minimal fee is applied.

As a way to encourage neighborhood associations to remove tires that may accumulate in residential areas, the City's Division of Community Development conducts a tire disposal program. Neighborhoods that register may bring tries to a drop-off location. The tires will be hauled away and disposed of by the City. The City pays the neighborhood association a small amount per tire. This program is intended to provide a cash incentive for neighborhood clean up and to make tire disposal more convenient for organized groups.

Many tire dealers will dispose of old tires for a small fee.

Goals:
Provide convenient tire disposal options to discourage dumping

Measures:
Number of tires collected through established collection programs

Polution Prevention Activities - Details

Program Name: **HOUSEHOLD HAZARDOUS WASTE COLLECTION (TOX-AWAY DAY)**

Responsible party: Allen County Solid Waste Department

Description of activity, scope and expected benefits:
Illegal disposal of household hazardous wastes can introduce waste oil and a multitude of toxic materials to the combined sewer system – whether these materials are dumped down a sink, floor drain or toilet or poured into a catch basin.

In order to reduce the likelihood that these materials will enter the combined sewer system, the Allen County Solid Waste District gives residents an opportunity to safely dispose of various hazardous and toxic household products. "Tox-Away Day" is held annually in a designated location. Allen County residents may drop off a limited amount of material at no charge. The event is well publicized via television, radio and newspaper advertising. Because it is typically held around the same time each year and because this has been an on-going program for more than 15 years, area residents look forward to the event and store material for drop off.

The City of Fort Wayne participates in the event by helping to publicize it through utility bill stuffers, notices of the government access television station and on the City's website. The City's website also provides information on companies that participate in various hazardous waste collection programs throughout the year.

Goals:
Increase awareness of Tox-Away Day
Increase number of participants
Increase amount of material collected

Measures:
Number of participants
Weight of various material collected

Polution Prevention Activities - Details

Program Name: **HAZARDOUS SPILL RESPONSE TEAM**

Responsible party: Fort Wayne Fire Department, Allen County Emergency Management Department, Allen County Solid Waste district

Description of activity, scope and expected benefits:
The Fort Wayne Fire Department's Hazardous Materials Team is made up of 36 members trained to the requirements of the National Fire Prevention Act, Technician level. The team responds to spills and incidents involving hazardous materials within the City of Fort Wayne and throughout Allen County and has mutual aid agreements with several surrounding communities.

The technicians are trained to entry into various hazardous environments and are capable of performing a variety of tasks. Assignments may include: recognizing and identifying hazardous materials, monitoring hazardous atmospheres, containment or confinement of a hazardous material spill or leak, use of absorbing material, pressurized container leaks, highway transportation and railroad tank car accidents. The Allen County Emergency Management Department keeps records of all hazardous material incidents in the County.

The Allen County Solid Waste District has staff trained to assist with managing mercury spills and has monitoring equipment that can be used in mercury detection.

Many hazardous material incidents – particularly those with the potential for an especially large amount of material to enter a waterway – involve traffic accidents. If these accidents happen in a combined sewer area, the possible risk of entry into the combined sewer system is great, particularly if rainy conditions have contributed to the accident. Incidents involving smaller spills of highly hazardous material (for example mercury) may occur in less public places such as dentists' offices or school laboratories. Many times, those ignorant of appropriate containment and clean up procedures flush the hazardous material directly into the combined sewer system by washing the material down a drain or pumping it into a toilet.

Having a trained Hazardous Spill Response Team and other trained agencies in Fort Wayne provides for quick response to incidents that could potentially lead to widespread hazardous contamination of the community's rivers. Increasing awareness through public education programs will ensure that people in the community know there are resources available to assist with hazardous material spills. In this way, we hope to reduce the number of spills that are simply washed down the drain.

Goals:
Increase awareness of how to respond to a hazardous material emergency
Increase consumer knowledge of what constitutes a hazardous material

Measures:
Number of Hazardous Material responses
Reduce number of incidents where hazardous material is found in a sewer or water body.

Polution Prevention Activities - Details

Program Name: **CATCH BASIN CLEANING**

Responsible party: Water Pollution Control Maintenance/Stormwater Maintenance

Description of activity, scope and expected benefits:
Frequent removal of accumulated catch basin deposits is a method often proposed in CSO control programs to reduce the heavy "first flush" effect of deposited solids that is transported by stormwater flow through the combined sewer system. A regular cleaning program also helps reduce the buildup of sediment in the catch basins and increases the likelihood that debris can be removed from the system before it can contribute to a dry weather overflow. Although not a pollution prevention or regulatory outcome, cleaner catch basins mean that water is more likely to drain from the streets more quickly, thereby reducing the number of street flooding calls to the City during wet weather events.

Fort Wayne's Water Pollution Control Maintenance Department assigns two vactor trucks to the program of regular, scheduled catch basin cleaning. One vactor is assigned to the northern half of the City and one to the south half. The goal of the program is to clean every catch basin and inlet every 2.5 years or approximately 31 structures per day. The material removed from catch basins and inlets is weighed daily. The same vactor trucks and crews also respond to a variety of other needs, so vactor trucks may be called off the cleaning routes as needed for other work.

Catch basins are also cleaned in response to complaints of street flooding and odor.

Goals:
Clean each of the City's 15,500 known structures every 2.5 years

Measures:
Frequency of cleaning
Tons of material removed

Polution Prevention Activities - Details

Program Name: **INDUSTRIAL PRE-TREATMENT**

Responsible party: Industrial Pretreatment Section, Water Pollution Control Plant

Description of activity, scope and expected benefits:
The Industrial Pretreatment Section of the Fort Wayne Water Pollution Control Plant is responsible for the oversight of significant industrial users, contract customers and non-major dischargers. Each of these dischargers is monitored at strategic sampling points four times each year to ensure that dischargers are complying with concentration limits placed on a variety of toxic ions, compounds and other substances entering the combined sewer system. In addition to monitoring discharges as outlined in industrial pre-treatment permits, the IPS also ensures that dischargers comply with limitations determined by their Standard Industrial Classification (SIC) code.

The IPS also reviews development plans to determine if new users of the sewer system should be required to install control manholes or sand, oil or grease traps. Based on monitoring results or complaints, the IPS employees will work with individual industries or businesses to find ways to reduce their discharge concentrations to within acceptable limits. The IPS staff members also perform facility audits on each of the discharging Significant Industrial Users within the City of Fort Wayne and outlying areas served by the Fort Wayne Water Pollution Control Plant.

As part of the effort to reduce the amount of grease collecting within sewer pipes that may reduce pipe capacity, the industrial pre-treatment program conducts a restaurant monitoring program involving compliance checks for oil and grease at restaurants that discharge into established sewer line degreasing zones.

An effective industrial pretreatment program will help to ensure that effluent from the Water Pollution Control Plant meets or is better than the limits set in the City's NPDES permit. The program helps to limit heavy metal concentrations in sewage treatment residuals (biosolids) and helps to protect the quality of the City's three rivers by monitoring and reducing the amount of pollution that may enter the rivers through the combined sewer system.

Goals:
Increase sampling and inspection at restaurants in areas requiring the most sewer degreasing
Review all building permit applications for compliance with separator and control manhole requirements
Collect and test samples from industrial and wholesale sewer customers
Conduct SIU compliance, inspection and monitoring programs

Measures:
Rate of non-compliance for categorical SIUs and non-categorical SIUs
Number of facility audits performed
Number of samples collected (at least four per year for each industrial and wholesale customer)
Number of restaurant compliance checks
Number of building permits reviewed

Polution Prevention Activities - Details

Program Name: **DEAD ANIMAL PICKUP**

Responsible party: Fort Wayne Street Department

Description of activity, scope and expected benefits:
In an urban area, it is inevitable that vehicular traffic will occasionally cause the death of wild animals or pets that venture into the street. Fort Wayne provides two options for the removal and disposal of dead animals. The Fort Wayne Street Department provides collection of dead animals as they are found by Street Department crews who are doing other work or when reported by citizens. Dead animals may also be disposed of at the shelter operated by the City's Department of Animal Care and Control.

By providing a program to remove animal carcasses, the City reduces the likelihood that dead animals will be disposed or washed into catch basins, and possibly into the combined sewer system. This not only reduces the pathogens that may enter the system from dead animals, but also reduces the possibility that this kind of debris will cause a regulator or flap gate malfunction.

Goals:
Respond to complaints of dead animals by removing them within 24-hours.

Measures:
Number of calls receiving responses
Number of animals collected

Polution Prevention Activities - Details

Program Name: **PET WASTE MANAGEMENT**

Responsible party: Partnership for Water Quality

Description of activity, scope and expected benefits:
Fort Wayne City Code contains provisions requiring persons responsible for animals to immediately remove animal excrement from public lands or the property of others. City Code pertaining to the use of City Parks requires that pet owners carry with them proper paraphernalia for removing pet waste from parkland.

Pet feces and litter can introduce organic contamination, nutrients and bacteria into the combined sewer system when these wastes are washed off yards or parklands.

By educating citizens about the contamination that may be caused by pet waste, and by providing information about the legal requirements to clean up after pets, the City may be able to reduce the amount of bacteria and nutrients that enter the rivers through the combined sewer system.

Goals:
Implement a public education program on pet waste

Measures:
Public education material created and distributed

EXHIBIT G-2

List of Available Educational Materials and Samples

Flyers

Available from Partnership for Water Quality
3718 New Vision Drive, Fort Wayne
and on the Partnership Website at www.acwater.org

Combined Sewer Overflow – A Reference Guide for Homeowners
Green Landscaping
Household Hazardous Waste
Stormwater Pollution
Drinking Water in Your Community
West Nile Virus
Stormwater Activity Book

Available from City of Fort Wayne
One East Main Street, Room 200
Fort Wayne, Indiana

Combined Sewer Overflows
Dealing With Flood and Sewer Waters
Step-by-Step Downspout Disconnection Guide
Biosolids Use and Reuse

Available from the Allen County Solid Waste District
449-7878
www.acwastewatcher.org

Waste Watcher Recycling Guide

EXHIBIT G-3

Annual Report of Pollution Prevention Activities

Fort Wayne Pollution Prevention Program
Annual Report for 200___

Pollution Prevention is an on-going program of the Fort Wayne Combined Sewer System Operational Plan. It focuses on nonstructural approaches to prevent or intercept solids, floatables and other contaminants before they enter the combined sewer system.

During the year 200____, the following activities were carried out with the following accomplishments:

Street Sweeping

Changes planned for 200__

- Conduct a community survey to find out how effective trash collection and street sweeping programs are based on overall "clean" score

Performance Measure(s)

- Times each street is swept 5 times ______%; 4 times ______%; 3times ______%
- Number of curb miles swept
- Tons of material collected
- Bags collected by Clean Team

Leaf Collection

Changes planned for 200__

Performance Measure(s)

- Percentage of collection completed on time

Trash Collection & Curbside Recycling

Changes planned for 200__

Performance Measure(s)

- Tons of material recycled
- Number of educational programs presented

Yard Waste Recycling

Changes planned for 200__

Performance Measure(s)

- Tons of yard waste collected

Great American Cleanup/Riverbank Cleanup

Changes planned for 200__

- Implement a community riverbank cleanup in the fall

Performance Measure(s)

- Number of volunteers
- Number of sites/projects
- Tons of trash/debris collected

Annual Report of Pollution Prevention Activities

Adopt-A-Greenway

Changes planned for 200__
Performance Measure(s)

- Number of participating organizations
- Number of cleanups per year
- Number of volunteers

Trash Collection in Parks

Changes planned for 200__
Performance Measure(s)

- Trash cans in parks emptied every weekday

Neighborhood Cleanup Days

Changes planned for 200__
Performance Measure(s)

- Number of neighborhoods participating
- Number of clean-up days held
- Tons of material collected

Waste Tire Disposal

Changes planned for 200__
Performance Measure(s)

- Number of tires collected

HHW Collection – Tox-Away Day

Changes planned for 200__
Performance Measure(s)

- Number of participants
- Weight of material collected

Hazardous Spill Response Team

Changes planned for 200__
Performance Measure(s)

- Number of times hazardous material is found in sewer or waterbody
- Number of Haz Mat responses

Catch Basin Cleaning

Changes planned for 200__
Performance Measure(s)

- Frequency of cleaning
- Tons of material removed

Industrial Pre-Treatment

Changes planned for 200__
Performance Measure(s)

- Rate of non-compliance for categorical SIUs
- Rate of non-compliance for non-categorical SIUs
- Number of samples collected
- Number of restaurant compliance checks
- Number of building permits reviewed

Dead Animal Pickup

Changes planned for 200__
Performance Measure(s)

- Number of called responded to
- Number of animals collected

Pet Waste Management

Changes planned for 200__

- Increase public education on pet waste disposal – develop a brochure and distribute through veterinarians' offices

Performance Measure(s)

- Public education material created and distributed

Public Education

Changes planned for 200__
Complete community education plan for Mercury and implement

- Employee training
- Bill stuffers
- Web page
- Community presentations (4)

Performance Measure(s)

- Public information material created
- Public information material distributed
- Public presentations given

8.0 PUBLIC NOTIFICATION

The 8th NMC is intended to ensure that the public is informed of CSOs and CSO activities.

8.1 OVERVIEW

The City's Public Notification Program is intended primarily to inform the public of the possible health and environmental effects of combined sewer overflows, to make them aware of when CSOs are occurring or are likely to occur, and to educate them about the City's efforts to manage CSO discharges in accordance with federal mandates. Public notification is the eighth minimum control and the strategies for complying with public notification requirements vary according to local circumstances. The City has sought to implement public notification strategies that are cost effective but also provide reasonable assurance that affected members of the public are informed accurately and in a timely manner. Although public notification does not reduce the frequency of CSO discharges or pollutant loads, such notice can reduce the potential risk of adverse health effects.

The City has also been actively committed to involving the public in making decisions about how pollution reduction in local waterways will be accomplished and providing updates on the status of established CSO control programs. In addition, the City has been concerned about addressing the water quality issues that are important to the public and has sought input to identify those issues. The City regularly educates the public on various aspects of the collection system through established channels and programs and educates the public regarding what goes into the nation's waters through CSOs. While all of these efforts have been intended to meet federal program requirements, they are also intended to gain public confidence and demonstrate the City's sincere commitment to environmental stewardship.

The City provides a variety of information sources for the public to learn about CSO. The information sources and educational activities will be discussed in this chapter along with the CSO Public Notification Procedure. Samples of educational materials are included in Exhibit H-1 and a copy of the current CSO Public Notification Procedure is included in Exhibit H-2. Annual reports will contain the analysis of specific CSO notifications issued by the City along with information about any changes in the CSO Notification Program. A sample format for the annual report is included in Exhibit H-3. Annual reports will be available for public review on the City's website at www.cityoffortwayne.org.

8.2 EDUCATIONAL ACTIVITIES

The Allen County Partnership for Water Quality (ACPWQ) was created in July 2002 by the City and other local governmental entities to help educate the public and the media about water resource issues. The Partnership hired a Water Resource Education Specialist to be a liaison with the local news media and the public to educate them on watershed based issues, activities and services. The ACPWQ focuses its work on education and outreach efforts related to combined sewer overflows as well as stormwater pollution, conservation efforts, drinking water protection and other water resource issues.

The Partnership provides public education opportunities through: presentations at neighborhood association meetings; classroom demonstrations and workshops; displays and information at local events such as the Three Rivers Festival and Earth Day Celebration, the Fort Wayne Farm Show and Allen County 4-H Fair. The Partnership has sought and used grant funding to distribute a documentary on water quality and associated material to teachers and has created a stormwater activity book for grades K through 3. A list of the educational materials produced by the Partnership for Water Quality and the City may be found in the Exhibit H-4. Samples of these educational materials may be found in Exhibit H-1.

Besides the activities of the Partnership, the City works to engage the public in a regular dialogue on water quality issues through the Sewer Advisory Group. Originally organized as the "Sewer Task Force" to develop recommendations on how the City should proceed to reduce the likelihood of sewer backups into basements, the forum continues to encourage citizens to participate with the City in the selection of priorities and alternatives to address many sewer related issues. In addition to educational and agenda setting functions, the SAG also keeps the City accountable for commitments made and may help generate support for rate increases needed to carry out those commitments.

The City operates and maintains a website (www.cityoffortwayne.org) where educational information about CSOs and water quality is posted. The website also includes information about the CSO Notification Procedure and how citizens may request notice (discussed below).

A list of contacts for educational activities may be found in Exhibit H-5.

8.3 INFORMATION SOURCES

In developing sources of information about the location of CSO outfalls, actual occurrences of CSOs and the possible health and environmental effects, the City desired to conduct a cost effective program that would also provide accurate and timely information to potentially affected populations.

8.3.1 CSO Signs

Notice signs have been installed at each CSO outfall location and in many areas where the City's rivers and CSO affected streams are easily accessible. An example of a CSO notices sign may found in Exhibit H-6. Additional signs are being installed in neighborhoods as they are requested by neighborhood associations. Signs are checked during outfall and regulator inspections so that they can be repaired or replaced as necessary from an existing stock of signs. Records are kept of the sign locations, dates when the signs were posted, and the names and addresses of public and private landowners who provide public access to affected waterways.

8.3.2 Water Quality/CSO Hotline

The City maintains a pre-recorded telephone line to provide information to citizens about river water quality. The pre-recorded message on the line is updated weekly in the spring, summer and fall with information on the current known receiving water quality. This data comes from weekly biological sampling of the City's three rivers. The message also includes general information about CSOs and cautions about bodily contact with affected waters during and after wet weather events. The Water Quality/CSO Hotline number is included on CSO signage. The script for the weekly updates of the hotline can be found in Exhibit H-7.

8.3.3 Educational Flyer Program

The City's Public Information Office and the Water Quality Specialist hired by the Partnership for Water Quality (more below) have produced various informational flyers on topics related to CSOs. Topics for flyers are generated by changes in regulations and inquiries from the public. The City has a number of speakers who can provide more information to neighborhood and community groups about various topics.

The City has chosen to use various information sources based on having a reasonable degree of assurance that the methods used will provide the necessary information to the appropriate audience. CSO signage may be effective for people who visit the location of a CSO outfall where they may come into contact with affected water. However, signs alone are not enough. It is the hope of the City that a sign – in addition to giving an immediate warning – might motivate someone to seek out additional info about the causes of CSOs and the City's CSO reduction program by calling the CSO Hotline phone number shown on the sign. We hope that picking up a flyer at the library or a grocery store might motivate a citizen to call the City and invite a speaker to their neighborhood or church group.

8.4 CSO PUBLIC NOTIFICATION PROGRAM

The City's CSO Public Notification Procedure is intended to meet requirements of the Indiana Administrative Code requiring that the City alert members of the public who may be immediately affected by a CSO discharge. The program provides notice that CSO discharges are occurring or may potentially occur and enables members of the public to protect themselves from possible exposure to waterborne pathogens that may result from contact with or ingestion of water from a waterway that is potentially affected by a CSO discharge. A copy of the CSO Public Notification Procedure may be found in Exhibit H-2.

The procedure for accomplishing this notification has three components: 1) determining when CSO events are occurring or are eminent; 2) providing notification through various methods; and 3) record keeping and reporting.

8.4.1 Determining CSO Events

For the purposes of providing notification, CSO events are based on regular visual examination of CSO outfalls, monitoring local weather forecasts and available real-time precipitation data and monitoring release of water from the City's CSO storage ponds.

If visual inspection reveals that CSO events are occurring, the necessary steps to implement notification are taken. The City's engineering staff has determined that a CSO event can occur as the result of one-tenth of an inch (0.10") of rain. If any of the identified on-line sources of weather information reveal precipitation amounts of equal to or greater than one-tenth of an inch of rain, notification procedures are implemented. Finally, release of water from the City's CSO ponds that exceeds permit requirements triggers the notification process.

8.4.2 Notification Procedure

The City has established an automated e-mail service that allows individuals and groups to request e-mail notification of conditions where CSO releases are occurring or are likely to occur. When conditions established as described above occur, an e-mail notice is immediately sent to anyone who has requested such notification. In March of each year, information is sent to the City's two major newspapers detailing what steps individuals should take to register for this e-mail notification. Steps to request notification are also available on the City's website.

CSO signage at CSO outfalls and other locations where public access to potentially affected waters is either allowed or likely to occur (as described above) is another important part of the notification procedure. The City will continue to expand the CSO signage program, placing signs at public access points, along the City's River Greenway and at other locations identified by the Sewer Advisory Group that might provide public access to affected waters. In addition, staff members from the City and the neighboring community of New Haven will contact the owners of both public and private properties that provide public access to known CSO affected waters and offer to provide free CSO signage.

As outlined in the CSO Public Notification Procedure included in Exhibit H-2, the City public information staff also coordinates with local media outlets and provides CSO notification information through the method selected by the individual newspaper, radio or television station. This allows each media outlet to select the method of notification that best suits their newsroom's operation and deadlines. Because the notification is provided each year in March, media outlets can revise the method by which they receive notice on an annual basis.

8.4.3 Reporting and Record Keeping

City staff use a Public Notification Log to record all monthly activities associated with the CSO Public Notification Procedure. Data included in the log:

- Locations of all CSO signage
- Dates when each sign was erected
- Dates of all CSO notifications and the events that caused the notification to be issued
- Dates of any documented CSO events for which notification was not given
- Contact list of all who are currently on the list to receive notification
- Names and addresses of all public and private property owners who provide public access to affected streams and the date when letters were sent notifying them of free CSO signage

This information will be summarized and kept at Exhibit H-3. A sample format for the annual summary may be found in Exhibit H-3. The information will also be summarized annually and made available for public inspection on the City's website at www.cityoffortwayne.org.

Nine Minimum Controls – No. 8

DIRECTORY FOR APPENDIX H
(Items Presented in Order of Appearance in Appendix H)

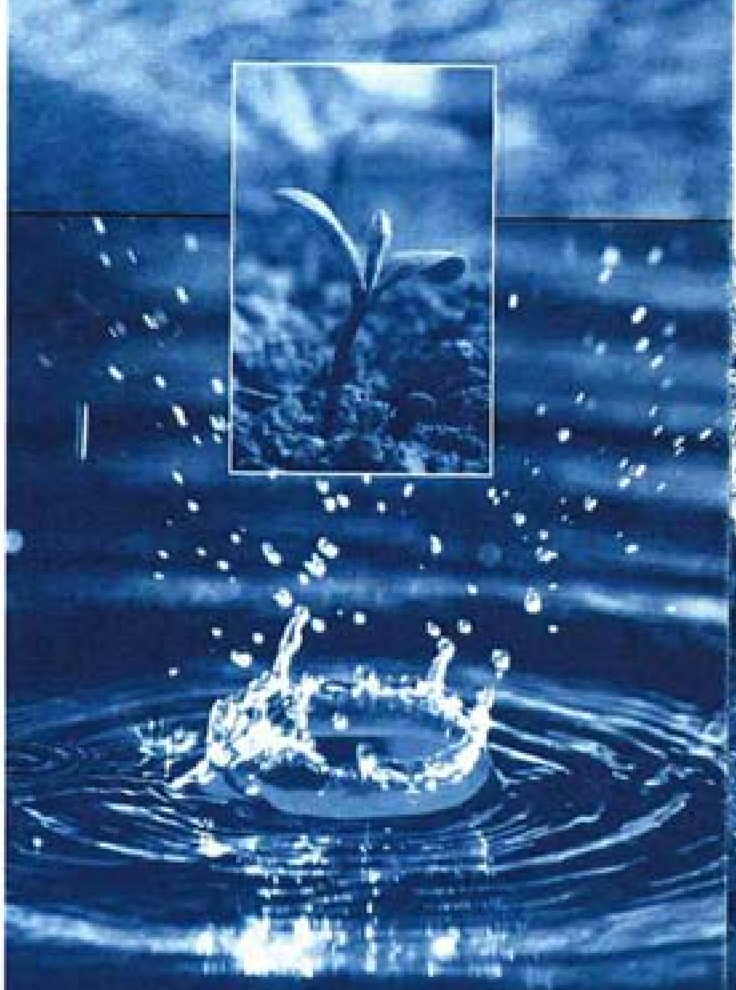
EXHIBIT H-1

Samples of Educational Material

1185

BIOSOLIDS RECYCLING

AN ENVIRONMENTALLY SOUND WAY TO PUT A VALUABLE RESOURCE TO WORK FOR ALL OF US



BIOSOLIDS RECYCLING

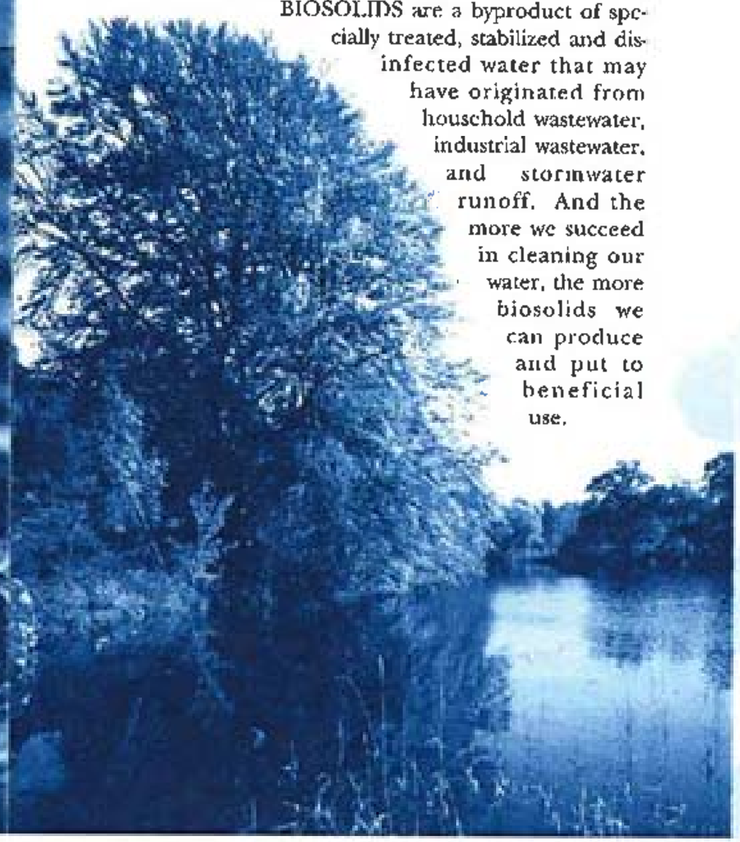
AN ENVIRONMENTALLY SOUND WAY TO PUT A VALUABLE RESOURCE TO WORK FOR ALL OF US.

Everyone knows that recycling benefits the environment. Communities across North America have joined together to conserve our natural resources by recycling everything from glass and plastics to paper and metal.

Wastewater treatment facilities in big cities and small towns also understand the importance of recycling. Facilities like the one in your community reclaim safe, nutrient-rich organic material called BIOSOLIDS from the millions of litres of wastewater they treat each year. Biosolids are used for everything from helping to fertilize the lawn of the White House to producing greater crop yields for farmers.

In fact, almost half of all biosolids produced are being recycled, compared to only about one-tenth of all household solid waste.

BIOSOLIDS RECYCLING is part of our daily lives. BIOSOLIDS are a byproduct of specially treated, stabilized and disinfected water that may have originated from household wastewater, industrial wastewater, and stormwater runoff. And the more we succeed in cleaning our water, the more biosolids we can produce and put to beneficial use.



BIOSOLIDS RECYCLING

MEETS STRICT QUALITY STANDAR
AND SCIENTIFIC CONTROLS.

Recycling biosolids for beneficial use mea
control and safety. Pretreatment regulatio
that industrial plants treat or remove any
nants from their wastewater before it is disc
a municipal treatment plant.

During wastewater treatment, regular testin
the high quality of biosolids. And specificall
ed treatments minimize any potential odor
with biosolids.

In the United States, all biosolids recycling n
strict quality criteria and regulations set by
Environmental Protection Agency (EPA). Th
ria are based on EPA's rigorous review of d
long-term scientific studies regarding the s
efficacy of biosolids recycling.

The U.S. Department of Agriculture and
Food and Drug Administration also encou
beneficial use of biosolids.

In Canada, agricultural land application of
must meet strict quality criteria set by each o
vidual provincial Environment Ministries. T
cial use of biosolids in Canada is encourag
Ministry of Agriculture and Food and the M
Health at both the provincial and federal leve

1186

Water Environment Federation
601 Wythe Street
Alexandria, VA U.S.A. 22314-1994

Stock Number: HP 1403

Water Environment Federation
Preserving & Enhancing the Global Water Environment

BIOSOLIDS RECYCLING

PRESERVES OUR NATURAL RESOURCES AND IMPROVES OUR ENVIRONMENT.

Biosolids recycling offers a number of benefits to communities everywhere.

PREVENTING SOIL EROSION: Biosolids recycling helps stop soil erosion by encouraging water to enter the ground and allowing the soil to hold more water for increased plant growth.

IMPROVING TIMBER GROWTH: Biosolids recycling is important in landscaping and forest fertilization efforts in areas that are harvested to produce lumber for homes. One study showed that trees fertilized with biosolids grew twice as fast as those from untreated areas.

SAVING DIMINISHING LANDFILL SPACE: Biosolids recycling preserves rapidly decreasing landfill space. Putting biosolids to productive use saves limited space for materials that should be placed in a landfill.

STRENGTHENING RECLAMATION EFFORTS: Biosolids recycling can be used to reclaim strip-mined lands and grow vegetation on once-contaminated U.S. Superfund sites.

ENHANCING LANDSCAPING AND GARDENING: As an organic fertilizer, biosolids products provide nutrient-rich materials used in home and community gardens. Biosolids recycling has also been used to landscape golf courses, public parks and recreation areas.

...AND BIOSOLIDS RECYCLING

MAKES ECONOMIC SENSE.

HIGHER YIELDS: In farming, biosolids recyc been shown to produce significant improve crop growth and yield.

LOWER COSTS: Biosolids recycling can be a cient complement to chemical fertilizers. Ma ers are supplementing fertilizers that contain i ic chemicals with biosolids.

GREATER SAVINGS: The increase of biosoli cling enables local governments to market b products and helps to offset the costs of e clean water quality to their citizens.

BIOSOLIDS RECYCLING

WHAT YOU CAN DO?

Learn more about biosolids recycling in your co ty by contacting your local wastewater treatment

For information about biosolids recycling, con Department of Public Affairs at the Environment Federation:

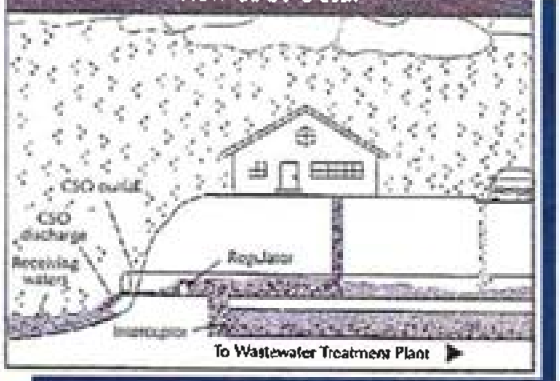
Water Environment Federation
Preserving & Enhancing the Global Water Environment

Water Environment Federation
601 Wythe Street
Alexandria, VA U.S.A. 22314-1994
1 (703) 684-2400

What is a Combined Sewer Overflow?

Fort Wayne, New Haven, and over 100 other communities throughout Indiana collect both rainwater runoff and sanitary wastewater in the same set of sewer pipes. These are called "combined sewers." Sometimes when it rains, combined sewers do not have enough capacity to carry all the rainwater and wastewater or the Water Pollution Control Plant cannot accept all of the combined flow. In this situation, the combined wastewater overflows from the collection system into the nearest body of water, creating a combined sewer overflow (CSO). The main pollutants in CSOs are untreated human wastes, toxic materials like oil and pesticides, and floating debris that may wash into the sewer system. These pollutants can affect your health if you swim in CSO-polluted water or if you eat fish that have been contaminated by the CSOs.

How CSOs Occur



How Expensive Are CSO Control Measures?

The costs of combined sewer overflow controls may be high in some areas and low in others. The severity and frequency of the CSO occurrences and their effect on river water quality will determine the types of CSO controls and their cost. In Fort Wayne, the actual cost to control CSOs is not known, but is estimated to be $250 million over the next 25 years. In New Haven, total cost is expected to be in excess of $9.5 million. Preventative maintenance programs, including regular inspection and cleaning of sewer lines, and capital improvements underway to increase sewer capacity in many neighborhoods served by combined sewers will go a long way toward meeting state and federal CSO requirements.

Who To Contact

The Allen County Partnership for Water Quality

3718 New Vision Drive
Fort Wayne, IN 46845

Phone: 260-484-5848 ext. 111
Fax: 260-484-5080

Combined Sewer Overflow Hotline

260-427-2297

Allen County Partnership for Water Quality

COMBINED SEWER OVERFLOW

A Reference Guide for Homeowners

City of Fort Wayne • City of New Haven • Allen County

How Are CSOs Controlled?

The Clean Water Act requires the U.S. EPA and Indiana Department of Environmental Management (IDEM) to issue permits with requirements for controlling discharges from CSOs. The cities of Fort Wayne and New Haven are responsible for implementing a series of minimum CSO controls and developing and implementing a long-term CSO control plan to protect river water quality. The minimum CSO controls require communities to (1) maximize the use of the sewer collection system and the existing capacity of the wastewater treatment system, (2) reduce the amount of pollutants entering the combined sewers and (3) control as much solid and floatable material as possible from the CSOs. Fort Wayne and New Haven have each developed a long-term CSO control plan to identify, evaluate and implement various control strategies and achieve various water quality standards. Some of these controls include increased sewer capacity for storage, increased capacity at the Water Pollution Control Plant to treat more combined sewage and mechanisms to treat flow at the point where it enters the river.

What Can I Do?

There are several ways you can affect the quality & quantity of water that flows into the sewer system:

♦**Reduce Impervious Surfaces** Surfaces such as roofs, driveways and concrete patios do not allow rainwater to filter back into the soil, forcing the water into stormdrains. Instead of concrete patios, asphalt driveways, and paved paths, try wood decks, gravel or pervious asphalt driveways, and mulched paths.

♦**Responsible Lawn Care** When applying chemicals to your lawn, follow the manufacturer's directions to avoid over-applying; these chemicals can runoff into the sewer system and degrade our rivers.

♦**Conserve Water** Using less water on your lawn and garden means less chemical runoff into the stormdrains. Using less water in your home means less water in the sewer system, making overflows during wet weather less likely.

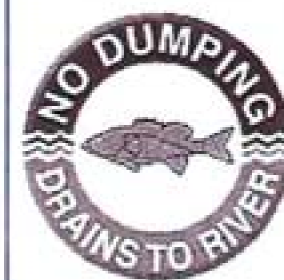
♦**Don't Misuse Stormdrains** Remember that stormdrains are not trash cans. Household hazardous waste (HHW) such as motor oil, antifreeze and many cleaning agents should be disposed of properly at a HHW collection facility.

♦**Support Local Efforts** Support the efforts of your local government to control CSOs, and understand that there are a multitude of ways you can be involved in protecting your water quality.

♦**Become Informed** Take interest in your community's water quality. Pay attention to signs posted at river access points informing residents of the risk of CSOs. Call the City of Fort Wayne's CSO and Water Quality Hotline to hear the latest information on CSOs and drinking water quality. Or call the ACPWQ for more information.

Storm Drain Marking

Does your neighborhood association, school or civic group want to be involved in cleaning up your community's stormwater? Become part of the Allen County Partnership for Water Quality's *Storm Drain Marking Program*. By affixing a special "No Dumping, Drains to River" emblem on storm sewers, residents and passers by become aware that what flows down those drains is not treated before reaching the river. The ACPWQ will provide all materials and instruction necessary to mark these drains, so call today to become part of a program that will serve for many years as an important reminder to keep garbage, chemicals and hazardous waste out of the sewer system.



If you would like to be notified of a CSO event, sign up for the CSO Notification List. You will be notified via e-mail when a CSO event has occurred or is expected to occur. Please note that during a CSO event special caution should be taken to avoid contact with the listed affected waters.

To sign up for Fort Wayne's list, visit:

http://www.cityoffortwayne.org/cso_list.asp

Why Should I Care About Stormwater?

Every time it rains, water that is not absorbed by the ground runs off rooftops, lawns, driveways, and streets, picking up hazardous materials such as oil and antifreeze, fertilizers and pesticides, litter, pet waste and other pollutants. This stormwater is not treated by the water pollution control plant but is deposited directly into the rivers and streams.

Uncontrolled stormwater can affect your quality of life by negatively affecting the quality of water in the rivers and streams in your community. It can impact wildlife in the area and create an unhealthy habitat. Erosion of sediment into the water can block light from aquatic plants, fill the niches where fish lay eggs and clog fish gills. Polluted stormwater can affect the process by which our drinking water is filtered, causing the water filtration plant to do more extensive filtering and chlorinating.

What Can I Do?

There are several ways you can affect the quality & quantity of water that flows into the sewer system:

- **Responsible Lawn Care** When applying chemicals to your lawn, follow the manufacturer's directions to avoid over-applying; these chemicals can runoff into the sewer system and degrade our rivers and streams.
- **Don't Misuse Stormdrains** Remember that stormdrains are not trash cans. Household hazardous waste (HHW) such as motor oil, antifreeze and many cleaning agents should be disposed of properly at a HHW collection facility.

- **Support Local Efforts** Support the efforts of your local government to improve stormwater quality and quantity, and understand that there are a multitude of ways you can be involved in protecting your water quality.
- **Don't be a Litter Bug** Put trash in its place, or it could end up in our rivers and streams.
- **Pick Up Pet Waste** Pick up your pet's waste and dispose of it in your toilet or trash so that it doesn't wash into the stormdrains.
- **Conserve Water** Using less water on your lawn and garden means less chemical runoff into the stormdrains.
- **Reduce Impervious Surfaces** Surfaces such as roofs, driveways and concrete patios do not allow rainwater to filter back into the soil, forcing the water into stormdrains. Instead of concrete patios, asphalt driveways and paved paths, try wood decks, gravel or pervious asphalt driveways and mulched paths.

Storm Drain Marking

Does your neighborhood association, school or civic group want to be involved in cleaning up your community's stormwater? Become a part of the Allen County Partnership for Water Quality's *Storm Drain Marking Program.* By affixing a special "No Dumping, Drains to River" emblem on storm sewers, residents and passersby become aware that what flows down those drains is not treated before reaching the river. The ACPWQ will provide all materials and instruction necessary to mark these drains, so call today to become part of a program that will serve for many years as an important reminder to keep garbage, chemicals and hazardous waste out of the sewer system.

WHY DOES THE CITY CHARGE A STORMWATER FEE?

The City of Fort Wayne developed the stormwater fee to ensure proper control and treatment of stormwater in order to address unnecessary flooding, erosion and sedimentation caused by rain, to improve the overall quality of water and to comply with the federal environmental regulations that govern stormwater.

WHO IS REQUIRED TO PAY?

All properties within city limits having impervious surfaces such as asphalt, concrete, stone, building rooftops, etc., which generate stormwater runoff, are assessed a stormwater user fee. This includes all residential and non- residential customers, i.e. commercial, industrial, institutional, churches, schools, businesses, and governmental facilities.

HOW IS EACH PROPERTY CHARGED FOR STORMWATER?

Each residential property is charged a flat rate of one ERU (equivalent residential unit) of $2.20 a month. Each non-residential property's stormwater bill is based on their total square footage of impervious surface divided by the base ERU of 2500 square feet, multiplied by $2.20.

WHY SHOULD I HAVE TO PAY A STORMWATER FEE IF I DON'T HAVE A STORM SEWER?

Every property with impervious area produces increased stormwater runoff that Fort Wayne must manage. Your runoff, although small, may be joining with that from other properties to cause flooding downstream. Even where there are no storm sewers, water flows over land and discharges into the rivers and streams. The City's 600 miles of storm sewers help keep traffic moving on streets and highways, businesses and industries operating and lives and property safe by reducing neighborhood flooding.

RIVER CLEAN UP

Join the thousands of Fort Wayne residents who have participated in the River Clean Up! Your church, school or civic group can enter, or simply come alone to join with other involved citizens. This event takes place during the spring and summer months, so call the Allen County Partnership for Water Quality or the City's Solid Waste Department for more information on how you can keep litter out of the rivers!

Who To Contact

The Allen County Partnership
for Water Quality

3718 New Vision Drive
Fort Wayne, IN 46845

Phone: 260-484-5848 ext. 111
Fax: 260-484-5080

City of Fort Wayne Solid Waste Department
260-427-1270

City Utilities Customer Service
260-427-1234

Allen County Partnership for Water Quality

STORMWATER POLLUTION

A Reference Guide for Homeowners

City of Fort Wayne • City of New Haven • Allen County

What's in Your Home?

These are just some of the household hazardous wastes found in most homes:

- **Kitchen:** Aerosol cans (full), floor care products, furniture polish, metal polish.
- **Bathroom:** Nail polish, nail polish remover.
- **Garage:** Antifreeze, automotive batteries, brake fluid, car wax with solvent, diesel fuel, oil, gasoline, kerosene, metal polish with solvent, motor oil, transmission fluid, windshield washer solution
- **Workshop:** Paint brush cleaner with solvent, paint brush cleaner with TSP (Trisodium phosphate), glue (solvent based), mineral spirits, oil based paint, automotive paint, thinner, paint stripper (solvent), primer, rust remover, turpentine, varnish, wood preservative.
- **Garden:** Fungicide, insecticide, rat/mouse/ gopher poison, weed killer.
- **Here & There:** Household batteries, dry cleaning solvents, fiberglass epoxy, gun cleaning solvents, lighter fluid, moth balls, unmixed photographic chemicals, septic tank degreasers, swimming pool chemicals.

SAFER ALTERNATIVES!

Here are some safer alternative products that will get the job done well:

Air Freshener: An open box of baking soda absorbs refrigerator odors. For garbage cans, sprinkle boric acid in the can.

Antifreeze: Look for the new, less toxic brands on the market.

Batteries: Select the very- low mercury brands (99.5% mercury free) that are becoming widely available.

Drain Opener: To prevent clogs, pour in 1/4 cup baking soda followed by 1/2 cup vinegar. When fizzing stops, flush with boiling water.

Rust Remover: Vinegar's weak acid works well on rust stains.

Window Cleaner: Wipe clean with a mixture of 3 Tbs. vinegar in 7 quarts of water.

Wood Furniture Polish: Combine 1 part lemon juice with 2 parts olive oil.

Contact the ACPWQ for a more complete list of safe alternatives to common cleaning and household products.

Bulbs & Batteries & Thermometers... Oh My!!

Why wait for Tox Away Day to rid your home of these items? Disposal sites are available year-round for:

- **Fluorescent Bulbs** These bulbs contain mercury and should not be put out for your weekly trash pick-up. 4-foot bulbs can be taken to the Merchandise Pick-Up Area at the Glenbrook Sears during normal business hours.
- **Batteries** Material in most household batteries is harmful to the environment and should be recycled properly. Drop off old batteries at Batteries Plus for proper recycling.

- **Mercury Thermometers** Some families have not yet replaced these thermometers with newer, safer types. Do not throw these away! Instead, dispose of them safely at the Fort Wayne- Allen County Department of Health Immunization Clinic, M-F, 8am-4pm.
- **Electronic Equipment** When replacing your electronic equipment with newer models, recycle them properly so the metals contained do not contaminate our water and soil. Take your computers and electronic equipment to OmniSource for a minimal fee.

What is Household Hazardous Waste?

Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be "household hazardous waste" or HHW. Products that contain hazardous ingredients are safe to use when you follow the manufacturer's instructions, but require special care when you dispose of them. If disposed of improperly, these wastes can pollute the environment and pose a threat to human health.

Have You Ever...

- Poured used motor oil or antifreeze on the ground?
- Thrown away dead batteries in the trash?
- Emptied a partial can of paint thinner down the drain?

Doing this only once or twice may not seem like a big deal, but if everyone in Allen County did this, those small amounts could equal a BIG water quality problem. The average Indiana household contains between 3 and 10 gallons of hazardous wastes! If this waste isn't disposed of properly, it could contaminate our rivers and streams.

Tox Away Day

The Allen County Solid Waste Management District holds a yearly Tox Away Day for residents of Allen County to properly dispose of their household hazardous waste. The event takes place in early September, and minimal fees apply. For residents who want to properly dispose of old tires, contact the District for information about the annual Tire Amnesty Day.

Who To Contact

Allen County Partnership for Water Quality
2010 Inwood Drive, Suite 103
Fort Wayne, IN 46815
Phone: (260) 426-4637 ext.3
Fax: (260) 424-9209

Allen County Solid Waste Management District
1 Main Street, Room B86
Fort Wayne, IN 46802
(260) 449-7878

Allen County Partnership for Water Quality

HOUSEHOLD HAZARDOUS WASTE

A Reference Guide for Homeowners

City of Fort Wayne • City of New Haven • Allen County

Taking Care of Your Septic System

Use Water Wisely

When the septic system's absorption field is waterlogged, its ability to treat waste is hindered.

- When it's feasible, conserve water and allow time between activities that require a lot of water, like using washing machines & dishwashers, and taking baths & showers.
- Consider using a front-loading washing machine, which can use up to 1/3 less water than top-loading washers.
- Toilets consume large amounts of water and most use 3-5 gallons per flush. Install a water- saving design that uses only 1.5 gal/ flush. For an older toilet, place a milk jug filled with sand or stones in the tank to reduce that amount of water used.
- To conserve water in the shower, install a low-flow shower head.

Pump Your Septic Tank Regularly & Have Your Septic System Inspected Annually

- Pumping your septic tank removes solids and prevents them from clogging the absorption field. Have a professional pump out your septic tank every 3-5 years.
- Annual inspections will catch problems early, avoiding environmental contamination and possibly lowering the cost of repairs.

Know What Not to Put Down the Drain

- Hazardous chemicals should never be rinsed down your drain; they may kill the bacteria and microorganisms working in your septic system to break down waste.
- Use garbage disposals sparingly, and avoid putting anything down the toilet or drain that will not easily break down. Solids build up in your septic tank and affect your system's ability to treat waste.
- Septic tank additives are generally not beneficial; some may actually harm the system.
- Fat, grease, or oil should never be rinsed down the drain.

Who To Contact

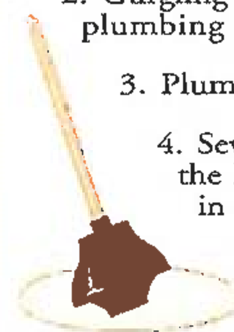
Allen County Partnership for Water Quality
2010 Inwood Drive, Suite 103
Fort Wayne, IN 46815
Phone: 260-426-4637 ext.3

Fort Wayne - Allen County Department of Health
1 East Main Street, 5th floor
Fort Wayne, IN 46802
260-449-7530
www.fw-ac-deptofhealth.com

Is Your Septic System Failing?

There are several indicators that your septic system may not be functioning properly:

1. Slowly draining sinks and toilets



2. Gurgling sounds in the plumbing
3. Plumbing backups
4. Sewage odors in the house or out in the yard
5. The ground is wet or mushy above your absorption field
6. The grass is greener or grows faster above your absorption field
7. Tests show the presence of bacteria in nearby streams or wells

If your septic system exhibits any of these signs, contact a professional to assess the situation.

What are Septic Systems?

Septic systems are individual wastewater treatment systems that use the soil to treat small wastewater flows, usually from individual homes. They are typically used in rural or large lot settings where centralized wastewater treatment is impractical.

A typical system consists of two major components, a septic tank and an absorption field. This system treats your household wastewater by temporarily holding it in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. This separation process is known as primary treatment. The solids stored in the tank are decomposed by bacteria and later removed along with the lighter scum by a professional septic tank pumper.

Septic Tank

Three factors determine how often your septic tank will have to be pumped. The *first* factor is the size of the tank itself. A typical tank is designed to hold 1,000 gallons of liquid. The *second* factor is the number of people in the household. Obviously, the more people in the household, the more wastewater will flow through the system. The *third* factor is the volume of solids in the waste water. For example, if you have a garbage disposal in your house, then you will have to pump out your tank more frequently than those who dispose of their garbage by other means.

Absorption Field

An absorption field generally does not require any maintenance. However, to protect and prolong the life of the absorption field, follow these simple rules:

- Do not drive or park over the absorption field with cars, trucks, or heavy equipment; compaction of the field will reduce its ability to filter and treat wastewater.
- Do not plant anything but grass over the system. Roots from trees and shrubbery may clog your absorption field, preventing it from properly treating waste.
- Divert surface runoff water from roofs, patios, driveways, and other areas away from the absorption field. Keep sump pumps and house footing drains away from the system as well.

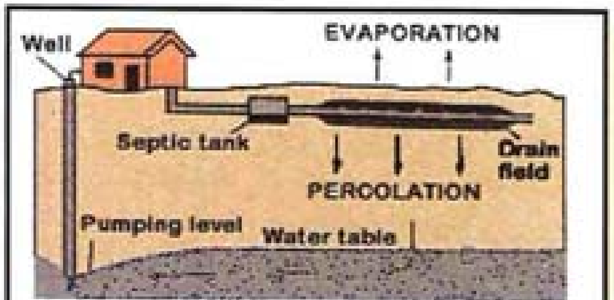
Why Maintain Your Septic System?

Failing septic systems are very expensive to repair or replace. Compare: $50-$250 to have your septic system inspected or pumped; $3000-$10,000 to have it repaired or replaced.

A neglected septic system could reduce the value of your property.

A failing septic system can cause a serious threat to the health of family members and neighbors, especially if your drinking water comes from a well.

A failing septic system can degrade the environment, especially nearby waterways. It can put thousands of water users at risk if it is located near a public water supply. The picture below illustrates how septic effluent can reach a groundwater supply.



How septic effluent percolates to the water table.

Allen County Partnership for Water Quality

SO NOW YOU OWN A SEPTIC SYSTEM...

A Reference Guide for Homeowners

City of Fort Wayne • City of New Haven • Allen County

What Can I Do?

Test Your Soil

To determine what kind of care your lawn and garden need, you must first determine what type of soil you have! You can avoid spending excess time and money on your yard by having the soil tested for nutrients and pH. Correcting a problem before planting is much simpler and cheaper than afterwards. Once your yard is established, continue to take periodic soil samples. You can purchase a home test for pH, nitrogen, phosphorous, and potassium at a garden center. You can also contact a commercial testing service if you would like more detailed or special tests.

> The average 1 acre lawn requires $700 & 40 hours of work a year to maintain!!

Use Biosolids & Compost

Biosolids are nutrient-rich organic materials, resulting from the wastewater treatment process, which can be applied as fertilizer. Applying biosolids to land before planting grass or a garden can provide nutrients vital to plant growth and reduce the amount of chemical fertilizers needed. Biosolids are available at the Lake Ave. biosolids facility (*information located at right*).

Composting is the controlled decomposition of organic matter by microorganisms into a humus-like product. Compost can enhance soil texture, increase the ability of the soil to absorb air and water (thus using less water), suppress weed growth, decrease erosion, & reduce the need to apply fertilizers. With all of these benefits, how can you afford to not use biosolids and compost?

Choose Native Plants

Native plants are well-suited to their area. They provide food and shelter for wildlife while usually requiring less water, fertilizer and pesticides than non-native species. Their lower maintenance and high conservation value make them a good choice for an environmentally conscious homeowner. Ask your local garden center for some native plant choices.

Conserve Water

Using less water means less chemical runoff and soil erosion. Water deeply to promote deep root growth, and water in the early morning to avoid evaporation.

Q: What do I do with the yard waste my healthy, environmentally friendly lawn has created?

A: RECYCLE it at home or at a yardwaste compost site!

Biosolids, Lime, & Yard Waste Recycling
6202 Lake Avenue 260-749-8040
OPEN: April 1- Nov. 30, M-Sat 8am-6pm
Sun Noon-6pm
Dec. 1- March 31, Mon-Fri 8am-2pm
Closed Holidays

National Serv-All
6231 MacBeth Road 260-747-4117
OPEN:
Monday- Friday: 8am-5pm
Saturday: 8am- Noon
Closed Sundays & Holidays

Materials Accepted	Not Accepted
Garden Waste	Construction Debris
Leaves	Cement
Grass	Dirt
Brush	Fruit from Trees
Prunings	Lumber
Weeds	Railroad Ties
Vines	Wood Fencing

You Are the Solution to Water Pollution

Protecting water quality through responsible lawn and garden care is not something every homeowner considers when landscaping and maintaining his or her yard. But the flow of water does not obey your property lines. Water that flows onto and off of your land is part of a watershed that inevitably reaches a stream or river. If you knew that a child was playing in that stream, or that the water reaching that river would be used for your community's water supply, would it change the way you cared for your land? You can ensure that the water that nourishes your land does not pollute the river it reaches. Small changes in the way you maintain your lawn and garden can make a BIG impact in water quality. Practicing responsible lawn care today can protect our water quality tomorrow.

Who To Contact

The Allen County Partnership for Water Quality

2010 Inwood Drive, Suite 103
Fort Wayne, IN 46815

Phone: 260-426-4637 ext. 3
Fax: 260-424-9209

Reduce Impervious Surfaces

Impervious surfaces, such as roofs, driveways, and concrete patios, do not allow rainwater to filter back into the soil. Try incorporating a surface into your lawn or garden area that allows the rain water to reach the soil, rather than run into the storm sewers during a heavy rain. Instead of concrete patios, asphalt driveways, and paved paths, try wood decks, gravel or pervious asphalt driveways, and mulched paths. Instead of diverting stormwater to drains, collect the water in rain barrels for later use in your garden! It's easy to be a "green gardener."

Recipe for Compost

Mix together and moisten and turn occasionally until dark and crumbly (several weeks to a year):

1 part "green"= fresh grass clippings, manure, garden plants, and fruit and vegetable scraps (no meat, dairy, or fat)

3 parts "brown"= dried leaves and plants, branches, and woody materials

Use the compost around trees, shrubs, perennials, and even house plants to deter weeds, improve soil structure and retain moisture.

Allen County Partnership for Water Quality

GREEN LANDSCAPING

A Reference Guide for Homeowners

City of Fort Wayne · City of New Haven · Allen County

Safety Measures to Protect your Family from Diseases Related to Flood Waters

The following safety measures will help reduce the risk of your family and pets contracting diseases associated with sewage-contaminated floodwaters.

- Avoid direct contact with flood or back-up water when possible. Children and pets should not play or come in contact with floodwater.
- When cleaning up flooded areas, wear protective clothing and gear, such as latex gloves and waterproof, impenetrable rubber boots to prevent exposure to sewage. Contact the Department of Public Health to receive protective rubber gloves.
- Use a disinfectant solution of laundry bleach (5.25% hypochlorite) for clean up. You can make this disinfectant solution by mixing one part laundry bleach, such as Clorox, with nine parts water.
- After cleaning up, make sure to do the following *before* removing protective latex gloves.

  1. Sanitize or dispose of aprons and other clothing worn during the clean up.
  2. Disinfect rubber footwear in a bucket using the bleach disinfectant described above.
  3. Disinfect buckets and other such materials used in the clean up, before storing them.

Remove latex gloves from the inside-out and wash hands for at least two minutes with warm water and a disinfectant soap to assure all skin surfaces are clean of contaminants.

- Place disposables in a sealed plastic bag for garbage collection.

Health Risks Associated with Sewage-Contaminated Flood Waters

Bacterial or viral pathogens may be present in sewage-contaminated floodwaters. The primary means by which people and animals may contract diseases from contaminated floodwater is by fecal-oral transmission. Fecal-oral transmission occurs by either directly touching sewage or touching an object which has been in contact with sewage and then touching either the mouth, eyes, ears, or nose. Exposure can also occur by handling food products with sewage-contaminated objects, including improperly washed hands. Pregnant women, children, elderly persons, and those who are immunocompromised may be at higher risk. Following is a list of the most common fecal-oral transmitted diseases for this region and their symptoms.

- Amebiasis (Amebic Dysentery): intestinal disease with fever, chills and bloody or mucoid diarrhea.
- Epidemic Viral Gastroenteritis (Viral Diarrhea): nausea, vomiting, diarrhea, abdominal pain, myalgia, malaise, low-grade fever, or a combination of these symptoms usually lasting 24-48 hours.
- Giardiasis (Giardia Enteritis): chronic diarrhea, abdominal cramps, bloating, frequent loose, pale greasy stools, fatigue and weight loss.
- Viral Hepatitis A: fever, malaise, anorexia, nausea and abdominal discomfort followed within a few days by jaundice.
- Salmonellosis: fever, headache, abdominal pain, diarrhea, nausea, and sometimes vomiting.
- Shigellosis: diarrhea accompanied by fever, nausea and sometimes toxemia, vomiting, cramps.

How to Clean Buildings

Structures that have been flooded should be examined carefully before being used for living quarters to ensure that they are safe and will not collapse. Building should also be thoroughly cleaned as follows:

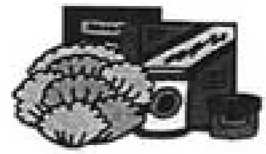
- Buildings: Loose plaster should be removed from walls and ceilings. Doors and window sashes, should e removed and allowed to dry thoroughly. If water remains in the basement, it should be drained or pumped out as soon as possible. As the water is being removed, the mud should be stirred and carried away with it. After the basement has been allowed to dry thoroughly, wash the floors and walls with the chlorine disinfectant solution. Keep window open for ventilation. Chlorine solutions are corrosive, so use plastic containers to store and do not apply the disinfectant to metal surfaces.
- Walls, Woodwork & Floors: The walls and woodwork, while still damp, should be thoroughly scrubbed with a stiff fiber brush and water to remove all mud and silt. Particular attention should be given to all corners and cracks. Floors should be cleansed of all mud and dirt and allowed to dry thoroughly. Rugs that require shampooing should be washed with commercial rug shampoo products or with a mild soap jelly. Rugs and carpets should be stretched out on a flat surface and allowed to dry thoroughly to prevent molding, then subjected to beating, sweeping, or vacuum cleaning.

Salvaging Household Items

Most household items need to be inspected, cleaned, and dried before being reused.

- Furnaces & Appliances: Furnace and chimney pipe should be inspected and cleaned, if necessary, and furnace doors or covers left open to ventilate the system. All parts of the heating system that have been submerged, including the burners, need to be cleaned thoroughly to prevent clogging and dried well to prevent rusting. Stoves and other metal fixtures should first have all the mud and silt removed. They should then be wiped with an oiled rag, then polished and painted.
- Furniture: Furniture should be removed to the sunshine and fresh air and all the drawer slides and other working parts stacked separately. All of the mud and silt should then be removed. Care should be exercised to remove the furniture from direct sun before it warps.
- Books: Books should be allowed to dry carefully and slowly with alternate exposing to air and pressing. Toward the end of this treatment, the books may be subjected to small amounts of heat.
- Clothing & Bedding: Flood-soiled clothing and bedding require considerable care t o obtain satisfactory results. All loose dirt should be brushed off, followed by laundering or dry cleaning in the usual manner. Lightweight comforters may be laundered in the same manner as blankets. Heavy comforters should be taken apart to be cleaned. Mattresses and pillows that are badly soiled may not be fit to reclaim; however, a professional may recondition those of good quality.

Salvaging Food Items



After flooding, ***all food items which have been submerged need to be destroyed,*** unless they are stored in hermetically sealed, metal cans. Foods which are not stored in cans and have been exposed to sewage-contaminated floodwaters cannot be cleaned well enough to be consumed. This includes any foods which were stored in plastic or glass bottles. The contaminated food is very dangerous.

Food which is stored in metal cans can be cleaned and salvaged for consumption. First, remove labels and thoroughly wash cans in soapy water by scrubbing with a brush. Immerse containers in strong chlorine solution (1 oz. Chlorine bleach to 1 gallon clean water) for 15 minutes. Dry containers to prevent rusting.

For Further Assistance & Information Call:

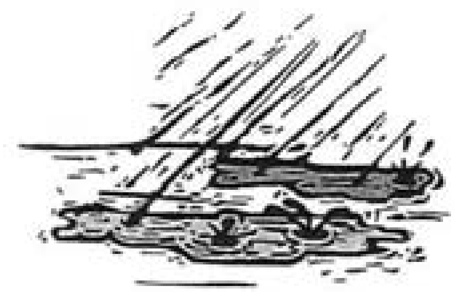
Aging & In-Home Services 745-1200
For Senior Citizens who are physically unable to properly clean contaminated areas resulting from sewer backups (Contact Person: Carla Ellsworth)

Fort Wayne-Allen County Board of Health 449-7530
For health and safety information, technical assistance, and latex safety gloves.

City of Fort Wayne Planning Department 427-1140
For other miscellaneous flood information

City of Fort Wayne Citizens' Advocates 427-1200
For information about your neighborhood association or Area Partnership or general questions.

Dealing with Flood & Sewer Waters in Your Home



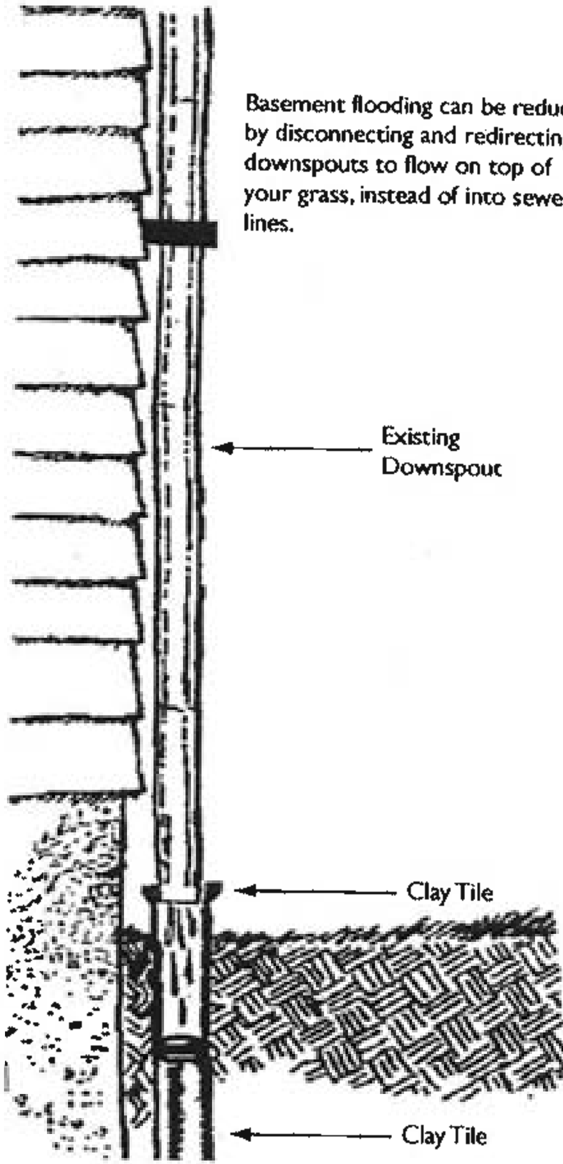
Some Helpful Safety & Clean-up Information

A Cooperative Effort of:
Fort Wayne Sewer Task Force
Fort Wayne Planning Department 427-1140
Fort Wayne City Utilities 427-1381
Indiana State Board of Health (317-383-6100
Allen County Board of Health 449-7561

Graham Richard
Mayor

WHY SHOULD DOWNSPOUTS BE DISCONNECTED?

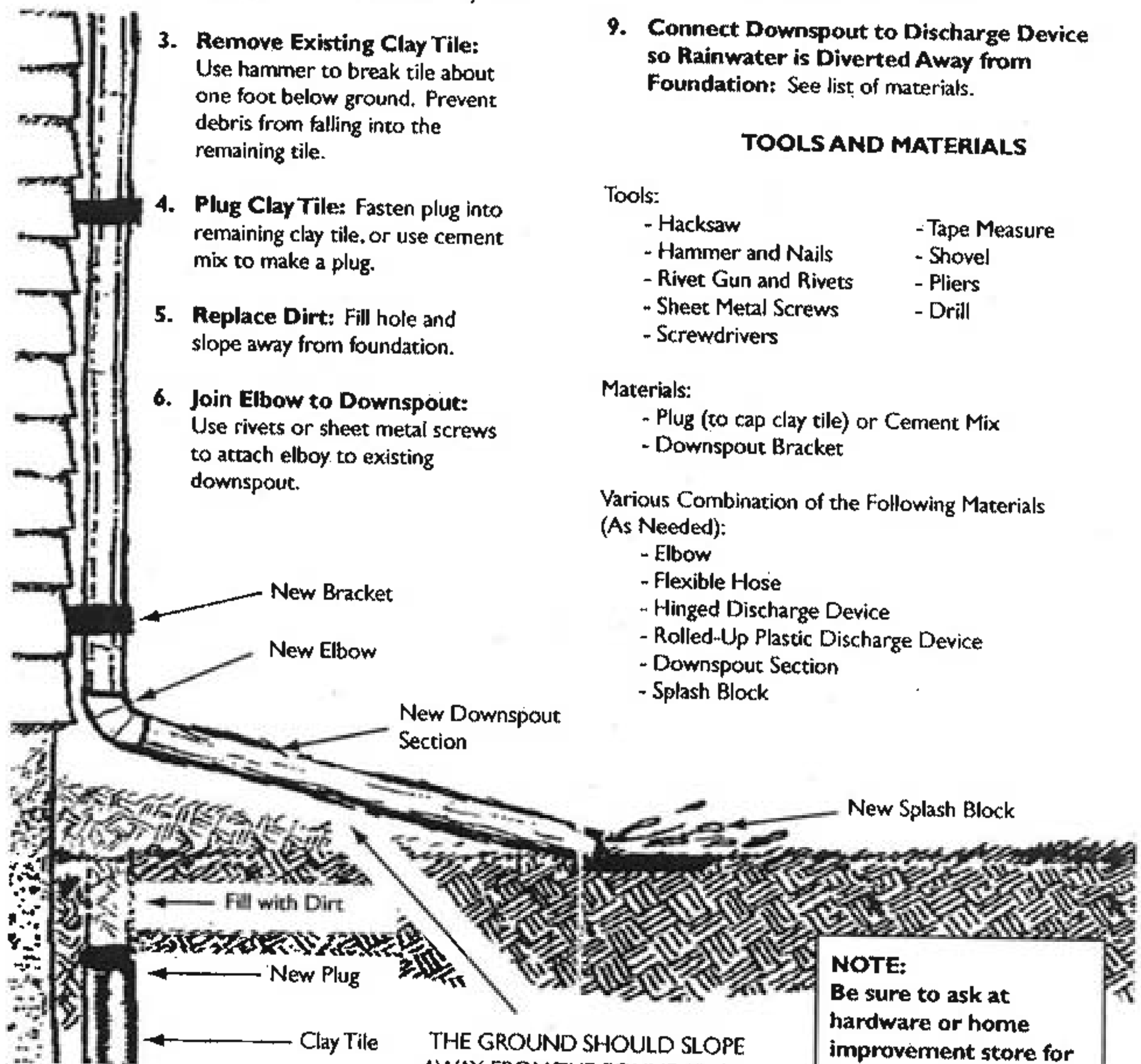
Downspouts that are connected directly to sewer lines can contribute to basement flooding.



Basement flooding can be reduced by disconnecting and redirecting downspouts to flow on top of your grass, instead of into sewer lines.

STEP-BY-STEP APPROACH FOR DISCONNECTING DOWNSPOUTS

1. **Shorten Existing Downspout:** Use hackaw to cut existing downspout.



2. **Dig:** Remove dirt around clay tile.
3. **Remove Existing Clay Tile:** Use hammer to break tile about one foot below ground. Prevent debris from falling into the remaining tile.
4. **Plug Clay Tile:** Fasten plug into remaining clay tile, or use cement mix to make a plug.
5. **Replace Dirt:** Fill hole and slope away from foundation.
6. **Join Elbow to Downspout:** Use rivets or sheet metal screws to attach elboy to existing downspout.
7. **Fasten New Bracket:** Secure new downspout bracket to house with screws or nails.
8. **Cut:** After measuring the amount of downspout needed, but new downspout section to proper length - 4 to 6 feet.
9. **Connect Downspout to Discharge Device so Rainwater is Diverted Away from Foundation:** See list of materials.

TOOLS AND MATERIALS

Tools:

- Hacksaw
- Hammer and Nails
- Rivet Gun and Rivets
- Sheet Metal Screws
- Screwdrivers
- Tape Measure
- Shovel
- Pliers
- Drill

Materials:

- Plug (to cap clay tile) or Cement Mix
- Downspout Bracket

Various Combination of the Following Materials (As Needed):

- Elbow
- Flexible Hose
- Hinged Discharge Device
- Rolled-Up Plastic Discharge Device
- Downspout Section
- Splash Block

NOTE:
Be sure to ask at hardware or home improvement store for assistance when selecting materials.

WHERE CAN YOU GET MORE INFORMATION?

A video is available, showing an acutal disconnection of a homeowner's downspout.

Graham Richard, Mayor

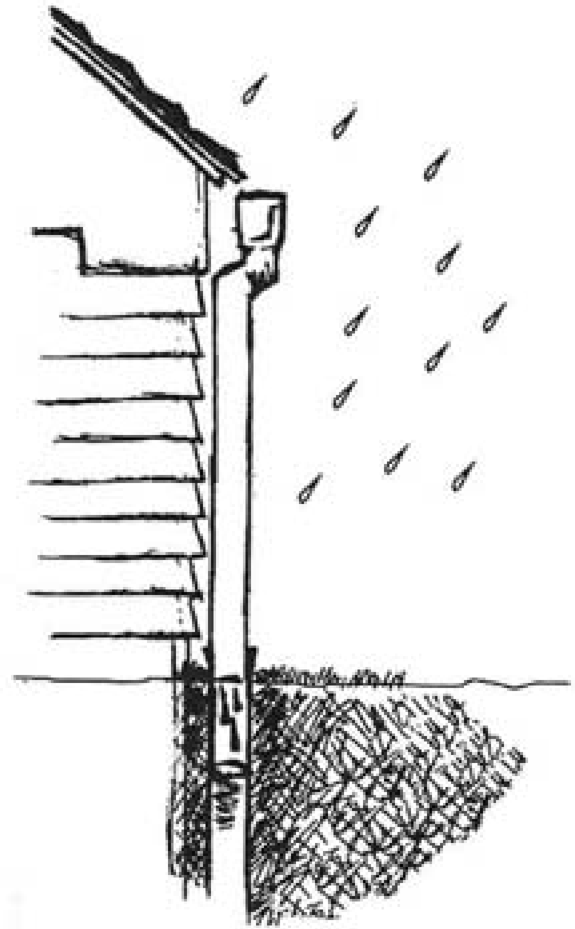
If you would like more information about the video, please contact:

Public Information Office
at 427-1120

Fort Wayne City Utilities
One Main Street, Room 280
Fort Wayne, Indiana 46802

1200

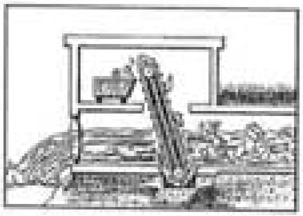
STEP-BY-STEP DOWNSPOUT DISCONNECTION GUIDE



A Step-By-Step Guide to the Approach and Materials for Disconnecting Downspouts

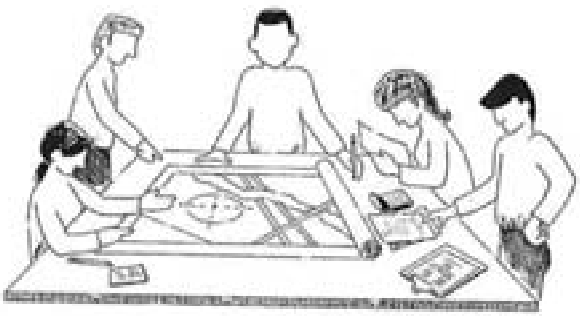
The Clean Water Act requires the U.S. EPA and Indiana Department of Environmental Management (IDEM) to issue permits with requirements for controlling discharges from CSOs. As part of its permit, Fort Wayne is responsible for implementing a series of minimum CSO controls and, if water quality standards are not met, developing and implementing a long-term CSO control plan to protect river water quality.

The minimum CSO controls require communities to (1) fully utilize the existing capacity of the wastewater collection and treatment systems, (2) prevent pollutants from entering the combined sewers and (3) remove as much solid and floatable material as possible from the CSOs. In some communities, the minimum controls may be adequate to achieve water quality standards.



Install bar screens at CSO outfall locations.

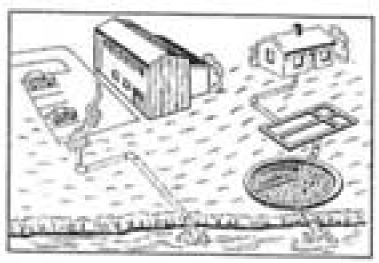
Change operational practices.



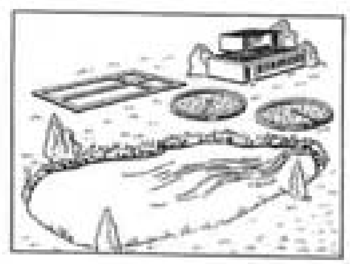
If CSO maintenance and management practices can't reduce pollution going to the three rivers, Fort Wayne may have to take additional actions. The City may need to develop and implement long-term CSO control plans.

If required, these control plans could require identification, evaluation and implementation of various control strategies to achieve required water quality standards. Some of these controls might include increased sewer capacity for storage, increased capacity at the Water Pollution Control Plant to treat more combined sewage or mechanisms to treat flow at the points where it enters the rivers.

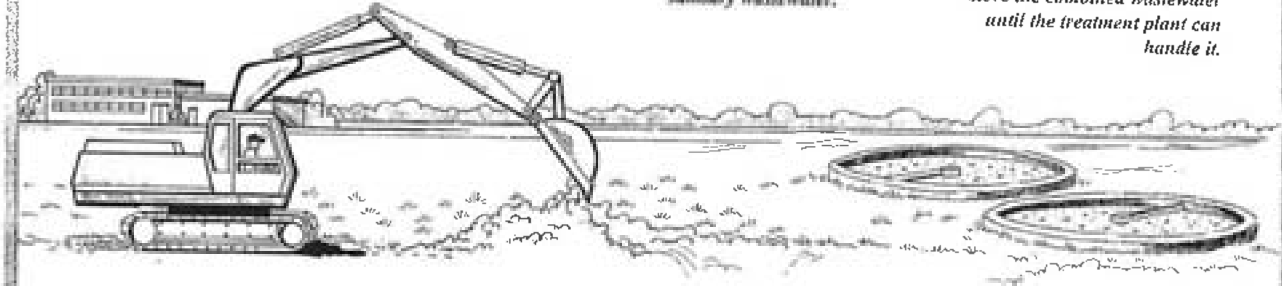
LONG-TERM CSO PLANS MAY INCLUDE CONTROLS SUCH AS:



Separating stormwater from sanitary wastewater.



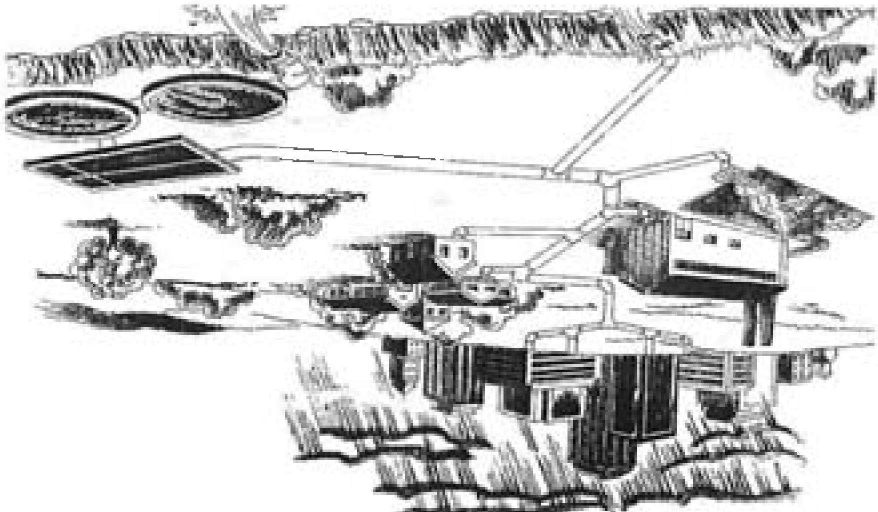
Using basins, pipes or tunnels to store the combined wastewater until the treatment plant can handle it.



Constructing new treatment facilities.

The costs of CSO controls may be high in some areas and low in others. The severity and frequency of the CSO occurrences and their effect on river water quality will determine the types of CSO controls and their cost.

Right now, the actual cost to control CSOs in Fort Wayne is not known. Preventive maintenance programs, including the regular cleaning and inspection of sewer lines, and capital improvements underway to increase sewer capacity in many neighborhoods served by combined sewers will go a long way toward meeting state and federal CSO requirements. Long-term changes in the combined sewer system may or may not be required based on the findings of river quality studies.



WHAT IS A COMBINED SEWER OVERFLOW?

Some cities, such as Fort Wayne, collect both rainwater runoff and sanitary wastewater in the same set of sewer pipes. These are called "combined sewers." Sometimes when it rains, combined sewers do not have enough capacity to carry all the rainwater and wastewater or the Water Pollution Control Plant cannot accept all of the combined flow. In this situation, the combined wastewater overflows from the collection system into the nearest body of water — in Fort Wayne's case, into one of the three rivers -- creating a combined sewer overflow (CSO).

CONTROLLING CSOs IS VERY IMPORTANT

CSO controls protect the community's public health and its environment.

For more information on Fort Wayne's Combined Sewer System Operational Plan or to arrange an informational presentation about combined sewer overflow issues and solutions, call Fort Wayne's Public Information Office at (219) 427-1120.

For more information about the effects of CSOs on river water quality 24-hours-a-day, call the CSO Hotline at 424-1414, extension 1129.

Fort Wayne City Utilities
One Main Street, Room 280
Fort Wayne, IN 46802

WHERE ARE THE CSOs?

Combined sewers serve many communities especially in the northeast and Great Lakes region of the United States. Fort Wayne has a typical combined sewer system. In Fort Wayne, combined sewers are found mostly in the older part of the City. Fort Wayne has about 60 combined sewer overflow outfalls going to the three rivers and their tributaries.

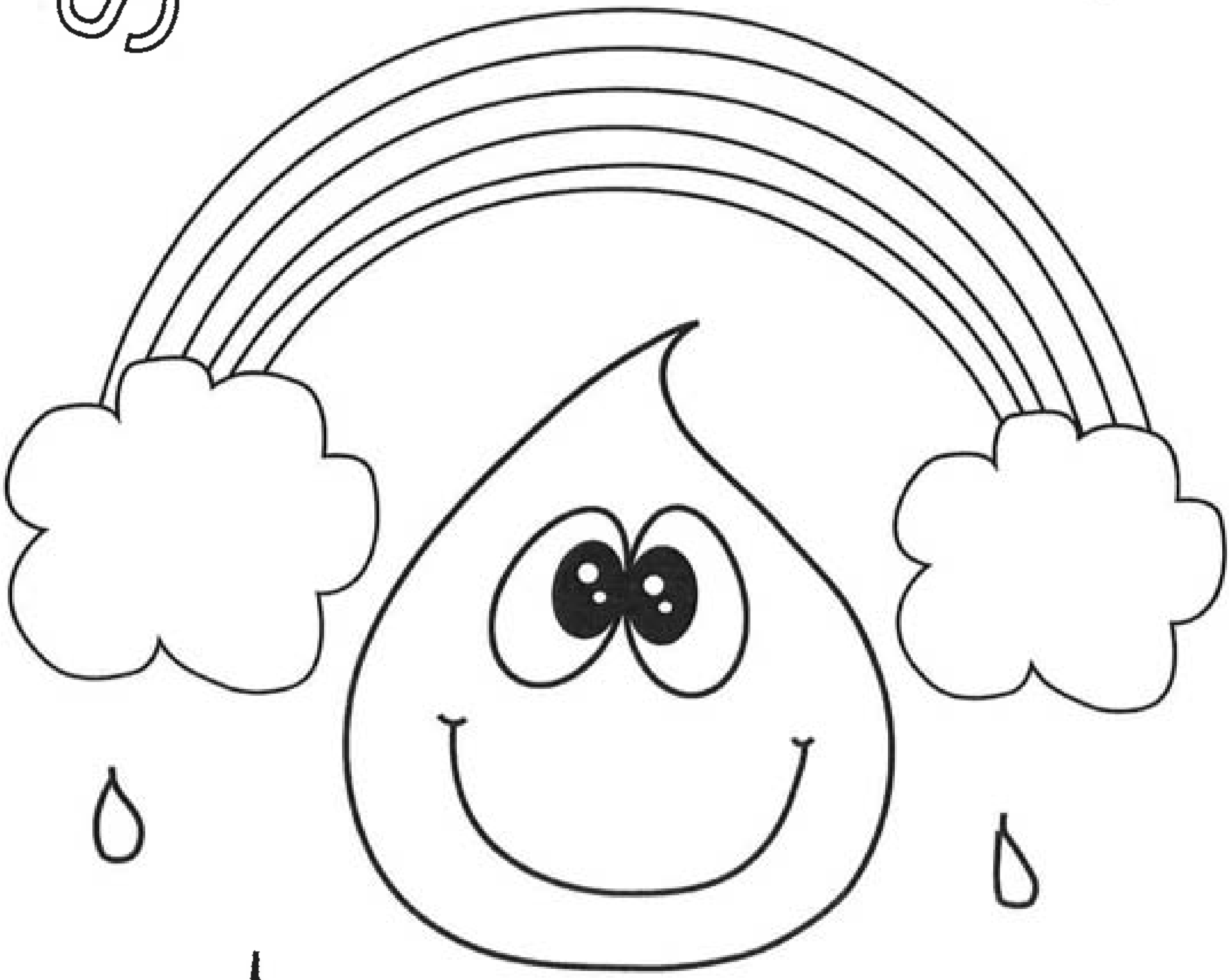
HOW DO CSOs AFFECT THE FORT WAYNE COMMUNITY?

Control of CSOs is essential to preserving the public health and the ecological balance of our streams, rivers, lakes and oceans.

During dry weather, combined sewers that serve the older part of Fort Wayne carry sanitary sewage from homes and businesses to the Water Pollution Control Plant. When it rains, however, and combined sewer overflows (CSOs) happen, river water quality may be impaired by the untreated wastewater that discharges from combined sewers into the City's three rivers.

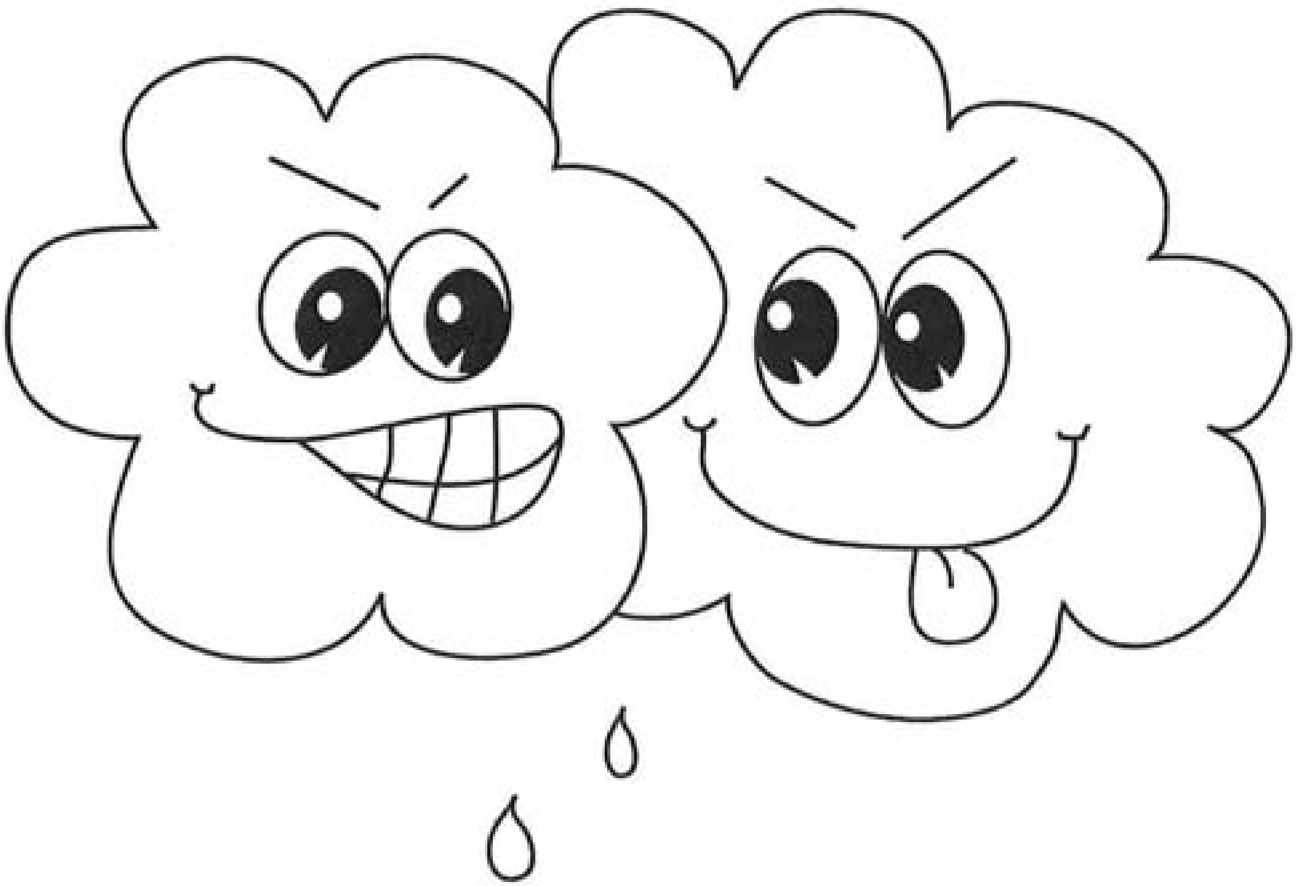
The main pollutants in CSOs are untreated human and industrial wastes, toxic materials like oil and pesticides, and floating debris that may wash into the sewer system. These pollutants can affect your health if you swim in CSO-polluted water or if you eat fish or shellfish that have been contaminated by the CSOs.

STORM WATER

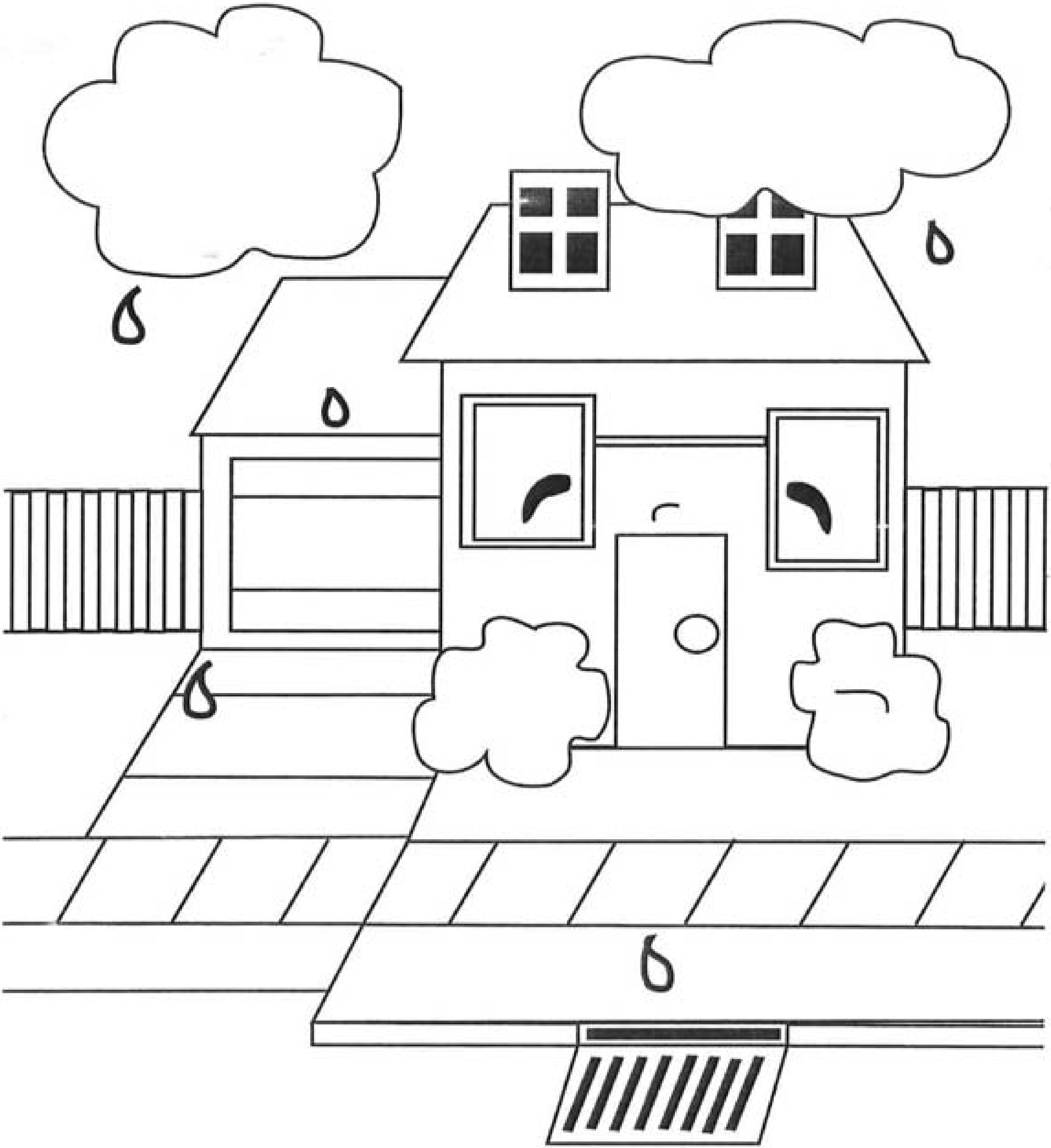


activity book

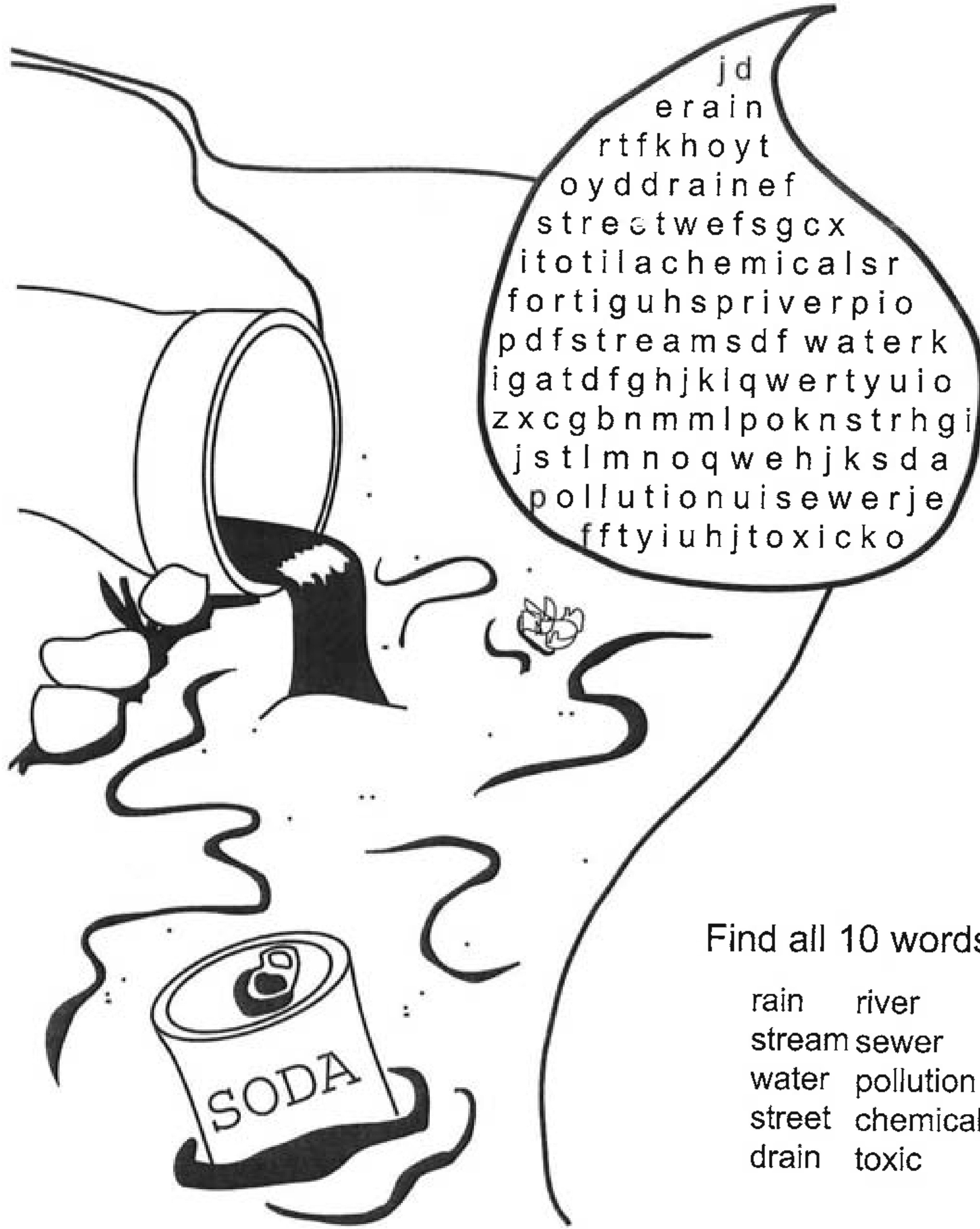
What is storm water?



Rain water not absorbed by the ground is called storm water.



Whenever it rains water runs off rooftops, sidewalks, parking lots, and streets and travels to the storm drain system.

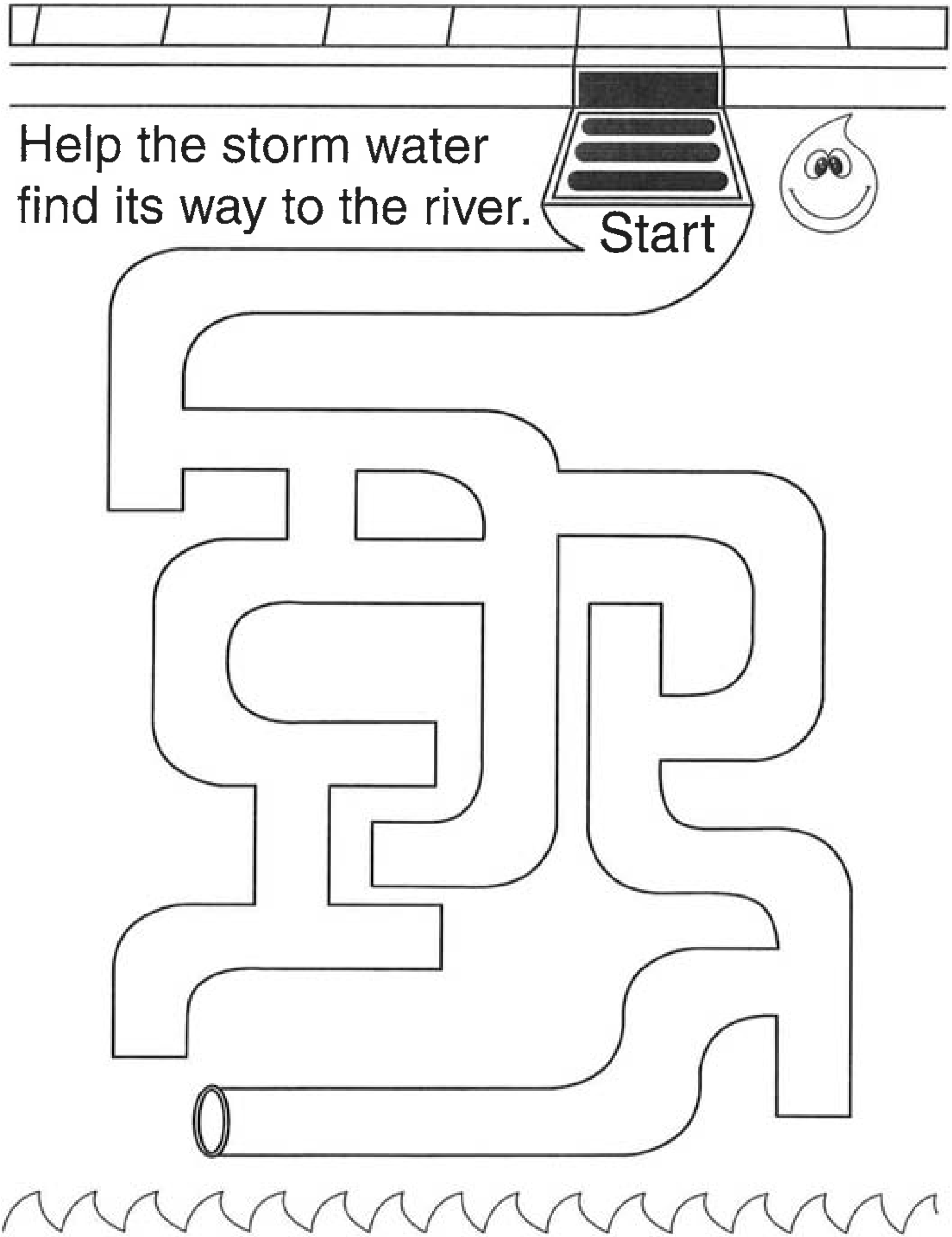


Find all 10 words.

rain	river
stream	sewer
water	pollution
street	chemicals
drain	toxic

The water that flows into the storm drain runs directly to the river, which means the water remains untreated.

Help the storm water find its way to the river.



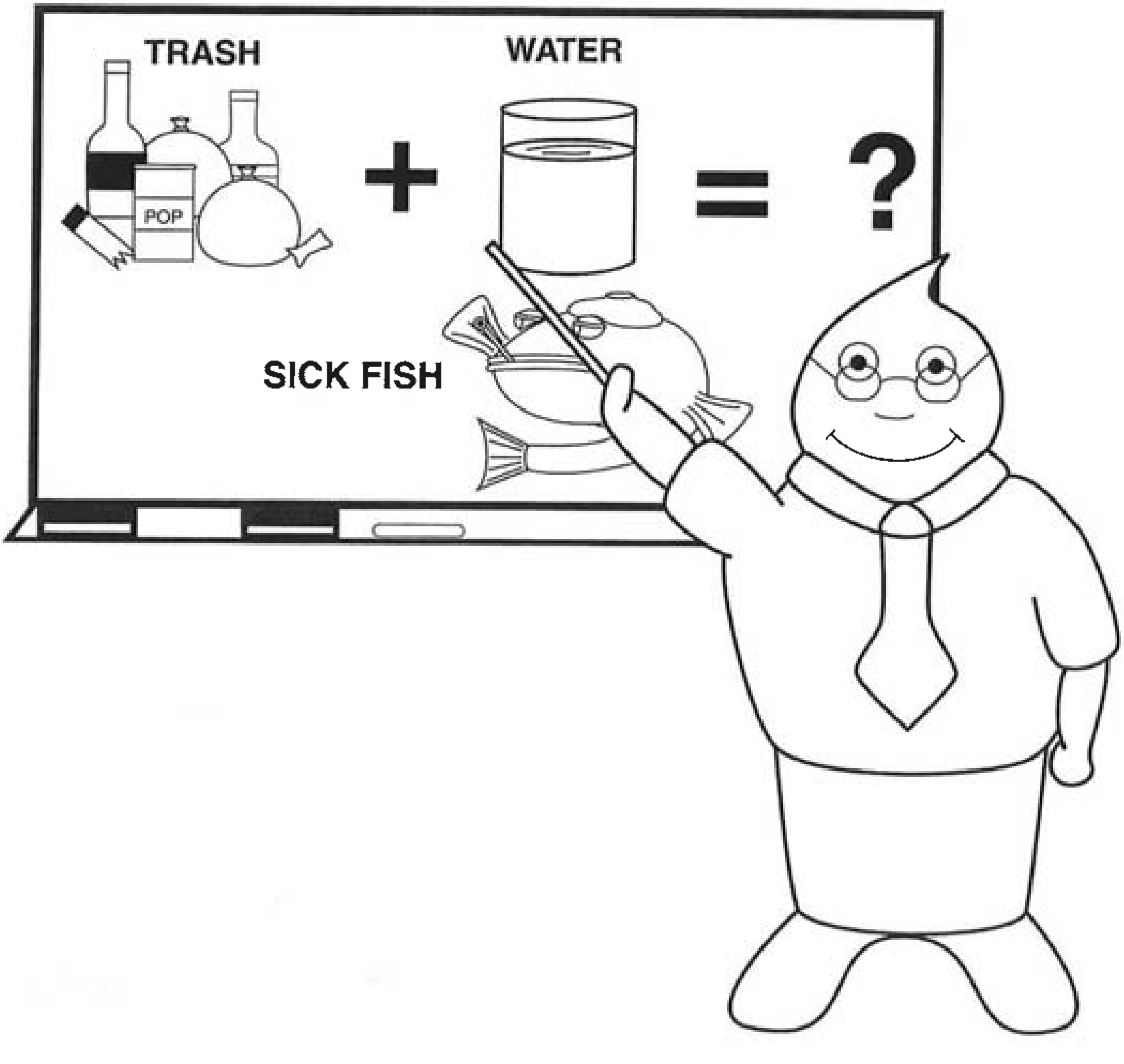

WANTED
TRASH
&
LITTER
POP
REWARD
HEALTHY WATER

Would you drink this water?

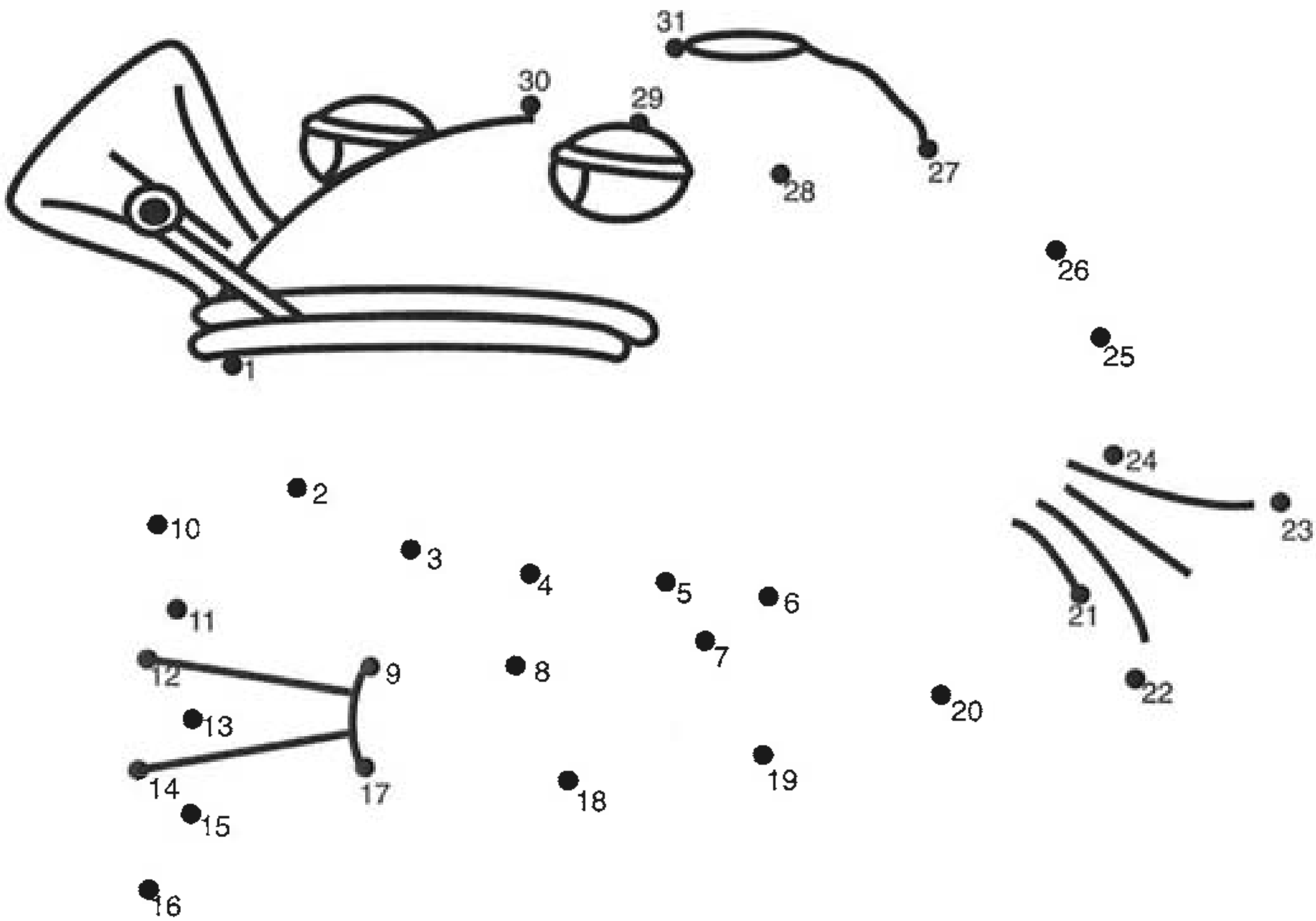
Be Creative!

Finish drawing the glass of untreated water.

MATH CLASS



Dot - to - Dot



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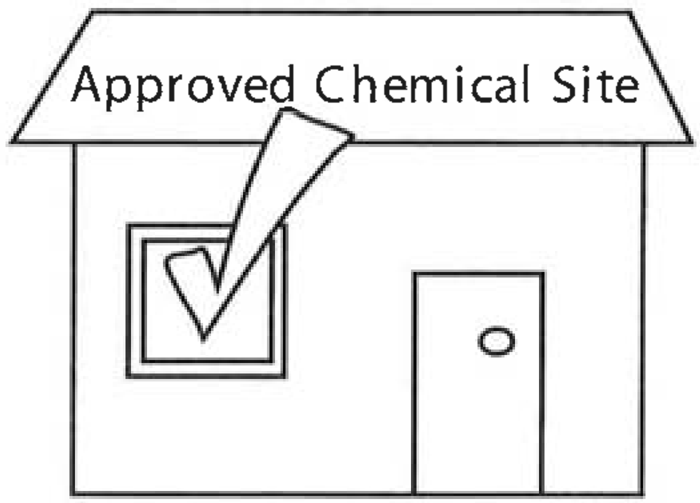
What can I do?

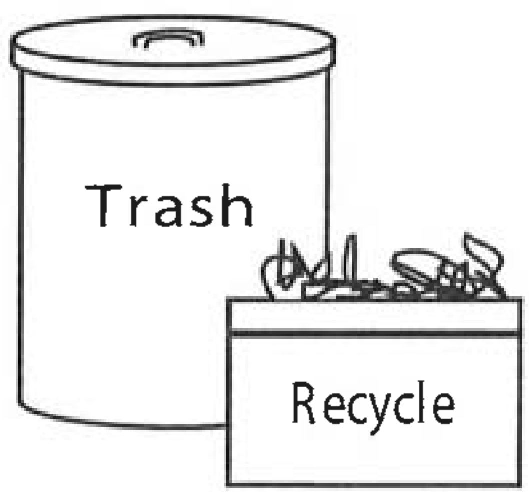
Don't pour chemicals down the drain.

Do take chemicals to an approved site.

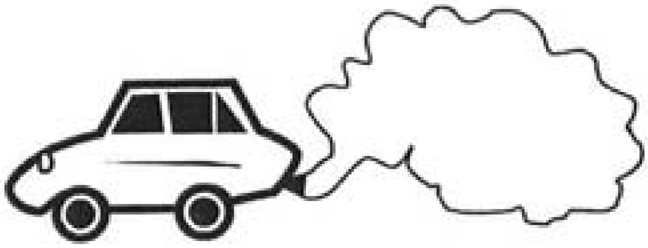


Don't put anything in a storm drain.

Do put trash in its place.



Word Scramble



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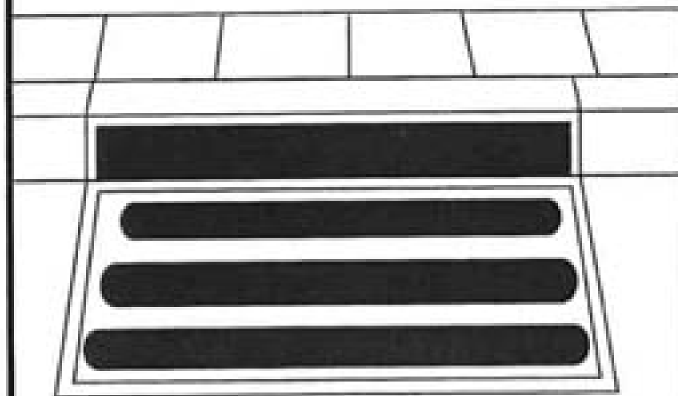

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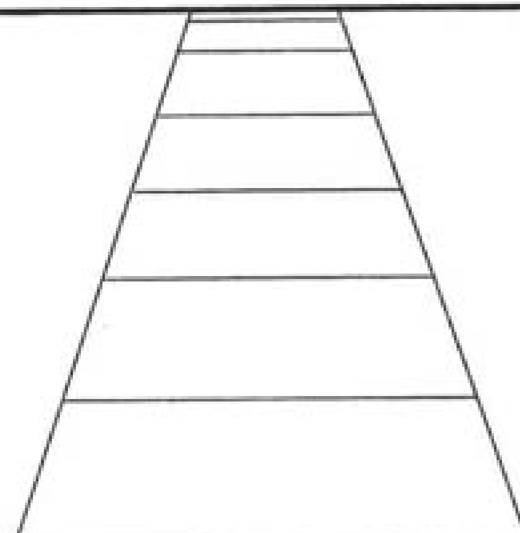

wsiedakls

Brought to you by the

Allen County Partnership for Water Quality

3718 New Vision Drive
Fort Wayne, IN 46845
(260) 484-5848 ext. 111

EXHIBIT H-2

CSO Public Notification Procedure

CITY OF FORT WAYNE

GRAHAM RICHARD, MAYOR

November 7, 2003

Bruno Pigott, Branch Chief
Permits Branch, Office of Water Quality
Indiana Department of Environmental Management
100 N. Senate Avenue
P.O. Box 6015
Indianapolis, IN 46205-6015

Re: City of Fort Wayne's CSO Public Notification Procedure

Dear Bruno,

Enclosed is a copy of the City of Fort Wayne's CSO Public Notification Procedure as required by 327 IAC 5-2.1-1. The City has crafted a notification procedure that blends a variety of our existing programs with new, innovative methods of keeping the citizens of Fort Wayne and Allen County informed about the potential health impacts associated with CSO discharges.

If you have any questions, please feel free to call me at (260) 427-1381.

Sincerely,

Greg Meszaros
Director, City Utilities & Public Works

SAFE CITY • QUALITY JOBS • B.E.S.T.

One Main St. • Fort Wayne, Indiana • 46802-1804 • www.cityoffortwayne.org
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Combined Sewer Overflow (CSO) Public Notification Procedure
City of Fort Wayne, Indiana

Summary of the CSO Public Notification Rule 327 IAC 5-2.1-1

327 IAC 5-2.1-1 requires Combined Sewer Overflow (CSO) communities, such as the City of Fort Wayne, to inform its citizens of the potential health impacts associated with a CSO discharge. Fort Wayne is required to promote and accomplish the following:

(1) Educate the public, in general, and those persons who may come into contact with water that may be affected by a CSO discharge as to the possible health implications from CSO discharge tainted water.

(2) Alert members of the public who may be immediately affected by a CSO discharge or the potential for a CSO discharge to occur.

(3) Enable members of the public to protect themselves from possible exposure to waterborne pathogens that may result from contact with or ingestion of water from a waterway that is potentially affected by a CSO discharge.

(4) Complement the CSO discharge requirements contained in the city's National Pollutant Discharge Elimination System (NPDES) permit, but not obviate or supersede any more stringent requirements contained in the city's NPDES permit.

Determining CSO Events

Fort Wayne's Department of Water Pollution Control Maintenance (WPCM) will be responsible for determining whether a discharge of combined sewage from a CSO (a "CSO event") is occurring or imminent. In the event that WPCM determines a CSO event is occurring or is imminent, WPCM staff shall take the necessary actions to notify individuals and entities who have requested notification. CSO events will be determined by:

- Performing periodic visual examinations of CSO outfalls
- Monitoring local forecasts and available real-time precipitation data
- Monitoring the release of water from the City's CSO storage ponds

Fort Wayne's engineering staff have determined that a CSO event can occur as a result of one-tenth (.10) of an inch of rain. In order to determine precipitation amounts, WPCM staff shall monitor local weather forecasts to determine the potential for rainfall and/or snowmelt conditions that are likely to trigger a CSO event. In addition, staff will monitor real-time precipitation data from various weather centers such as the American Weather Services (AWS) Weatherbug program, which provides real-time precepitation data from the Fort Wayne International Airport and Holland Elementary School, and the weather center website maintained by Indiana University-Purdue University at Fort Wayne. If any of these on-line sources reveal precipitation amounts equal to or greater than one-tenth (.10) of an inch of rain, the necessary steps to notify requesting individuals and entities shall be taken.

In addition, WPCM staff, working with treatment plant staff, will monitor the release of water from the wastewater plant's CSO storage ponds. Release of water from these ponds that exceeds permit requirements shall trigger the CSO notification process.

Fort Wayne's CSO Public Notification Procedure

1. In March of each year, the City of Fort Wayne shall submit a "Media Release" to the *News-Sentinel* and the *Journal Gazette* detailing the steps an individual must take to receive direct notification of a current or probable CSO discharge. Those individuals or entities that request notification shall receive an e-mail and/or a telephone message, according to their preference, when a CSO discharge is occurring or is imminent. Attachment A includes the media release to be submitted annually for publication in March.

   Media Contact Information
   The Journal Gazette
   600 W. Main St.
   Fort Wayne, IN 46801-0088
   (260) 461-8428 (telephone)
   (261) 461-8648 (fax)

   The News Sentinel
   600 W. Main St.
   Fort Wayne, IN 46802
   (260) 461-8239 (telephone)
   (260) 461-8817 (fax)

2. The Fort Wayne-Allen County Department of Health will, as required by 327 IAC 5-2.1-1, be notified of all current or potential CSO discharges. The City staff will contact the Department of Health in January of 2004 to identify the Department of Health's point of contact and his or her preferred method of notification (e-mail and/or telephone).

3. The City of Fort Wayne, City of New Haven, and Allen County created the Allen County Partnership for Water Quality (ACPWQ) to better educate the public about water resource issues. Together, these entities have funded a Water Resources Education Specialist position. The Education Specialist, in addition to other responsibilities, will help promote awareness of the City's CSO Public Notification Procedure. Through newsletters, brochures, and public presentations, the Education Specialist will educate residents on the City's CSO program and how individuals may subscribe for notification of CSO discharges.

4. Those individuals and entities that request notification via the automated e-mail service shall receive an electronic text message for all likely or occurring CSO discharges. **Attachment B** includes a copy of the text message to be sent to requesting individuals and entities. The e-mail system will be operational by January of 2004.

5. Those individuals and entities who request notification via the telephone messaging service shall receive a voice message for all likely or occurring CSO discharges. Attachment C includes the script of the telephone message to be sent to requesting individuals and entities. In the event the interest in the telephone service is larger than anticipated, the City may opt to utilize an automated telephone messaging system.

6. The City of Fort Wayne currently posts and maintains signage at all CSO outfalls with language consistent with 327 IAC 5-2.1-1. Attachment D identifies the location of CSO outfalls within the City of Fort Wayne. Attachment E provides an example of the new CSO outfall signage that will be installed when repair or replacement of existing signage is necessary.

7. The City of Fort Wayne will post additional CSO signage at the following public locations within the City's municipal jurisdiction:

- At public access points to waters potentially affected by CSO discharges, including boat ramps, bridges, parks, fishing spots, and school yards.
- Along parkways and greenways on or adjacent to potentially affected waters at locations most likely to provide public access.

Attachment F identifies those stream segments determined to be "affected waters" as a result of the City's CSO discharges. **Attachment G** identifies those areas (bridges, boat ramps, fishing spots, greenways, parks, school yards, etc.) identified by Fort Wayne's Sewer Advisory Group (SAG) that may provide direct public access to the affected waters. The City will examine the points identified in Attachment F and determine which sites warrant CSO signage. Attachment H provides an example of the general CSO signage to be erected as a result of this procedure. Any additional sites identified by the City or through other means will be examined and, if warranted, CSO signage will be erected.

8. City of Fort Wayne staff will work closely with the City of New Haven, a downstream CSO community, to identify public and private property owners outside of both Fort Wayne's and New Haven's jurisdictions that provide public access to the CSO affected waters. Annually, in March, with cooperation from the City of New Haven, City staff shall contact, via the U.S. mail, all known public and private property owners which provide public access to the CSO affected waters outside of both City's municipal jurisdictions and offer to provide free CSO signage.

9. The City of Fort Wayne operates and maintains a website (*www.cityoffortwayne.org/new/water/where_cso.htm*) and a CSO hotline (*260-427-2297*), both of which contain valuable CSO information. The City's website and CSO hotline will be updated to include information on the CSO Public Notification Procedure and the proper steps individuals can take to become notified of a CSO event. The website address and the CSO Hotline number will be advertised annually in the March press release advertising notification opportunities.

10. Annually, in March, City staff will directly contact numerous local media outlets (television and radio) and offer to provide CSO notification through the method of each media outlet's preference (e-mail and/or telephone).

11. Annually, in March, City staff will directly contact local advocacy groups and offer to provide CSO notification through the method of each group's preference (e-mail and/or telephone). Such groups include but are not limited to: Isaac Walton League, the Sewer Advisory Group, and the River Greenway Consortium.

Monthly Record Keeping and Reporting

A CSO Public Notification Log will be developed by and maintained at the Department of Water Pollution Control Maintenance. WPCM will be responsible for recording all monthly activities associated with Fort Wayne's CSO Public Notification Procedure, including:

- Locations of all CSO signage (jurisdictional and non-jurisdictional)
- Dates all CSO signs are erected

- Dates of all CSO notifications and the warranting events
- Dates of any CSO events for which CSO notification was not given
- Contact list of all who currently request CSO notification
- Names and addresses of all public and private property owners that provide public access to affected streams and the date letters were sent advertising the availability of CSO signage.

The CSO Public Notification Log will be summarized on an annual basis and made available for public review at the Department of Water Pollution Control Maintenance. The City's CSO Public Notification Procedure will be evaluated annually by the Fort Wayne Sewer Advisory Group (SAG). Any modification to the City's CSO Public Notification Procedure will be posted in the *Journal Gazette* and the *News Sentinel*.

ATTACHMENT A
MEDIA RELEASE

For Release: Monday, February 9, 2004
Contact: John Perlich, Public Information, 427-6957

City Begins CSO Public Notification Plan

Fort Wayne, Ind. – The City of Fort Wayne has implemented its combined sewer overflow (CSO) public notification plan.

The Indiana Department of Environmental Management (IDEM) now requires communities with combined sewers to notify the public when a CSO is occurring or imminent. The City of Fort Wayne is one of 105 CSO communities in Indiana.

Individuals interested in knowing when a CSO is occurring or imminent, can find out via e-mail or telephone. A free e-mail subscription is available by signing up at www.cityoffortwayne.org/cso_list.asp. Information over the telephone can be obtained by calling the City's Water Pollution Control Maintenance Department, 427-1255. Additional CSO information is available at www.cityoffortwayne.org/new/water/where_cso.htm and the CSO Hotline, 427-2297.

A CSO event results in the discharge of untreated stormwater and sewage into the St. Joseph, St. Marys and Maumee rivers. It is strongly recommended that the public avoid direct contact with the following stream segments for a 72-hour period following a CSO discharge.

- *St. Joseph River from Coliseum Boulevard to the confluence of the Maumee River*
- *St. Marys River from Airport Expressway to the confluence of the Maumee River*
- *Maumee River from the confluence of the St. Joseph River and the St. Marys River through the city of New Haven to the Platter Road bridge over the Maumee River in Milan Township*

###

ATTACHMENT B
E_MAIL NOTIFICATION

COMBINED SEWER OVERFLOW WARNING TODAY

When it rains, the 100-year-old combined sewers in Fort Wayne can overflow resulting in the discharge of an untreated combination of stormwater (rain or snowmelt) and sewage into our waterways. Today's forecast indicates a strong possibility that overflows will occur or have occurred in the past 24 hours.

Individuals should avoid direct contact with water in any of the CSO affected waterways described below. Consumption of or direct contact with sewage-contaminated water could make you sick. Signs are posted along our waterways to identify the City's combined sewer outfalls and areas where contact with water could be hazardous to your health.

The affected CSO waterways include:

- St. Joseph River from Coliseum Boulevard to the confluence of the Maumee River
- St. Marys River from Airport Expressway to the confluence of the Maumee River
- Maumee River from the confluence of the St. Joseph River and the St. Marys River through the city of New Haven to the Platter Road bridge over the Maumee River in Milan Township

The City of Fort Wayne encourages the public to take the following protective actions when recreating in City streams:

- Avoid direct contact with CSO streams during and for three days (72 hours) after a rain event.
- Alter recreational activities in order to avoid direct water contact.
- If contact does occur with CSO streams, wash your hands immediately, especially prior to eating.
- Use a waterless hand sanitizer at outings that occur near CSO streams.

Clean water is a priority for the City of Fort Wayne. The City is implementing a variety of projects to improve our waterways and reduce and eliminate CSO discharges. The long-term costs to control CSOs in Fort Wayne will likely exceed $250 million over the next 15 to 20 years.

You have received this e-mail because you previously subscribed to this e-mail distribution list or someone on the subscribed list forwarded this message to you.

If this message was forwarded to you and you would like to subscribe, click on the following link: **www.cityoffortwayne.org/cso_list.asp**

If you previously subscribed but no longer wish to receive this e-mail message, click on the following to unsubscribe: **listserv@ci.ft-wayne.in.us**

If you would like to learn more about Fort Wayne's CSO program, click on the following link: **www.cityoffortwayne.org/new/water/where_cso.htm** or call Fort Wayne's CSO Hotline at 260-427-2297.

Attachment C
Automated Telephone Notification

"This is a message from the Fort Wayne's Water Pollution Control Maintenance Department...

Today, weather conditions indicate a strong possibility that CSO overflows will occur, or that overflows have occurred in the past 24-hours.

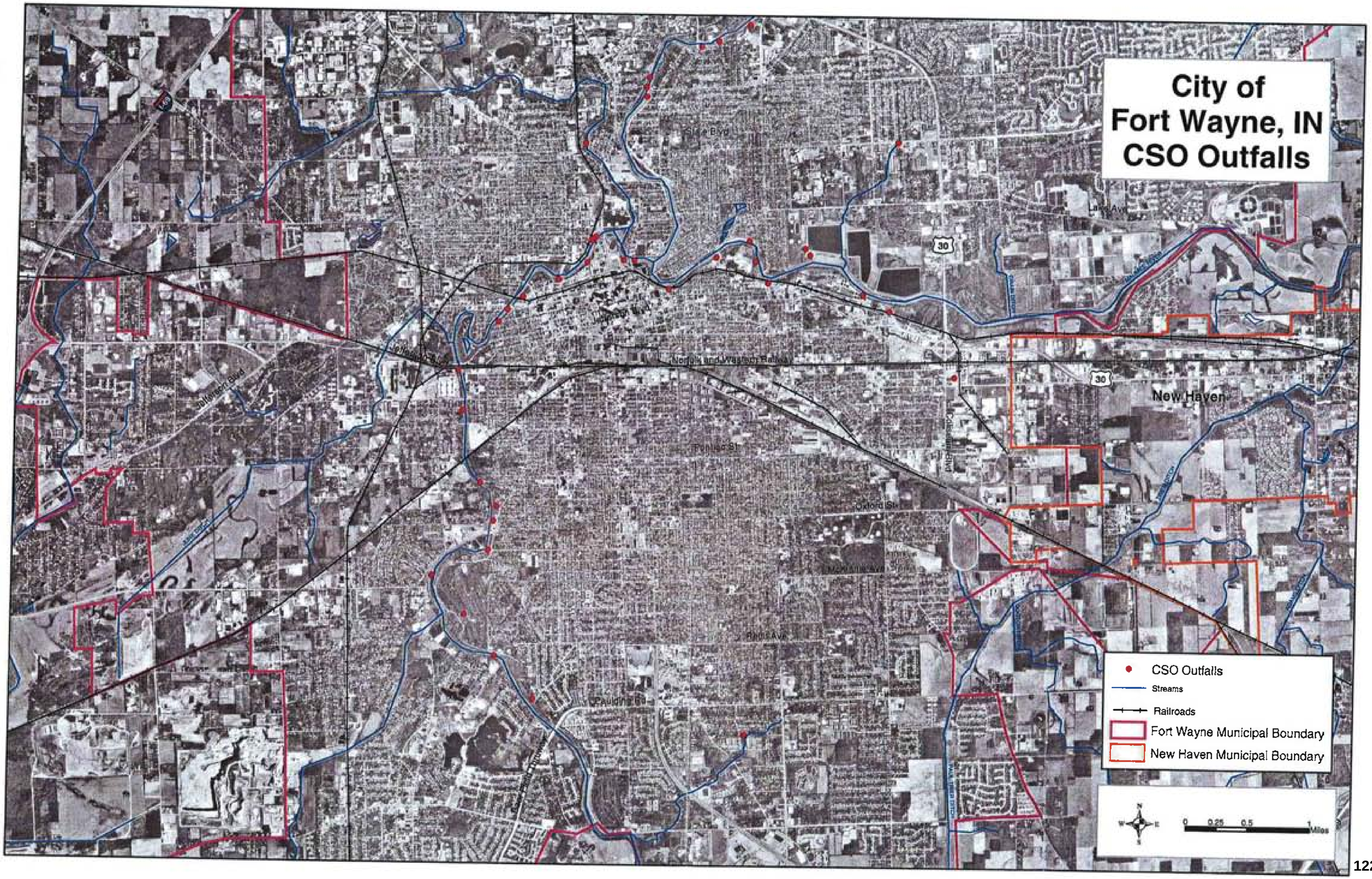
Please avoid all contact with water in any of the CSO affected waterways described later in this message. Consumption of or direct contact with sewage-contaminated water could cause sickness.
The CSO affected waterways include:

- *St. Joseph River from Coliseum Boulevard to the confluence of the Maumee River*
- *St. Mary's River from Airport Expressway to the confluence of the Maumee River*
- *Maumee River from the confluence of the St. Joseph River and the St. Mary's River through the Town of New Haven to the Platter Road bridge over the Maumee River in Milan Township.*

For additional information, please call Fort Wayne's CSO Hotline at (260) 427-2297 or Water Pollution Control Maintenance at (260) 427-1255.

Attachment D

CSO Outfall Locations

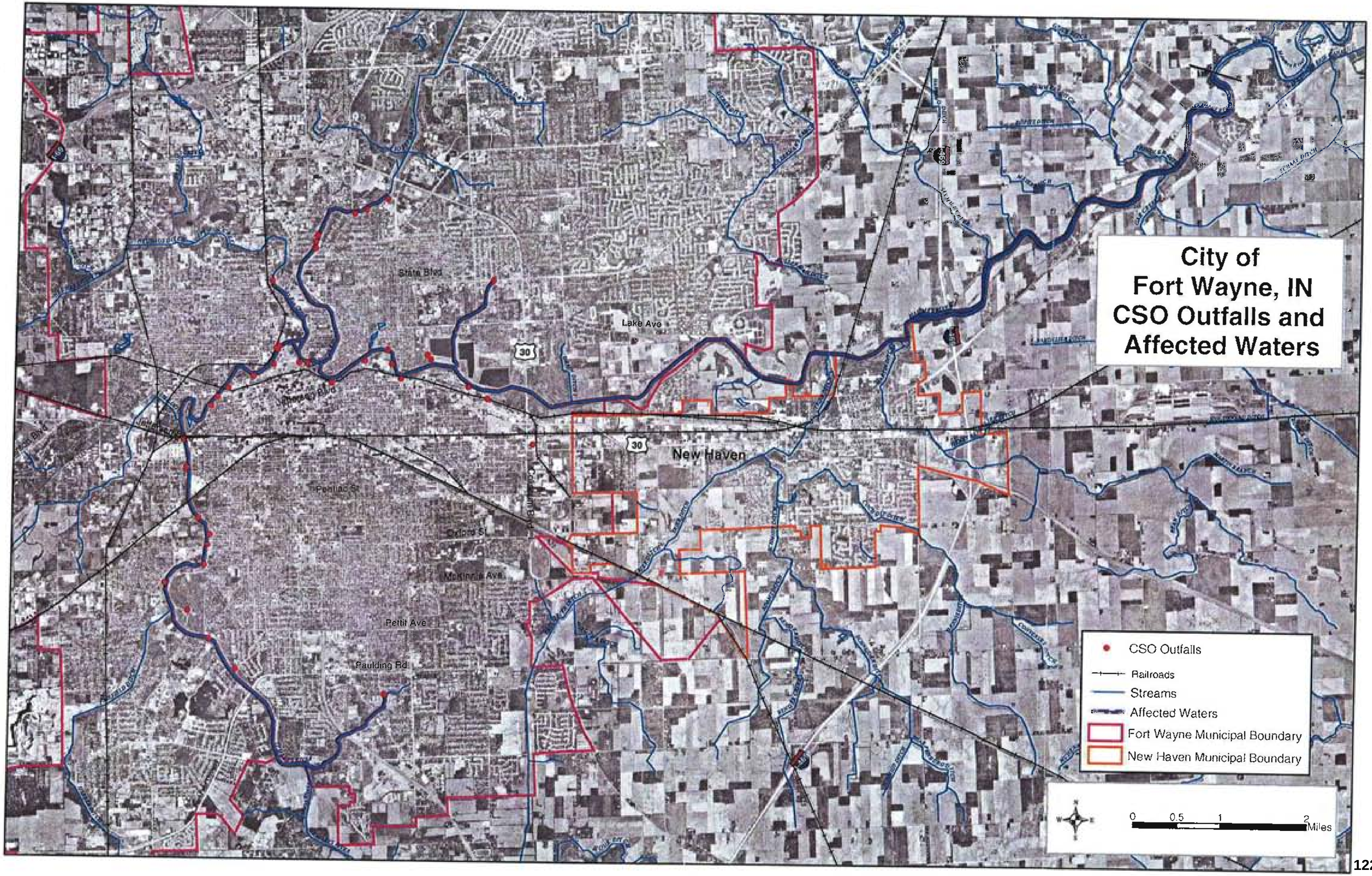

City of
Fort Wayne, IN
CSO Outfalls
New Haven
30
CSO Outfalls
Streams
Railroads
Fort Wayne Municipal Boundary
New Haven Municipal Boundary
0 0.25 0.5 1 Miles

Attachment E

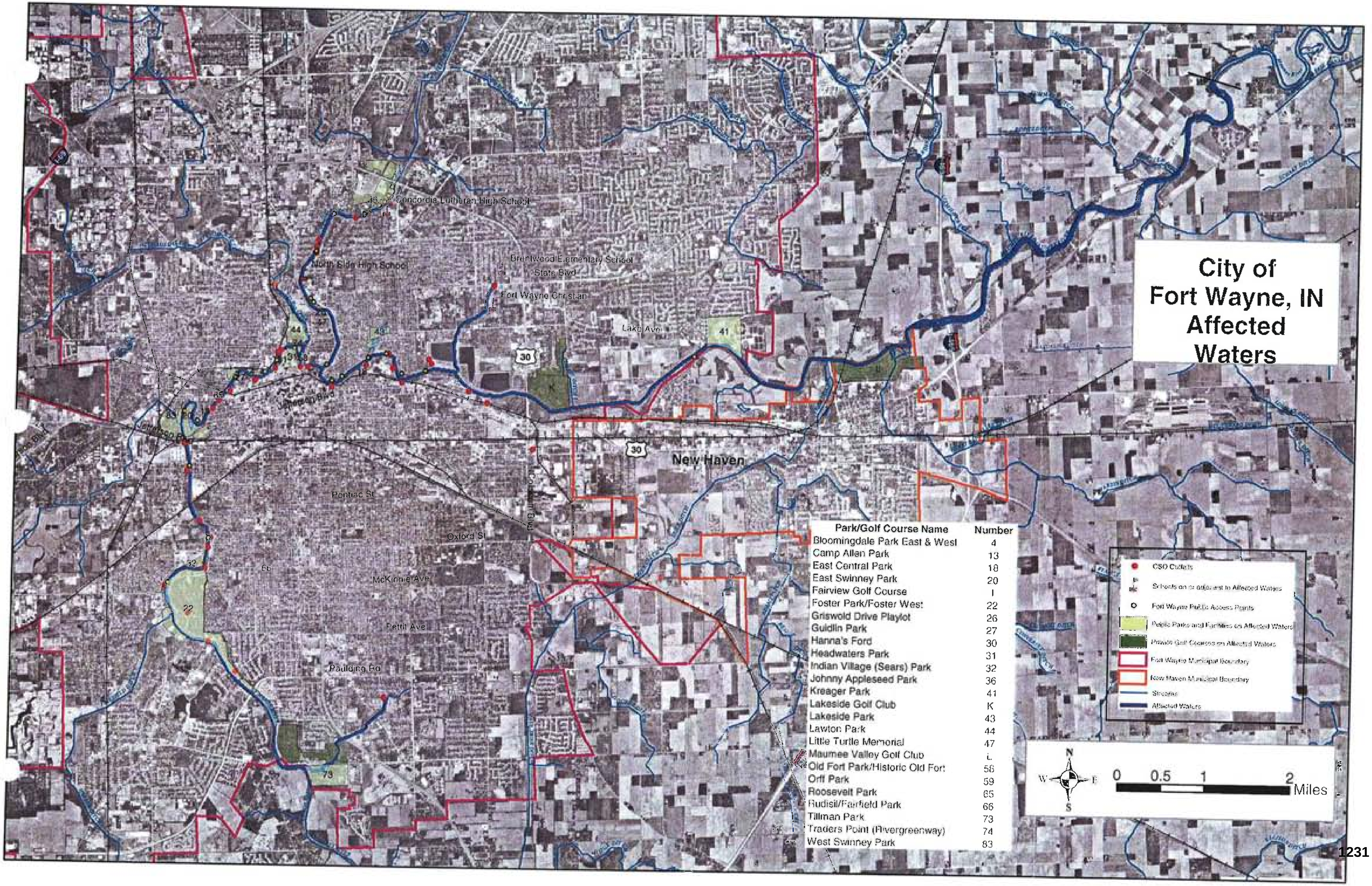
CSO Outfall Signage

CAUTION. This is a Combined Sewer Overflow [CSO] Outfall.
Water coming from this pipe is polluted. Consumption of or contact with
wastewater from this pipe may cause sickness. Discharges should
occur only during or after rain events or snow melts. In the
event of discharges during dry weather or for more information,
please call 427-1255. For recorded river
quality information please call: (260) 427-2297
CSO OUTFALL #

Attachment F
CSO Affected Streams


City of
Fort Wayne, IN
CSO Outfalls and
Affected Waters
State Blvd
Lake Ave
30
30
New Haven
Pontiac St
Oxford St
Mckinnie Ave
Pettit Ave
Paulding Rd
CSO Outfalls
Railroads
Streams
Affected Waters
Fort Wayne Municipal Boundary
New Haven Municipal Boundary
0
0.5
1
2
Miles

Attachment G
Public Access Points



Park/Golf Course Name	Number
Bloomingdale Park East & West	4
Camp Allen Park	13
East Central Park	18
East Swinney Park	20
Fairview Golf Course	I
Foster Park/Foster West	22
Griswold Drive Playlot	26
Guldlin Park	27
Hanna's Ford	30
Headwaters Park	31
Indian Village (Sears) Park	32
Johnny Appleseed Park	36
Kreager Park	41
Lakeside Golf Club	K
Lakeside Park	43
Lawton Park	44
Little Turtle Memorial	47
Maumee Valley Golf Club	L
Old Fort Park/Historic Old Fort	56
Orff Park	59
Roosevelt Park	65
Rudisil/Fairfield Park	66
Tillman Park	73
Traders Point (Rivergreenway)	74
West Swinney Park	83

Attachment H

Affected Waters Signage

CAUTION. Wastewater or sewage from CSOs may be in this waterway during and for several days after periods of rainfall or snowmelt. People who swim in, wade in, or ingest this water may get sick.

For more information, please call the
CSO Hotline at (260) 427-2297 or
the Department of Water Pollution
Control Maintenance at (260) 427-1255

IDEM INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

June 10, 2004

The Honorable Graham Richard, Mayor
City of Fort Wayne
1 Main Street #900
Fort Wayne, Indiana 46802

RE: CSO Public Notification Plan
Fort Wayne, Indiana
Allen County

Dear Mayor Richard:

The Indiana Department of Environmental Management (IDEM) acknowledges receipt of your letter dated June 9, 2004, regarding the City of Fort Wayne's Combined Sewer Overflow Public Notification Plan. The Plan is a requirement of 327 IAC 5-2.1-(1-6). The information shall be incorporated into Fort Wayne's Combined Sewer Overflow Operational Plan (CSOOP) and immediately implemented. No further action is needed from the City of Fort Wayne at this point.

If you have any questions regarding this Combined Sewer Overflow Public Notification Plan, please contact H.T. Pham, of my staff at 317-233-8770.

Sincerely,

Cynthia Wagner

Cynthia Wagner, Chief
Wet Weather Section
Office of water Quality

Cc: Mr. Rick Roudebush, OWQ Inspection
Mr. Don Daily, OWQ Compliance
Mr. H.T. Pham, OWQ Wet Weather Section
Mr. Greg Meszaros, Director, City Utilities and Public Works
File Room
Mary Jane Slaton

June 9, 2004

Cynthia Wagner, Chief
Wet Weather Section, Office of Water Quality
Indiana Department of Environmental Management
100 N. Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46205-6015

RE: City of Fort Wayne's CSO Public Notification Procedure Completeness Review Response to Review Comments

Dear Ms. Wagner:

Thank you for your letter dated May 20, 2004 concerning your office's review of the CSO Public Notification Procedure ("PNP") submitted by the City of Fort Wayne (the "City") to IDEM last fall. We have completed our review of the eight questions submitted by your letter and are please to both provide the responses shown below and hereby amend the PNP to include each fo the same.

IDEM Comment 1: The local schools were not identified in the PNP. Please clarify whether any schools are located in this area. If so, please describe how you propose to provide notification to them.

City Response: **There are schools located in the CSO affected area as shown on Attachment G of the PNP as originally submitted. Letters offering individual CSO notification via e-mail or telephone will be sent to the corporation offices of those school systems. CSO signage will be offered to individual schools or to their corporation offices. These institutions will be notified of CSO events by e-mail or telephone if they respond to the above referenced offer. Further, any person or entity may request and receive notification through the City's website or by responding to the City's annual newspaper notice.**

IDEM Comment 2: The local owners or operators of public drinking water systems within ten (10) river miles of CSO outfalls were not identified in the PNP. Please clarify whether any owners or operators are located in this area. If so, please describe how you propose to provide notification to them.

City Response: **There are no public drinking water systems with surface water intakes within ten (10) river miles of Ft. Wayne's CSO outfalls.**

IDEM Comment 3: The local owners or operators of facilities that provide access to, or recreational opportunities in or on affected waters were not identified in the PNP. Please clarify whether any owners or operators are located in this area. If so, please describe how you propose to provide notification to them.

City Response: **As outlined in Item 7 in the submitted PNP, additional CSO signage will be posted at public access points to waters potentially affected by CSO discharges including boat ramps, bridges, parks, fishing spots and school yards. In addition, local owners and operators of private facilities that provide access to, or recreational opportunities on affected waters within the City's political boundaries, for example private golf courses, will receive letters offering them CSO signage. The City understands that such private entities downstream of the City that are in the City of New Haven and before the Platter Road bridge will be offered signage by the City of New Haven. Further, any person or entity may request and receive e-mail or telephone notification through the City's website at any time, or by responding to the City's annual newspaper notice.**

IDEM Comment 4: The local residents on or adjacent to the affected waters were not identified by the PNP. Please clarify whether any residents are located in this area. If so, please describe how you propose to provide notification to them.

City Response: **There are residents located on or adjacent to affected waters. They will be provided notification by e-mail alert or telephone if they request notification through the City's website or by responding to the City' annual newspaper notice.**

IDEM Comment 5: Please clarify whether a detailed assignment of responsibilities within the community for implementing the procedure is given.

City Response: **The responsibility for implementing the PNP has been given to the City's Department of Water Pollution Control Maintenance as indicated in the "Monthly Record Keeping and Reporting" section on Pages 3 and 4 of the submitted PNP.**

IDEM Comment 6: The PNP does not mention if the chosen notification procedure is mutually agreeable to the recipient and the CSO community. Please describe how the plan was/will be presented to the public.

City Response: **The PNP was presented to and approved by the City's citizen-comprised Sewer Advisory Group (SAG) in its public meeting of October 1, 2003. The meeting, as well as the intent of the meeting, was publicized in local newspapers.**

IDEM Comment 7: The Fort Wayne PNP does not identify where signs in English or any other language will be located, whether a public notice (e-mail or phone contact) will be made in English or any other language if necessary and whether the annual notice will be made in English or any other language. Please clarify these issues and include appropriate documentation.

City Response: **Signage and annual notification will be given in English only. If it is determined in the future that an additional language is necessary, the City will modify its PNP accordingly. The locations at which CSO signage will be erected are discussed in Item 7 of the PNP and are identified in Appendix G.**

IDEM Comment 8: Documentation has not been included that his plan has been/will be included in your Combined Sewer Overflow Operation Plan (CSOOP). Please clarify this issue and include appropriate documentation.

City Response: **The finally approved PNP will be incorporated into the CSOOP. As you are aware, a schedule for completion of an approved CSOOP is currently being discussed by the City and IDEM.**

If you need additional information, please contact me at (260) 427-1381.

Sincerely,

Greg Meszaros
Director, City Utilities and Public Works

cc: Mr. Rick Roudebush, OWQ Inspections
Mr. Don Daily, OWQ Compliance
Mr. H.T. Pham, OWQ, Wet Weather Section
file

Fort Wayne CSO Public Notification Plan Requirements

Item No.	When	Action	Responsible Party
1 & 9	Annually in March	News Release to the Journal Gazette, News Sentinel and other media outlets detailing the steps that citizens should take to receive CSO Notification. This release must also include information about the CSO Hotline and the information/notification procedure on the City's website.	City Utilities PIO
2	When events warrant	Notification sent via e-mail to persons/parties that have requested	CSO Program Manager
3	As opportunities are available	Promote awareness of the City's CSO public notification procedure through newsletters, brochures and public presentations	Water Quality Education Specialist
4	When events warrant	Individuals and entities that have requested notice will be notified by e-mail of CSO events	CSO Program Manager
5	NA	Phone notification	NA
6	When repair or replacement is necessary	Signage to be located at CSO outfalls	CSO Program Manager
7	As sites are identified	Signage to be posted at public access points, along parkways and greenways and at locations most likely to provide public access	CSO Program Manager
8	Annually in March	Notify public and private property owners who provide public access to CSO affected waters that free signage is available. Also notify schools on CSO affected waters (see Revision 1 & 3 below).	City Utilities PIO

10	Annually in March	Contact area media outlets and offer to provide CSO Notification to them in a method of their preference.	City Utilities PIO
11	Annually in March	Send letter to local advocacy groups offering to provide notification via the method of that group's choosing.	City Utitleis PIO
Revision 1	Annually in March	Send letters to school corporation offices offering CSO notification	City Utilities PIO
Revision 3	See item 8	Private owners of recreational facilities that provide access to or recreational opportunities on CSO affected waters to be offered signage and notification.	City Utilities PIO

Annual Report
Fort Wayne CSO Education and Public Notification Program

CSO Education Program

2004 Activities

Education Program Changes in 2004

CSO Public Notification Program

2004 Notification Log

The attached logs show the following for 2004:

- Locations of all CSO signage
- Dates when each sign was erected
- Dates of CSO notifications and the events that caused the notification to be issued
- Dates of an documented CSO events for which notification was not given
- Contact list of all who are currently on the list to receive notification
- Names and addresses of all public and private property owners who provide public access to affected streams and the date when letters were sent notifying them of the availability of free CSO signage

Notification Program Changes in 2004

City of Fort Wayne CSO Sign Locations

Outfall SIP #	Location	Receiving Water	Date of Installation
Unknown	Plant Outfall from Pond #3	Maumee River	
Unknown	Plant Outfall	Maumee River	
Unknown	Terminal Pond #2	Maumee River	
J03-313	Brown Street Pump Station	St Marys River	
J02-090	100' E. of Rolling Mills Regulator	St Marys River	
J11-164	25' E. of Indian Village Regulator	St. Marys River	
J11-222	25' E. of Indian Village Regulator	St. Marys River	
K03-092	90' E. of Brown Street Pump Station	St. Marys River	
K03-311	**Abandoned**		
K06-152	**Abandoned**		
K06-230	**Abandoned**		
K06-233	50' E. of Nebraska Pump Station	St. Marys River	
K06-234	25' S.E. of Nebraska Pump Station	St. Marys River	
K06-298	80' W. of Thieme Dr. & W. Berry St.	St. Marys River	
K07-106	25' W. of Dinnen & Packard Av.	St. Marys River	
K07-108	**Abandoned**		
K07-109	W. of 3418 Broadway	St. Marys River	
K07-176	W. end of alley btw Wildwood & Waldron Cir.	St. Marys River	
K11-165	W. of Rudisill & Broadway	St. Marys River	
K11-178	W. of Rudisill & Broadway	St. Marys River	
K15-116	4610 Hartman Rd.	St. Marys River	
K19-044	660' W. of Old Mill & Fairfax	St. Marys River	
K19-076	**Abandoned**		
K19-077	100' E. of Hartman Rd. S. of ball diamonds	St. Marys River	
L06-099	**Abandoned**		
L06-103	100' N.E. of Jackson & Superior	St. Marys River	
L06-420	220' N.W. of Superior & Fairfield	St. Marys River	
L06-421	220' N.W. of Superior & Fairfield	St. Marys River	
M10-151	Third Street Pump Station	St. Marys River	
M10-202	Third Street Pump Station	St. Marys River	
M10-238	80' S. of Griswald Pump Station	St. Marys River	
M10-265	230' E. of Duck & Barr Sts.	St. Marys River	
M10-270	**Abandoned**		
M10-273	**Abandoned**		
M10-306	120' N. of Clair & Harrison	St. Marys River	
M10-313	Third Street Pump Station	St. Marys River	
M14-254	**Abandoned**		
M18-032	520' N. of State & Westbrook	Spy Run Creek	
M18-166	**Abandoned**		
M18-167	**Abandoned (storm water only)**		
N06-022	122' N. of Hanna & Berry Sts.	St. Joseph River	
N10-106	**Abandoned**		
N14-274	**Abandoned**		
N18-254	100' W. of Northside Dr. & Glazier Dr.	St. Joseph River	
N18-034	**Abandoned**		
N18-043	**Abandoned**		
N22-093	130' E. of Dalgren & Spy Run Av.	St. Joseph River	

N22-103	100' E. of Penn & Spy Run Av.	St. Joseph River
O10-097	Morton Street Pump Station	Maumee River
O10-252	Morton Street Pump Station	Maumee River
O10-257	300' S. at end of Griffen St.	Maumee River
O10-277	100' N. of Coomb & Herbert Sts.	Maumee River
O22-002	120' N.W. of St Joe River Dr. & Woodrow	St. Joseph River
O22-004	370' W. of N. Anthony & St. Joe River Dr.	St. Joseph River
O22-094	200" E. of Parnell Av. Bridge	St. Joseph River
O23-080	240' E. of Mercer Av. & Hollis Ln.	Natural Drain #4
P06-192	Under Anthony St. Bridge S. bank	Maumee River
P10-025	W. side of Pond #1, Stormwater Treatment Plant	Maumee River
P10-121	Stormwater Lift Station wet well	Maumee River
Q06-034	390' N.W. of Edsall & Dwenger Av.	Maumee River
Q06-099	**Abandoned**	
R06-031	670' N.E. of Greenwalt & Maumee Av.	Maumee River
R14-137	200' W. of Laverne Av. & State St.	Baldwin Ditch
R14-138	200' W. of Laverne Av. & State St.	Baldwin Ditch
R19-078	**Abandoned (storm water only)**	
S02-035	Harvester Ditch N. of Gladieux Refinery	Harvester Ditch

APPENDIX 7
Annual Report of Education and
Public Notification Program

Fort Wayne CSO Notification Log

	Date of Notification	Warranting Event
January		

dates of CSO events in January for which notice was not given

February

dates of CSO events in February for which notice was not given

March

dates of CSO events in March for which notice was not given

April

dates of CSO events in April for which notice was not given

May

dates of CSO events in May for which notice was not given

June

dates of CSO events in June for which notice was not given

July

dates of CSO events in July for which notice was not given

August

dates of CSO events in August for which notice was not given

September

dates of CSO events in September for which notice was not given

October

dates of CSO events in October for which notice was not given

November

dates of CSO events in Nobember for which notice was not given

December

dates of CSO events in December for which notice was not given

CSO Notification Contact List

Last Name	First Name	E-mail	Address
Slaton	Mary	mary.jane.slaton@ci.ft-wayns.in.us	

Public & Private Property Owners Notified of Availability of Free CSO Signage

Last Name	First Name	Address	City	State	Zip	Date Letter Was Sent

EXHIBIT H-3

Annual Report of Education and Public Notification Program

Annual Report
Fort Wayne CSO Education and Public Notification Program

CSO Education Program

2004 Activities

Education Program Changes in 2004

CSO Public Notification Program

2004 Notification Log

The attached logs show the following for 2004:

- Locations of all CSO signage
- Dates when each sign was erected
- Dates of CSO notifications and the events that caused the notification to be issued
- Dates of an documented CSO events for which notification was not given
- Contact list of all who are currently on the list to receive notification
- Names and addresses of all public and private property owners who provide public access to affected streams and the date when letters were sent notifying them of the availability of free CSO signage

Notification Program Changes in 2004

EXHIBIT H-4

List of Available Educational Material

Flyers

Available from Partnership for Water Quality, 3718 New Vision Drive

Combined Sewer Overflows
Stormwater Pollution
Household Hazardous Waste
Septic System Maintenance
Green Landscaping
Stormwater Activity Book

Available from City of Fort Wayne, One East Main Street, Room 200

Biosolids Use and Reuse
Combined Sewer Overflows
Drinking Water Handbook
Dealing With Flood and Sewer Waters
Step-by-Step Downspout Disconnection Guide

EXHIBIT H-5

Contacts for Educational Activities

Allen County Partnership for Water Quality
Matt Jones, Education Specialist
3718 New Vision Drive
Fort Wayne, Indiana 46845

260/484-5848
260/484-5080 (fax)
Matt.jones@IN.nacdnet.net

Fort Wayne Sewer Advisory Group
Michael Joyner, Public Information Officer
One East Main Street, Room 280
Fort Wayne, Indiana 46802

260/427-1381
michael.joyner@ci.ft-wayne.in.us

The Sewer Advisory Group meets bi-monthly on the first Wednesday at February, April, June, August, October and December at 6:00 at the Fort Wayne City-County Building.

Fort Wayne Board of Public Works
Gina Kostoff, Manager
One East Main Street, Room 420
Fort Wayne, Indiana 46802

260/427-1121

The Board of Public Works meets weekly on Wednesday morning at 9:00 in the Omni Room of the Fort Wayne City-County Building. Meetings are also taped and rebroadcast on the City's Cable Access Channel. The Board of Works approves all expenditures related to the City's sewer system.

EXHIBIT H-6

Sample CSO Sign

EXHIBIT H-7

WATER QUALITY HOTLINE

The phone number for Fort Wayne Water Quality/CSO Hotline is:

(260) 427-2297

This pre-recorded information service provides callers with information about conditions in receiving water. During the spring, summer and fall, the information on the Hotline is updated weekly with the results of the current week's bacteria sampling. The Hotline also includes general precautions about bodily contact with CSO affected streams during wet weather events and information about how callers can receive more timely information about wet weather events.

The following is the script for the Hotline during the recreational season (April – October) when bacteriological samples are being tested weekly:

"Thank you for calling Fort Wayne City Utilities' Combined Sewer Overflow Hotline.

This message is intended to give you information about water quality in Fort Wayne's rivers and streams and to provide general information about the risks associated with combined sewer overflows.

[Insert current test results here]

During periods of rain or snowmelt, Fort Wayne's 100-year old combined sewers can overflow, resulting in the discharge of an untreated combination of stormwater and sewage into our waterways.

Fort Wayne's three rivers as well as the downstream portion of the Spy Run Creek and the Baldwin Drain and Wayne Natural Drain Number 4 are affected by CSO discharges. You should avoid contact with these water bodies, especially during the three days after a rain event. Signs are posted along our streams to identify the City's combined sewer outfalls and where contact with the water could be hazardous to your health.

For more information or to receive notice when combined sewer overflows are happening, please visit the City's website at www.cityoffortwayne.org"

The following script is for use during the winter months (November – March) when weekly bacteriological testing is not being done:

"Thank you for calling Fort Wayne City Utilities' Combined Sewer Overflow Hotline.

This message is intended to give you information about water quality in Fort Wayne's rivers and streams and to provide general information about the risks associated with combined sewer overflows.

Water Quality Hotline

Currently, biological testing of the rivers has been suspended for the winter season. Testing will resume in April and this hotline will be updated weekly throughout the spring, summer and fall with the latest biological test data.

During periods of rain or snowmelt, Fort Wayne's 100-year old combined sewers can overflow, resulting in the discharge of an untreated combination of stormwater and sewage into our waterways.

Fort Wayne's three rivers as well as the downstream portion of the Spy Run Creek and the Baldwin Drain and Wayne Natural Drain Number 4 are affected by CSO discharges. You should avoid contact with these water bodies, especially during the three days after a rain event. Signs are posted along our streams to identify the City's combined sewer outfalls and where contact with the water could be hazardous to your health.

For more information or to receive notice when combined sewer overflows are happening, please visit the City's website at www.cityoffortwayne.org"

Nine Minimum Controls – No. 9

9.0 MONITORING TO CHARACTERIZE CSO IMPACTS AND EFFICACY OF CSO CONTROLS

EPA's NMC Guidance explains that the ninth NMC "involves visual inspections and other simple methods to determine the occurrence and apparent impacts of CSOs" and "is the precursor to the more extensive characterization and monitoring efforts to be conducted as part of the LTCP."

9.1 INTRODUCTION

The NMC are technology-based controls, applied on a site-specific basis, to reduce the magnitude, frequency, and duration of CSOs. The implementation of the NMC establishes the baseline conditions upon which the LTCP will be developed.

Monitoring is specifically included as the ninth NMC. The ninth NMC is titled "Monitoring to Characterize CSO Impacts and Efficacy of CSO Controls".

Implementation of this control would typically involve the following activities:

- Mapping the drainage area for the CSS, including the locations of all CSO outfalls and receiving waters.
- Identifying, for each receiving water body, designated and existing uses, applicable water quality criteria, and whether water quality standards (WQS) are currently being attained for both wet weather and dry weather.
- Developing a record of overflow occurrences (number, volume, frequency, and duration).
- Compiling existing information on water quality impacts associated with CSOs (e.g., beach closings, evidence of floatables wash-ups, fish kills, sediment accumulation, and the frequency, duration, and magnitude of instream WQS violations)."
- Developing a long-term monitoring plan for the LTCP.

9.2 IMPLEMENTATION OF THE NINTH MINIMUM CONTROL

9.2.1 Mapping the CSS and Its Drainage Area

Fort Wayne's geographic information system (GIS) contains graphic information on all the sewers and sewer structures, including CSO regulators and discharge points, that the City operates and on all waters that receive discharges from its sewer system. The City's GIS also

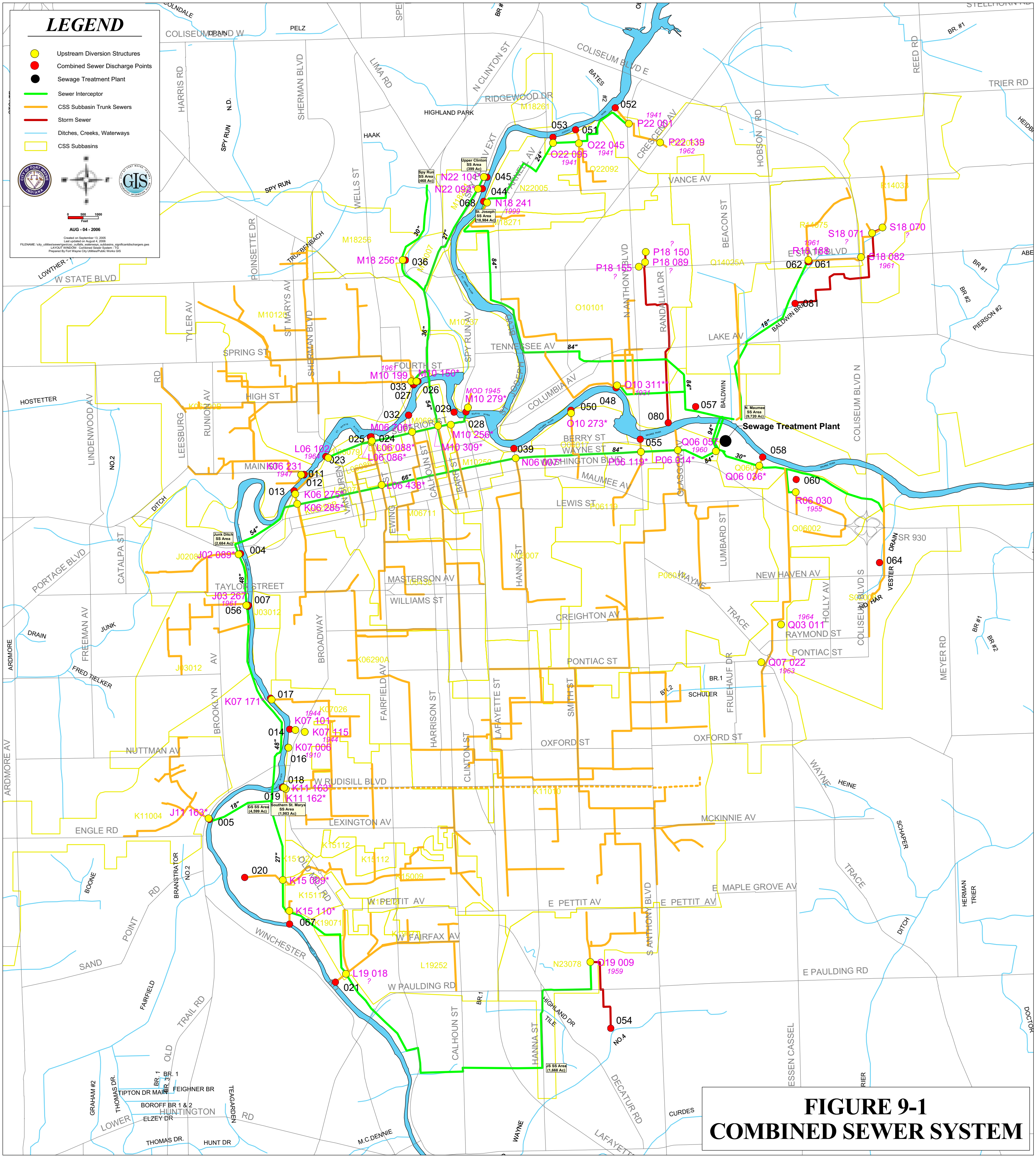


FIGURE 9-1
COMBINED SEWER SYSTEM

contains information on sewer type (sanitary, storm, or combined), size, construction material, and age. This information has been used to delineate the areas served by major branches of each type of sewer. Figure 9-1 shows the CSS drainage subbasins, CSS trunk sewers, regulators, interceptors, CSO discharge points, and the water bodies that receive CSO discharges. This figure is typical of the type of maps that can be produced by the City's GIS.

9.2.2 Identification of Designated and Existing Uses, Water Quality Criteria, and Compliance Status

All waters of the State of Indiana have been given fishable/swimmable use designations. For waters in the Great Lakes Basin, which includes the receiving waters of the City's CSS, the designated uses are described in 327 IAC 2-1.5-5. The applicable water quality standards (WQS) can be found in 327 IAC 2-1.5-8. Indiana's integrated water monitoring and assessment reports show that existing WQS are not being met at all times in receiving waters of the CSS. A more detailed discussion of this issue can be found in Exhibit I-1.

As detailed at Chapter 2 of the City's LTCP, the City has long conducted (in cooperation with IDEM) monthly water quality monitoring at six locations, an upstream and downstream location for each river, throughout the year. The City supplements its monthly sampling during the recreational season with weekly monitoring at the same six locations. Additionally, the City completed two significant river water quality sampling and characterization programs to further characterize receiving waters. A summary of these two programs and identified WQS excursions can be found in Exhibit I-2.

9.2.3 Monitoring of CSO Discharges

The City has been visually inspecting its regulators and associated discharge points in compliance with the requirements of an Administrative Order issued by U.S. EPA in 2003. The number and size of wet weather events that caused overflows in 2006 at each regulator are summarized in Exhibit I-3. Also in compliance with the aforementioned Administrative Order, a metering program has been implemented to measure overflow volume and duration with respect to 39 CSO outfalls. Pump data is used to determine the duration and volume of discharges at another_5_CSO outfalls. The 2006 results of this program are summarized in Exhibit I-4.

9.2.4 Compilation of Information on Water Quality Impacts From CSO Discharges

The information that exists on water quality impacts is not specific to CSOs. There is evidence of floatable trash (plastic bottles, aluminum cans, styrofoam, etc.) accumulating around bridges and riverbanks. The floatable trash, however, does not seem to be concentrated around or just downstream of CSO discharge points. This is discussed and illustrated in greater detail in Chapter 6 of the CSO Operations Plan. Indiana has issued fish advisories for CSO receiving waters, but the advisories are applicable upstream of the CSOs as well as downstream. A copy of the most recent fish advisory can be found in Exhibit I-5. Although several river sampling programs have been undertaken, the frequency, duration, and magnitude of instream WQS excursions can only be estimated and CSOs are not the only cause of these excursions. The City's rivers have been analyzed for fish advisory. Mercury and PCBs are the fish tissue contaminants identified. Both the 2004 and 2006 303(d) reports list only PCBs for a fish advisory. The City has tested CSOs and did not find PCBs present. This indicates that fish advisories are not a result of CSOs. There are no beaches in the area and, consequently, no beach closures occur. No fish kills have been reported in the sewer system's receiving waters for at least 10 years. Sediment accumulation has not caused or created any reported problems.

9.2.5 Summary of Findings

The City's review of existing information indicates that the sewer system's receiving waters do not meet all WQS all of the time. The water bodies assessed by the State of Indiana generally fully support aquatic life, partially support fish consumption, but do not support primary contact recreation at all times. Mercury and PCBs have been found in the tissue of some fish. River sampling has found a small number of exceedences for the CCC limits for cadmium, copper, and lead. No CMC exceedences were found. The collected data indicate that CSOs are not a significant source of these pollutants. Indeed, to the extent CSOs are a contributing source at all, the contribution is minor. Bacteria exceedences were found to be relatively frequent and applicable to all receiving waters. CSOs are a significant, but not only, contributing source of this pollutant.

9.2.6 Developing a Long-Term Monitoring Plan for the LTCP

Because the LTCP is based on more detailed knowledge of the CSS and receiving waters than is necessary to implement the NMC, the extent of characterization for the LTCP development is more sophisticated. The system components that must be examined as part of the LTCP's long-term monitoring plan include the CSS, combined sewage and CSOs, and the receiving waters. The process for examining these components can be broken into the following elements as described in the LTCP:

- Compilation and Analysis of Existing Data

- o Combined Sewer System and Receiving Water Monitoring
- o Combined Sewer System and Receiving Water Modeling

9.3 RECORDKEEPING

The City intends to continue CSO inspections and monitoring and as well as its ongoing monitoring for reported fish kills and advisories. The City further intends to continue its ongoing river water quality monitoring program. Annual results of the monitoring required by the ninth NMC will be kept with Exhibit I-7.

Nine Minimum Controls – No. 9

DIRECTORY FOR APPENDIX I
(Items Presented in Order of Appearance in Appendix I)

EXHIBIT I-1

Integrated Water Monitoring and Assessment Report Findings

The information on the following pages is derived from Indiana's integrated water monitoring and assessment reports provided by Indiana Department of Environmental Management (IDEM) from both 2002 and 2004. Detailed information and maps of waterbodies assessed for WQS are included in this document for both 2002 and 2004.

There are two sections to this document. The first section includes detailed information on each waterbody segment. This includes waterbody segment name, waterbody segment ID, basin and size, level of designated use support, pollutants of concern and stressors. Information for both 2002 and 2004 are compared and summarized in this section. The second section includes a detailed map of the monitored waterbody segments along Spy Run Creek, and the St. Joseph, St. Mary's and Maumee Rivers. The map shows comparison of the six waterbodies assessed for designated use, pollutants of concern, and stressors.

Of the six areas assessed, two waterbodies show a change in monitoring results from 2002 to 2004. Waterbody segment INA0463_T1003 on the St. Mary's River contained inorganics which was a moderate stressor in 2002. Inorganics were not found in 2004. More information was needed in 2004 to assess nutrient level. Waterbody segment INA0465_T1002 of the St. Mary's River fully supported aquatic life in 2002, however this section was not assessed for aquatic life in 2004.

FINDINGS BY WATERBODY SEGMENT

Integrated Water Monitoring and Assessment Report Findings

Waterbody Name: St. Joseph River
Waterbody segment ID: INA03A4_M1042

Basin: Great Lakes
Size: 3 miles

Use support: F = Full support; P = Partial support; N = Non support; X = Not assessed
Cause (stressor) rating: H = High; M = Moderate; S = slight; T = Needs more information

Designated Use 2004	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact				X

Pollutants of concern: FCA for PCB's & Hg
PCBs: M
Mercury: M

Designated Use 2002	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact				X

Pollutants of concern: FCA for PCB's & Hg
PCBs: M
Mercury: M

Waterbody segment INA03A4_M1042 of the St. Joseph River fully supports aquatic life. This section of the St. Joseph River partially supports the designated use for fish consumption. Causes/stressors are pollutants or other stressors that adversely impact the designated uses of the St. Joseph River. PCBs and Mercury are the fish tissue contaminants identified in the fish consumption advisory with both being moderate stressors. Primary contact for recreational use is not assessed.

Integrated Water Monitoring and Assessment Report Findings

Waterbody Name: St. Mary's River
Waterbody segment ID: INA0463_T1003

Basin: Great Lakes
Size: 6.2 miles

Use support: F = Full support; P = Partial support; N = Non support; X = Not assessed
Cause (stressor) rating: H = High; M = Moderate; S = slight; T = Needs more information

Designated Use 2004	Full support	Partial support	Non support	Not assessed
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact			N	

Pollutants of concern: *E. Coli*; FCA for PCBs & Hg
PCBs: M
Mercury: M
Nutrients: T
Pathogens: H

Designated Use 2002	Full support	Partial support	Non support	Not assessed
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact			N	

Pollutants of concern: *E. Coli*; FCA for PCBs & Hg

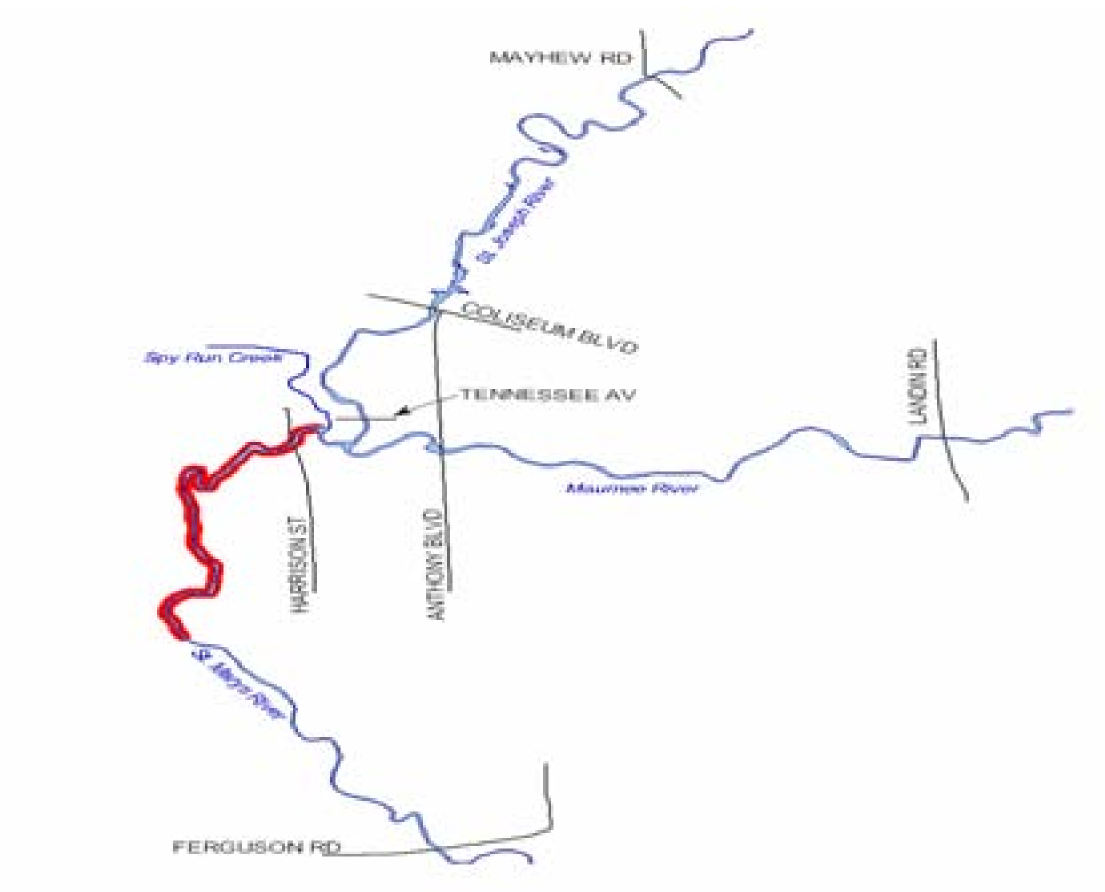
PCBs: M
Mercury: M
Other Inorganics: M
Pathogens: H

Waterbody segment INA0463_T1003 of the St. Mary's River fully supports aquatic life. This section of the St. Mary's River partially supports the designated use for fish consumption. Causes/stressors are pollutants or other stressors that adversely impact the designated uses of the St. Mary's River. PCBs and Mercury are the fish tissue contaminants identified in the fish consumption advisory with both being moderate stressors. *E. Coli* is the indicator measure for bacteria and is rated as a high cause/stressor for pathogens. Primary contact for recreational use is not supported. More information is needed to assess nutrient stressors in 2004. Inorganics were found in 2002, but not in 2004.

Integrated Water Monitoring and Assessment Report Findings

Waterbody Name: St. Mary's River
Waterbody segment ID: INA0465_T1002

Basin: Great Lakes
Size: 4.4 miles



Use support: F = Full support; P = Partial support; N = Non support; X = Not assessed
Cause (stressor) rating: H = High; M = Moderate; S = slight; T = Needs more information

Designated Use 2004	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support				X
Fish Consumption		P		
Primary Contact				X

Pollutants of concern: FCA for PCBs & Hg
PCBs: M
Mercury: S

Designated Use 2002	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support				X
Fish Consumption		P		
Primary Contact				X

Pollutants of concern: FCA for PCBs and Hg
PCBs: M

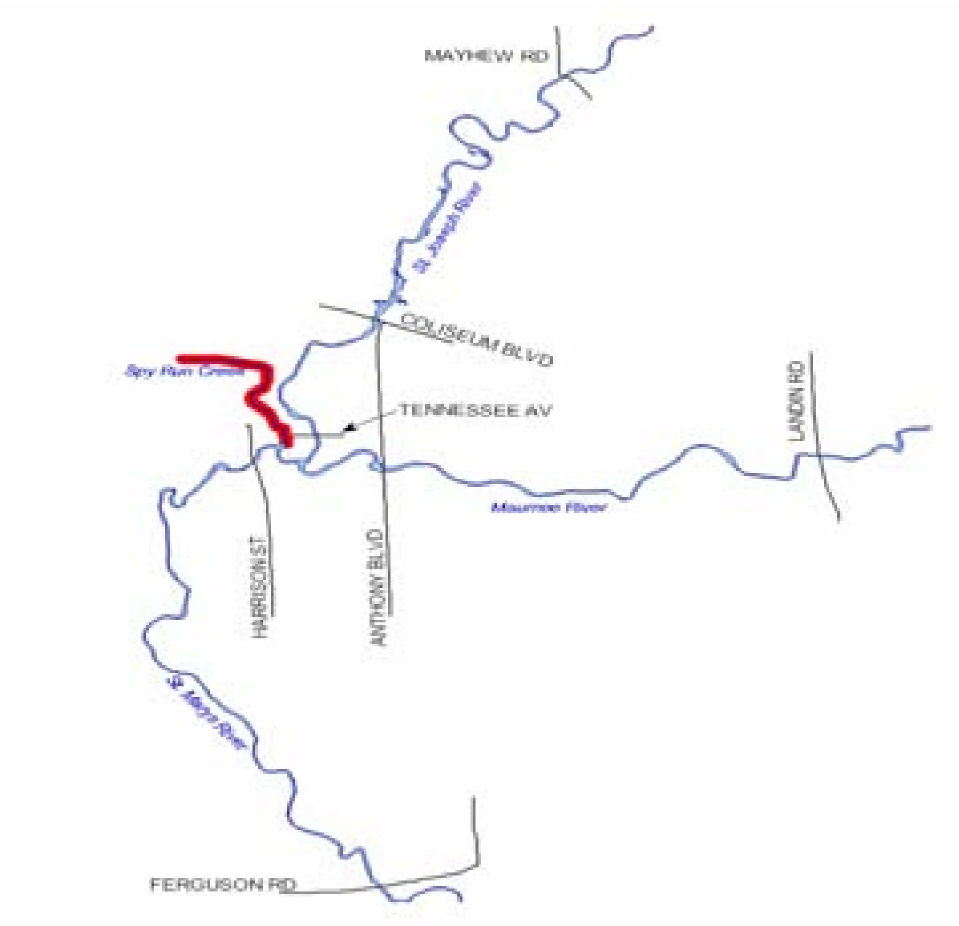
Mercury: S

Waterbody segment INA0465_T1002 of the St. Mary's River was not assessed for support of aquatic life or primary contact. This section of the St. Mary's River partially supports the designated use for fish consumption. Causes/stressors are pollutants or other stressors that adversely impact the designated uses of the St. Mary's River. PCBs and Mercury are the fish tissue contaminants identified in the fish consumption advisory with PCBs being a moderate stressor and mercury being a slight stressor.

Integrated Water Monitoring and Assessment Report Findings

Waterbody Name: Spy Run Creek
Waterbody segment ID: INA0466_T1013

Basin: Great Lakes
Size: 19.9 miles



Use support: F = Full support; P = Partial support; N = Non support; X = Not assessed
Cause (stressor) rating: H = High; M = Moderate; S = slight; T = Needs more information

Designated Use 2004	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support			N	
Fish Consumption				X
Primary Contact				X

Pollutants of concern: Impaired biotic communities
Biotic Community Status: M

Designated Use 2002	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support			N	
Fish Consumption				X
Primary Contact				X

Pollutants of concern: Impaired Biotic Community

Integrated Water Monitoring and Assessment Report Findings

Biotic Community Status: M

Waterbody segment INA0466_T1013 of the Spy Run Basin does not support the designated use for aquatic life. An Impaired Biotic Community (IBC) means that a waterbody's aquatic life differs from the expectation of water that was unaffected by human activity. The Spy Run Creek was assessed for IBC and was found to be a moderate stressor. Designated use for fish consumption and primary contact were not assessed.

Integrated Water Monitoring and Assessment Report Findings

Waterbody Name: St. Mary's River
Basin: Great Lakes
Waterbody segment ID: INA0466_T1022
Size: 0.5 miles

Use support: F = Full support; P = Partial support; N = Non support; X = Not assessed
Cause (stressor) rating: H = High; M = Moderate; S = slight; T = Needs more information

Designated Use 2004	Full support	Partial support	Non support	Not assessed
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact			N	

Pollutants of concern: *E. Coli*, FCA for PCBs & Hg
PCBs: M
Mercury: M
Pathogens: H

Designated Use 2002	Full support	Partial support	Non support	Not assessed
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact			N	

Pollutants of concern: *E. Coli*, FCA for PCBs and Hg

PCBs: M
Mercury: M
Pathogens: H

Waterbody segment INA0466_T1022 of the St. Mary's River fully supports aquatic life. This section of the St. Mary's River partially supports the designated use for fish consumption. Causes/stressors are pollutants or other stressors that adversely impact the designated uses of the St. Mary's River. PCBs and Mercury are the fish tissue contaminants identified in the fish consumption advisory with both being moderate stressors. *E. Coli* is the indicator measure for bacteria and is rated as a high cause/stressor for pathogens. Primary contact for recreational use is not supported in this waterbody segment.

Integrated Water Monitoring and Assessment Report Findings

Waterbody Name: Maumee River
Waterbody segment ID: INA0511_M1007

Basin: Great Lakes
Size: 8.7 miles

Use support: F = Full support; P = Partial support; N = Non support; X = Not assessed
Cause (stressor) rating: H = High; M = Moderate; S = slight; T = Needs more information

Designated Use 2004	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact			N	

Pollutants of concern: *E. Coli*, FCA for PCB & Hg
PCBs: M
Mercury: M
Pathogens: M

Designated Use 2002	**Full support**	**Partial support**	**Non support**	**Not assessed**
Aquatic Life Support	F			
Fish Consumption		P		
Primary Contact			N	

Pollutants of concern: *E. Coli*, FCA for PCB & Hg
PCB's: M
Mercury: M

Pathogens: M

Waterbody segment INA0511_M1007 of the Maumee River fully supports aquatic life. This section of the Maumee River partially supports the designated use for fish consumption. Causes/stressors are pollutants or other stressors that adversely impact the designated uses of the Maumee River. PCBs and Mercury are the fish tissue contaminants identified in the fish consumption advisory with both being moderate stressors. *E. Coli* is the indicator measure for bacteria and is rated as a moderate cause/stressor for pathogens. Primary contact for recreational use is not supported in this waterbody segment.

FINDINGS BY DESIGNATED USE

EXHIBIT I-2

WATER QUALITY EXCURSION SUMMARY

Two significant river sampling programs have been undertaken on Fort Wayne's sewer system's receiving waters. The first study was conducted in 1996 by Malcolm Pirnie to Characterize the Impact of Combined Sewer Overflows (CSOs) on the St. Mary's, St. Joseph and Maumee Rivers. The most recent study was conducted in spring of 2005 on the relief channel in the Maumee River and two of the tributaries (Spy Run Creek and Baldwin Ditch). The purpose of the 2005 study is to characterize the impacts of CSOs on the tributaries and the relief channel. Parameters of the sampling programs are shown in Table 1.

TABLE 1
SAMPLING PROGRAM PARAMETERS

Data Source	Locations	Frequency	Years	Parameters	Parameter Group
Malcolm Pirnie	6	11 dry weather samples (8/6 – 11/3) 4 rain events - 12 grab samples per event at each site	1996	22	TSS, $CBOD_5$, total phosphorus, NH_3-N, E. Coli, fecal coliform, pH, DO, total cyanide, hardness, volatiles, PCBs, pesticides, temp, metals - Cd, Cr, Cu, Pb, Hg, Ni, Ag, & Zn
City of Fort Wayne	9	2 dry weather samples (3/29) and (4/15) 2 rain events - **5/13** (sample 5/13, 5/14, 5/15, 5/16) - **5/19** (sample 5/19, 5/20, 5/21, 5/22)	2005	15	DO, NH_3-N, pH, TDS, TSS, E. Coli, Phosphorus, $CBOD_5$, metals - Ag, Cd, Cr, Cu, Pb, Ni, Zn

1996 SAMPLING PROGRAM

The first sampling program was conducted in 1996 by Malcolm Pirnie. Samples were taken from six sites for both dry and wet weather events. Table 2 shows the sampling locations used in this study.

TABLE 2
SAMPLING LOCATIONS

Sampling Site	River	Location on River
Mayhew Rd. Bridge	St. Joseph	Significantly upstream of CSOs
Ferguson Rd. Bridge	St. Mary's	Significantly upstream of CSOs
Landin Rd. Bridge	Maumee	Downstream of CSOs and tributaries
Tennesee Ave. Bridge	St. Joseph	Near confluence & downstream of CSOs
Harrison St. Bridge	St. Mary's	Near confluence & downstream of tributaries and CSOs
Anthony Blvd. Bridge	Maumee	Near confluence and upstream of Pond outfalls

The sampling data can be found in Appendix A and Appendix C of "Impact Characterization of Combined Sewer Overflows" completed by Malcolm Pirnie in September 1998. The dry weather sampling results show that the three rivers meet Water Quality Standards (WQS) for most parameters.

Water Quality Excursion Summary

The Indiana Administrative Code states that the "Criterion Continuous Concentration" (CCC) is an estimate of the highest concentration of material an aquatic community can be exposed to indefinitely. The "Criterion Maximum Concentration" (CMC) is an estimate of the highest concentration of material an aquatic community can "briefly" be exposed to. Although there were CCC excursions during dry weather, there were no CMC excursions. The frequency of CCC excursions do not indicate this is a chronic condition. Table 3 shows CCC WQS excursions during dry weather.

TABLE 3
DRY WEATHER WQS EXCURSIONS

Parameter	Date	Time	Location	Hardness (mg/l $CaCO_3$)	CCC Allowable (ug/l)	Actual (ug/l)
Cadmium	8/6/96	12:55 p.m.	Tennessee @ St. Joseph	328	6.2	13
Copper	10/16/96	11:10 a.m.	Harrison @ St. Mary's	308	24	26

E. Coli is the indicator organism for pathogens. E. Coli standards are 125 colonies per 100 ml, based on a geometric mean of 5 samples over a 30-day period and a maximum E. Coli count of 235 colonies per 100 ml in any one sample. Averages of E. Coli samples during dry weather are listed below:

- Mayhew at St. Joseph = 90 colonies/100 ml
- Tennessee at St. Joseph = 106 colonies/100 ml
- Ferguson at St. Mary's = 240 colonies/100 ml
- Harrison at St. Mary's = 314 colonies/100 ml
- Anthony at Maumee = 192 colonies/100 ml
- Landin at Maumee = 238 colonies/100 ml

Wet weather sampling results did not differ that much from the dry weather sampling results for WQS excursions. Both cadmium and copper exceeded CCC WQS for wet weather. Again, cadmium and copper exceeded CCC limits, but did not exceed CMC limits indicating this is not a chronic condition. Table 4 shows CCC WQS excursions for cadmium and copper during wet weather.

TABLE 4
WET WEATHER WQS EXCURSIONS

Parameter	Event	Date	Time	Location	Hardness (mg/l $CaCO_3$)	CCC Allowable (ug/l)	Actual (ug/l)
Cadmium	1	9/21/96	7:35 p.m.	Mayhew @ St. Joseph	302	5.9	10
Cadmium	1	9/22/96	4:15 p.m.	Tennessee @ St. Joseph	266	5.3	10
Copper	2	9/27/96	9:30 a.m.	Harrison @ St. Mary's	217	18	20

The wet weather sampling results show that E. Coli counts increased significantly at all six sites. E. Coli exceeded WQS at all six sampling sites during all 4 wet weather events. The Maumee River levels were higher than the St. Mary's and St. Joseph Rivers with the highest concentration at Anthony Blvd., near the confluence, for events 3 and 4. The average E. Coli concentrations for each wet weather event at each site is listed below in Table 5.

TABLE 5
AVERAGE WET WEATHER E. COLI CONCENTRATIONS

River Sampling Site	Event 1	Event 2	Event 3	Event 4
Mayhew at St. Joseph	413	1,444	341	427
Tennessee at St. Joseph	2,599	2,381	650	1,158
Ferguson at St. Mary's	800	5,070	1,238	610
Harrison at St. Mary's	14,823	20,957	2,785	6,779
Anthony at Maumee	7,078	7,312	11,270	7,379
Landin at Maumee	2,292	9,198	1,134	2,758

2005 SAMPLING PROGRAM

The most recent water quality study was conducted by the City of Fort Wayne in Spring 2005. The purpose of the 2005 study is to characterize the impacts of CSOs on the tributaries and the relief channel. A relief channel was constructed by the Army Corps of Engineers to assist in flood relief. In addition to the relief channel, two tributaries, Spy Run Creek and Baldwin Ditch were also evaluated for CSO affects on them. Sampling sites along the Baldwin Ditch, Spy Run Creek, the Maumee River and the Maumee Relief Channel were analyzed during both dry and wet weather events. Locations of each sampling site are listed below. A diagram of the sampling points can be found in figures 1-6.

Baldwin U = Upstream Baldwin Ditch
Baldwin D = Downstream Baldwin Ditch
Spy Run U = Upstream Spy Run Creek
Spy Run D = Downstream Spy Run Creek
Relief RCD-1 = The Maumee relief channel where Baldwin ditch enters the relief channel and upstream of the rock dam
Relief RC-4 = Downstream of the rock dam and upstream of Pond 3 outfall in the relief channel
River MR-6 = Parallel to RC-4 in the Maumee River
Lower Relief LRC-5 = Downstream of Coliseum Bridge
River MR-7 = Downstream of Coliseum Bridge

The sampling data can be found in Appendix A.

The two dry weather sampling days were conducted on 3/29/05 and 4/15/05. Ammonia did not meet WQS for one dry sampling event on relief channel at RCD-1. This site is located at the end of Baldwin Ditch. There is very little flow through the Baldwin Ditch during dry weather and the stream passes through a goose populated area. The highest E. Coli sample was upstream on the Baldwin Ditch which exceeded WQS for all dry weather samples. Baldwin Ditch also exceeded WQS at the downstream sampling site for 50% of the dry weather samples collected. E. Coli exceeded WQS on both the upstream and downstream sampling sites on the Spy Run Creek for 50% of the dry weather samples collected.

Data was collected from two significant wet weather events. Sampling took place on the day of each rain event and three consecutive days following to show the effect of CSOs during wet weather events. Table 6 shows the days samples were collected.

TABLE 6
WET WEATHER SAMPLING DATES

Rain Event	Days Sampled
May 13, 2005	May 13, 14, 15, & 16
May 19, 2005	May 19, 20, 21, & 22

For wet weather events, increased ammonia-nitrate concentrations were present at RCD-1. This is most likely due to the Baldwin Ditch along with the pooling effect upstream of the rock dam. NH_3-N did not meet WQS at Relief RCD-1 for events 1 and 2. NH_3-N was also high at this site during dry weather sampling. Copper exceeded CCC WQS during the first rain event at the downstream sampling site on the Spy Run Creek. All other metals tested met WQS.

As expected, higher concentrations of E. Coli were present after wet weather events. Both upstream and downstream sites on the Baldwin ditch exceeded WQS and had the highest E. Coli concentration for each wet weather event. RCD-1 also had high E. Coli concentrations and exceeded WQS for each wet weather event. Both upstream and downstream sites on the Spy Run Creek exceeded WQS during each wet weather event except once, which was upstream. The lowest E. Coli concentration was sampled at MR-7 and LRC-5 along with MR-6 and RC-4. E. Coli concentrations are found to be similar in both the relief channel and the main channel of the Maumee River.

The main channel and the relief channel displayed similar values for each parameter tested during both dry and wet weather events. This data supports that the main channel and the relief channel of the Maumee River share similar water quality characteristics.

EXHIBIT I-3

MINIMUM RAIN EVENT TRIGGERING CSO's
year: 2004

Monitoring Point	Overflow Events			Events that Caused Overflows	Correlation	Related Rain Gauge Site
	events	total	percent	min.		
4	15	75	20%	> .3"	poor	Study
5	32	70	46%	> .2"	good	Study
7*		0			good	Study
11	9	66	14%	> 1.0"	good	Study
12*		0			good	Study
13a	12	78	15%	> .25"	poor	City-County Bldg.
13b**		?				Fairfield
14a	3	88	3%	> .5"	poor	Fairfield
14b	1	88	1%	> .5"	good	Fairfield
16	3	88	3%	> 2.0"	good	Fairfield
17	39	88	44%	> .1"	fair	Fairfield
18	52	92	57%	> .01"	good	Harrison
19	36	92	39%	> .1"	fair	Harrison
20a	37	89	42%	> .2"	good	Harrison
21	56	92	61%	> .01"	good	Harrison
23	32	65	49%	> .1"	good	City-County Bldg.
24	21	65	32%	> .3"	poor	City-County Bldg.
25	31	65	48%	> .2"	good	City-County Bldg.
26	10	67	15%	> .1"	poor	Tecumseh
27*		0			good	Little Turtle
28	25	72	35%	>.1"	poor	Tecumseh
29a	27	65	42%	> .2"	fair	City-County Bldg.
29b	37	65	57%	> .1"	good	City-County Bldg.
32	40	65	62%	> .1"	good	City-County Bldg.
33	38	67	57%	> .1"	good	Little Turtle
36	8	67	12%	> .3"	poor	Tecumseh
39**		?				City-County Bldg.
44	12	67	18%	> .4"	poor	Little Turtle
45	14	67	21%	> .4"	poor	Little Turtle
48	34	66	52%	>.1"	fair	Tecumseh
50	21	78	27%	> .1"	poor	City-County Bldg.
51	19	72	26%	> .2"	poor	Tecumseh
52a	15	72	21%	> .1"	poor	Tecumseh

MINIMUM RAIN EVENT TRIGGERING CSO's
year: 2004

Monitoring Point	Overflow Events			Events that Caused Overflows	Correlation	Related Rain Gauge Site
	events	total	percent	min.		
52b	32	72	44%	> .1"	fair	Tecumseh
53	21	72	29%	> .2"	poor	Tecumseh
54	9	32	28%	> .3"	fair	Irwin
55a	35	78	45%	> .02"	poor	City-County Bldg.
56	14	66	21%	> .5"	fair	Study
57a**		?				Bunche
57b	34	89	38%	> .01"	fair	Fairfield
58	17	84	20%	> .2"	poor	Adams
60	36	85	42%	> .1"	fair	Adams
61	36	72	50%	> .1"	fair	Tecumseh
62	15	78	19%	> .2"	poor	Tecumseh
64a	27	75	36%	> .25"	fair	Bunche
64b		0			good	Bunche
67	23	89	26%	>.3"	poor	Harrison Hills
68	11	72	15%	> .5"	poor	Tecumseh
P18-089	4	72	6%	> 1.0"	fair	Tecumseh
P18-150	14	72	19%	> .4"	poor	Tecumseh
P18-155	9	72	13%	> .1"	poor	Tecumseh

* tide gate manually operated
** can't visually inspect

EXHIBIT I-4

2007 Indiana Fish Consumption Advisory

Streams and Rivers

Location	Species	Fish Size (Inches)	Contaminant	Group
All Indiana Rivers and Streams				
All Counties (unless specified otherwise)	Carp	15-20	□	3
		20-25	□	4
		25+	□	5
Aboit Creek				
Allen County	Creek Chub	Up to 5		1
Anderson River	Black Buffalo	25+	□	3
Perry County	Bluegill	Up to 7		1
	Carp	22+	□○	2
Spencer County	Channel Catfish	13+	□	3
Beanblossom Creek				
Monroe County	Channel Catfish	13+	□	3
Big Blue River				
Henry County	Carp	19-24	□	3
		24+	□	4
	Rock Bass	4-7	□	3
		7+	□	4
	White Sucker	8-10	□	3
		10+	□	4
Rush County	Carp	19-24	□	3
		24+	□	4
Shelby County	Carp	19-24	□	3
		24+	□	4
	Golden Redhorse	Up to 18	□	3
		18+	□	4
	Northern Hogsucker	9-10	□	3
		10+	□	4
	River Redhorse	14+	□	3
	Rock Bass	4+	□	3
	Smallmouth Bass	15+	□	3
Johnson County	Carp	19-24	□	3
		24+	□	4
	Longear Sunfish	5+	□	3
	Northern Hogsucker	8-10	□	3
		10+	□	4
	Rock Bass	7+	□	3
	Smallmouth Bass	5-8	□	3
		8+	□	4
Big Camp Creek				
Jefferson County	Longear Sunfish	Up to 5		1
Big Creek				
Jefferson County	Longear Sunfish	Up to 5		1

Location	Species	Fish Size (Inches)	Contaminant	Group
Big Monon Creek				
White County	Longear Sunfish	Up to 4		1
	White Sucker	Up to 10		1
Big Pine Creek				
Warren County	Black Redhorse	Up to 13		1
	Flathead Catfish	Up to 10		1
	Longear Sunfish	Up to 5		1
	Smallmouth Bass	11+	□	3
Big Raccoon Creek				
Parke County	Black Redhorse	Up to 11		1
	Carp	Up to 22	□○	2
		22+	□○	3
Blue River	Carp	28-29	○	2
Harrison County	Channel Catfish	15+	□	3
	Longear Sunfish	Up to 5		1
	Rock Bass	Up to 7		1
	Shorthead Redhorse	17+	□	3
	Spotted Bass	10+	□	3
Buck Creek	Longear Sunfish	5-6	□	3
Delaware County		6+	□	4
	White Sucker	14+	□	3
Cedar Creek	Carp	Up to 22	□○	2
Allen County	River Chub	4+	□	3
	Channel Catfish	18+	□	3
Christiana Creek				
Elkhart County	Northern Hogsucker	Up to 14		1
	Rock Bass	Up to 7		1
	Yellow Bullhead	Up to 9		1
Clear Creek				
Monroe County	**ALL SPECIES**	**ALL**	□	**5**
Clear Creek				
Whitley County	Creek Chub	Up to 7		1
Crooked Creek				
Steuben County	Carp	23+	□	2
Deer Creek				
Carroll County	Carp	Up to 19	□○	2
		19+	□	3
	Longear Sunfish	Up to 5		1
	Smallmouth Bass	10+	□	3

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Location	Species	Fish Size (Inches)	Contaminant	Group

Location	Species	Fish Size (Inches)	Contaminant	Group

Eagle Creek				
Marion County	**Channel Catfish**	Up to 20	□	3
		20-23	□	4
		23+	□	**5**
	White Sucker	13+	□	3
Easterday Ditch				
Kosciusko County	Carp	Up to 23	□○	2
		23+	□	3
East Fork of White Lick Creek				
Hendricks County	Creek Chub	9+	□	3
	Northern Hogsucker	11+	□	3
	Yellow Bullhead	10+	□	3
East Fork of White River				
Bartholomew County	Carp	Up to 18		1
		18-23	□	2
		23+	□	3
	Flathead Catfish	Up to 13		1
		24+	□	3
	Golden Redhorse	13+	□	3
Jackson County	Bigmouth Buffalo	18+	□	3
	Carp	Up to 18		1
		18-23	□	2
		23+	□	3
	Channel Catfish	Up to 14		1
	Flathead Catfish	Up to 13		1
	Golden Redhorse	14-16	□	3
		16+	□	4
	Silver Redhorse	22+	□	3
	Smallmouth Bass	13+	□	3
	Smallmouth Buffalo	19-26	□	3
		26+	□	4
Lawrence County	**Channel Catfish**	Up to 15	□	3
		15-21	□	4
		21+	□	**5**
	Freshwater Drum	10+	□	3
	Bigmouth Buffalo	Up to 18	□	3
		18+	□	4
	Flathead Catfish	10-16	□	3
		16+	□	4
	Largemouth Bass	Up to 11	□	3
		11-14	□	4
		14+	□	**5**
	Longear Sunfish	3+	□	3
	River Carpsucker	15+	□	3
	Sauger	14+	□	3

East Fork of White River Cont.				
Lawrence County Cont.	**Shorthead Redhorse**	Up to 14	□	3
		14-16	□	4
		16+	□	**5**
	Smallmouth Buffalo	Up to 15	□	4
		15+	□	**5**
	Spotted Sucker	17+	□	3
	Striped Bass	22+	□	4
Martin County	Carp	Up to 23	□	3
		23+	□	4
	Channel Catfish	12-19	□	3
		20+	□	4
	Freshwater Drum	10+	□	3
	Longear Sunfish	3+	□	3
	Shorthead Redhorse	Up to 14	□	3
		14-16	□	4
		16+	□	**5**
	Smallmouth Buffalo	Up to 15	□	4
		15+	□	**5**
Dubois County	Carp	22-24	□	3
		24+	□	4
	Channel Catfish	19+	□	3
	Flathead Catfish	24+	□○	3
	Longear Sunfish	4+	□	3
East Fork of Whitewater River				
Wayne County	Channel Catfish	12-18	□	3
		18+	□	4
	Longear Sunfish	Up to 6		1
	Northern Hogsucker	Up to 9		1
East Fork of Wildcat Creek				
Howard County	Carp	Up to 23	□○	2
		23+	□	3
Eel River (West Fork White River Basin)				
Greene County	Sauger	18+	□	3
Eel River (Upper Wabash River Basin)				
Whitley/Wabash/Miami/Cass Counties				
Consumption of fish from the Eel River should be limited to no more than one meal per month (Group 3) for the general population and NO CONSUMPTION by the at-risk population. Exceptions to this advice for the general population are listed below.				
	Bluegill	6+	□	4
	Carp	24+	□	4

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Location	Species	Fish Size (inches)	Contaminant	Group
Elkhart River				
Elkhart County	Rock Bass	9+	□	3
	Smallmouth Bass	17+	□	3
	White Sucker	16+	□	3
Elkhorn Creek				
Randolph County	Creek Chub	Up to 3		1
Elliot Ditch				
Tippecanoe County	**ALL SPECIES**	**ALL**	□	**5**
Fall Creek	Carp	19-22	□	3
Madison County		22+	□	4
	Channel Catfish	Up to 22	□	3
		22+	□	4
	Rock Bass	7+	□	3
	Smallmouth Bass	15+	○□	3
Fall Creek (Upstream of Geist Reservoir)				
Hamilton County	Carp	16-23	□	2
		23+	□	3
	Channel Catfish	25+	□	3
Marion County	**Carp**	Up to 20	□	4
		20+	□	**5**
	Channel Catfish	Up to 18	□	3
		18-20	□	4
		20+	□	**5**
	Largemouth Bass	14+	□	3
Flatrock River				
Rush County	Longear Sunfish	All		1
Shelby County	Carp	22-23	□○	2
		23+	□	3
	Flathead Catfish	Up to 18		1
	Longear Sunfish	All		1
Bartholomew County	Longear Sunfish	All		1
Galena River (South Branch)				
LaPorte County	Creek Chub	Up to 7	□	3
Graham Creek				
Jennings County	Longear Sunfish	Up to 6		1

Location	Species	Fish Size (inches)	Contaminant	Group
Great Miami River				
Dearborn County	**Carp**	16-20	□	4
		20+	□	**5**
	Channel Catfish	Up to 15	□	4
		15+	□	**5**
	Largemouth Bass	16+	□	3
	White Crappie	8-11	□	3
		11+	□	4
Hanna Creek	Carp	Up to 16		1
Union County		16+	□○	2
Honey Creek				
White County	Largemouth Bass	20+	□○	3
Indian Creek (Whitewater Basin)				
Union County	Carp	Up to 9		1
		9+	○	2
Indian Creek (Ohio River Valley)				
Harrison County	Flathead Catfish	Up to 13		1
	Longear Sunfish	Up to 6		1
Iroquois River				
Jasper/Newton Counties	Carp	Up to 19		1
		28+	□	3
	Channel Catfish	Up to 18		1
	Golden Redhorse	Up to 15		1
	Rock Bass	Up to 6		1
	Shorthead Redhorse	Up to 12		1
Juday Creek				
St. Joseph County	White Sucker	17+	□	3
Kankakee River				
LaPorte/Lake/Newton Counties	Bigmouth Buffalo	22+	□	3
	Black Crappie	Up to 10		1
	Bluegill	Up to 6		1
	Quillback	15+	□	3
	Rock Bass	Up to 8		1
	Shorthead Redhorse	Up to 13		1
	Silver Redhorse	20+	□	3
	Smallmouth Buffalo	22-28	□	3
		28-32	□	4
		32+	□	**5**
	White Crappie	Up to 9		1

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Location	Species	Fish Size (Inches)	Contaminant	Group
Killbuck Creek	Carp	19-23	□	2
Madison County		23+	□	3
	Longear Sunfish	5-6	□	3
		6+	□	4
	Smallmouth Bass	13+	□	3
Kilmore Creek	Carp	Up to 12		1
Clinton County	Creek Chub	Up to 7		1
Kokomo Creek				
Howard County	**ALL SPECIES**	**ALL**	□	**5**
Laughery Creek				
Dearborn/Ohio Counties	Carp	All	□○	2
Dearborn	White Crappie	Up to 10		1
Little Blue River (Ohio River Basin)				
Crawford County	Bluegill	Up to 7		1
	Carp	Up to 23		1
	Channel Catfish	16+	□	3
	Freshwater Drum	18+	□	3
	Largemouth Bass	Up to 10		1
		18+	□	3
	Sauger	14+	□	3
	White Crappie	Up to 9		1
Little Blue River				
Shelby County	Northern Hogsucker	11+	□	3
Little Calumet River				
Lake County	**Carp**	**ALL**	□	**5**
	White Sucker	Up to 11		1
	Yellow Bullhead	Up to 10		1
Porter County	Black Buffalo	All	□	3
	Bluegill	Up to 7		1
	Carp	Up to 22	□	3
		23+	□	4
	Flathead Catfish	All	□	3
Little Mississinewa River				
Randolph County	**ALL SPECIES**	**ALL**	□	**5**
Little Pigeon Creek	Bluegill	Up to 5		1
Warrick County	Channel Catfish	17+	□	3
	Freshwater Drum	19+	□	3
	Largemouth Bass	11+	□	3
	Sauger	18+	□	3
Little Pipe Creek				
Miami County	Creek Chub	Up to 5		1
Little Salt Creek				
Lawrence County	Longear Sunfish	Up to 4		1

Location	Species	Fish Size (Inches)	Contaminant	Group
Little Sugar Creek/East Fork White River Basin				
Hancock County	Creek Chub	All	□	3
Little Sugar Creek/Walnut Fork Sugar Creek to Sugar Creek				
Montgomery County	**ALL**	**ALL**	□	**5**
Maumee River				
Allen County	Bigmouth Buffalo	20+	□	3
	Carp	Up to 20	□	4
		20-22	□	**5**
	Channel Catfish	14-16	□	3
		16+	□	4
	Freshwater Drum	All	□	3
	Largemouth Bass	9+	□	3
	River Redhorse	12-14	□	3
		14+	□	4
	Rock Bass	7-8	□	3
		8+	□	4
	Sauger	24+	□	3
	Shorthead Redhorse	14-16	□	3
		16+	□	4
	Walleye	Up to 21	□	4
		21+	□	**5**
Middle Fork Wildcat Creek				
Tippecanoe County	Black Redhorse	Up to 10		1
	Carp	Up to 22	□○	2
		22+	□○	3
	Golden Redhorse	Up to 10		1
Mill Creek				
Fulton County	Creek Chub	Up to 5		1
Mississinewa River				
Consumption of fish from the Mississinewa River should be limited to no more than one meal per month (Group 3) for the general population and NO CONSUMPTION by the at-risk population. Exceptions to this advice for the general population are listed below:				
Randolph County	**Carp**	Up to 18	□	4
		18+	□	**5**
	Channel Catfish	Up to 15	□	4
		15+	□	**5**
	Green Sunfish	**3+**	□	**5**
	Quillback	15+	□	4
	Smallmouth Bass	14+	□	4

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Location	Species	Fish Size (inches)	Contaminant	Group
Mississinewa River Cont.				
Randolph County Cont.	White Crappie	10+	□	4
	White Sucker	10+	□	4
Delaware County	Carp	21+	□	4
	Channel Catfish	21+	□	4
	Quillback	15+	□	4
	White Sucker	10+	□	4
Grant County	Carp	21+	□	4
	Channel Catfish	24+	□	4
	Flathead Catfish	17+	□	4
	Quillback	13+	□	4
	White Sucker	10+	□	4
Miami County	Carp	15-20	□	3
		20-25	□	4
		25+	□	5
Mud Creek				
Fulton County	Creek Chub	Up to 7		1
	White Sucker	Up to 11		1
Muddy Fork of Sand Creek				
Decatur County	Black Redhorse	15+	○	3
	Largemouth Bass	6-11	□	3
		11+	□	4
	Longear Sunfish	Up to 4		1
	Northern Hogsucker	6-10	□	3
		10+	□	4
	White Sucker	10-12		1
Muscatatuck River				
Jackson/Washington Counties	Bigmouth Buffalo	26+	□	3
	Carp	23+	○	3
	Channel Catfish	Up to 21		1
	Smallmouth Buffalo	23+	□○	3
North Fork Salt Creek				
Brown County	Carp	23+	○	2
	Longear Sunfish	All		1
North Fork Vernon Fork Muscatatuck River				
Jennings County	Carp	20+	○	2
	Longear Sunfish	All		1

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Location	Species	Fish Size (inches)	Contaminant	Group
Otter Creek				
Vigo County	Black Redhorse	14+	□	3
	Spotted Bass	8+	○	3
Paw Paw Creek				
Miami County	Creek Chub	Up to 7		1
	White Sucker	Up to 10		1
Patoka River				
Dubois County	Bigmouth Buffalo	21+	○	3
	Channel Catfish	19+	□	3
Gibson County	Black Buffalo	25+	□	3
	Channel Catfish	18+	□	3
	Flathead Catfish	20+	□	3
Pike County	Freshwater Drum	22+	□	3
Pigeon Creek (St. Joseph River Basin)				
Steuben County	Carp	21-25	□	3
		25+	□	4
Pigeon Creek (Ohio River Basin)				
Vanderburgh County	Channel Catfish	11-13	□	3
		14+	□	4
	Flathead Catfish	Up to 18	□	3
	Freshwater Drum	19+	□	3
Pigeon River				
LaGrange County	Hornyhead Chub	Up to 6		1
	Rock Bass	Up to 8		1
Pipe Creek				
Madison County	White Sucker	12+	□	3
Miami County	Creek Chub	Up to 7		1
	White Sucker	Up to 10		1
Pleasant Run Creek				
Lawrence County	**ALL SPECIES**	**ALL**	□	**5**
Prairie Creek				
Boone County	Creek Chub	6-7	□	3
Richland Creek				
Monroe/Greene/Owen Counties	Black Redhorse	13+	□	3
	Creek Chub	5-7	□	3
		7+	□	4
	Freshwater Drum	15+	□	3
	Largemouth Bass	13+	□	3
	Longear Sunfish	6+	□	3
	Rock Bass	7+	□	3
	Spotted Bass	12+	□	3
	White Sucker	8-11	□○	3
		11+	□	4

Location	Species	Fish Size (Inches)	Contaminant	Group
Rock Creek Huntington County	Carp	20+	○	2
	Longear Sunfish	Up to 4		1
Salamonie River Jay/Blackford/ Huntington/ Wabash Counties	Carp	Up to 19		1
		19+	□○	2
	Freshwater Drum	Up to 11		1
	Golden Redhorse	Up to 11		1
	Rock Bass	Up to 6		1
	Spotted Sucker	Up to 10		1
	White Crappie	Up to 7		1
	White Sucker	Up to 10		1
Salt Creek Monroe County** (tailwaters of Monroe Reservoir Dam to Clear Creek)				
	Freshwater Drum	Up to 16	□	4
		16+	□	5
	Striped Bass	12+	□	3
	Walleye	15-21	□	3
		21+	□	4
Salt Creek Monroe County (confluence of Clear Creek to Lawrence County)				
Lawrence County	**ALL SPECIES**	**ALL**	□	5
***This listing is based on limited data. It should be noted that fish migrate. Fish not sampled from these waters may migrate from the confluence of Clear Creek and Salt Creek, 1.3 miles south. Those water bodies have No Consumption advisories. Future sampling of the Salt Creek tailwaters below the Monroe Reservoir Dam is planned for more comprehensive results*				
Sand Creek Decatur/Jackson/Jennings Counties	Black Redhorse	Up to 7		1
	Carp	13-27	○	2
		27+	○	3
	Longear Sunfish	Up to 4		1
	Northern Hogsucker	Up to 8		1
	River Carpsucker	Up to 12		1
	White Sucker	Up to 8		1
	Yellow Bullhead	10-12	□	3
		12+	□	4
Silver Creek Floyd County	Carp	21-25	□	3
		25+	□	4
	Channel Catfish	Up to 10		1
	Freshwater Drum	18+	□	3
	Longear Sunfish	Up to 5		1

Location	Species	Fish Size (Inches)	Contaminant	Group
South Fork Wildcat Creek Clinton/Tippecanoe Counties	Black Redhorse	13+	□	3
	Carp	Up to 18	□	2
		18-26	□	3
		26+	□	4
	Channel Catfish	19+	□	3
	Creek Chub	7+	□	3
	Golden Redhorse	11+	□	3
	Longear Sunfish	4+	□	3
	Rock Bass	7+	□	3
	Smallmouth Bass	10+	□	3
	White Sucker	12+	□	3
Stony Creek Hamilton County	**ALL SPECIES**	**ALL**	□	5
Stouts Creek Monroe County	Creek Chub	8+	□	3
St. Joseph River (Lake Erie Basin)				
Allen County	Black Crappie	9-11	□	3
		11+	□	4
	Black Redhorse	13-16	□	3
		16+	□	4
	Carp	Up to 20	□	2
	Channel Catfish	16+	□	3
	Golden Redhorse	12-13	□	3
		13+	□	4
	Largemouth Bass	Up to 11		1
	Rock Bass	7-9	□	3
		9+	□	4
	Spotted Sucker	Up to 14		1
	White Crappie	Up to 11		1
St. Joseph River (Lake Michigan Basin)				
Elkhart County	Bluegill	Up to 8		1
	Carp	25-28	□	3
		28+	□	4
	Channel Catfish	29+	□○	3
	Golden Redhorse	17+	□	3
	Northern Hogsucker	15+	□	3
	Rock Bass	Up to 7		1

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Location	Species	Fish Size (Inches)	Contaminant	Group
St. Joseph River (Lake Michigan Basin) Cont.				
Elkhart County Cont.	Shorthead Redhorse	15-17	□	3
		17+	□	4
	Walleye	16+	□	3
	White Sucker	Up to 14		1
St. Joseph County (Baugo Bay Area)	Bluegill	Up to 8		1
	Channel Catfish	Up to 22	□	3
		22+	□	4
	Largemouth Bass	Up to 13		1
	Rock Bass	Up to 8		1
	White Sucker	Up to 14		1
St. Joseph County	Black Redhorse	16-18	□	3
		18+	□	4
	Bluegill	Up to 7	□	3
		7+	□	4
	Carp	Up to 20	□	4
	Channel Catfish	All	□○	4
	Golden Redhorse	**All**	□	5
	Largemouth Bass	14+	□	3
	Quillback	18+	□	3
	Rainbow Trout (also known as Steelhead)	25-31	□	3
		31+	□	4
	Shorthead Redhorse	15-19	□	3
		19+	□	4
	Smallmouth Bass	9+	□	3
	White Sucker	14-16	□	3
	Yellow Bullhead	Up to 10	□	2
St. Marys River				
Allen County	Black Redhorse	15+	□	3
	Carp	Up to 20	□	3
		20+	□	4
	Channel Catfish	13-15	□	3
		15+	□	4
	Largemouth Bass	Up to 15	□○	3
		15+	□	4
	Silver Redhorse	17+	□	3
	White Sucker	11+	□	3

General Population ○ = **Mercury** □ = **PCBs**
Group 1 = Unlimited meals Group 2 = 1 meal/week Group 3 = 1 meal/month
Group 4 = 1 meal/2 months Group 5 = DO NOT EAT
(For women and children, please refer to the Guidelines on page 5.)

Location	Species	Fish Size (Inches)	Contaminant	Group
Sugar Creek (East Fork White River Basin)				
Hancock/Johnson/Shelby Counties	Black Redhorse	9-16		1
	Carp	Up to 24	○	2
		24+	○	3
	Longear Sunfish	Up to 5		1
	Northern Hogsucker	Up to 11		1
Sugar Creek, Walnut Fork				
Montgomery County				
All fish in this upstream portion of the Walnut Fork of Sugar Creek should be limited to no more than one meal per week (Group 2) for the general population. Exceptions to this advice for the general population are listed.				
	Black Redhorse	Up to 14	□	3
		14+	□	4
Sugar Creek (Middle Wabash River Basin)				
Montgomery County - Upstream of I-74				
All fish upstream of I-74 are located well above the known PCB contamination sources. They have been found to be much lower in contaminants. Follow the General Safe Eating Guidelines. Exceptions to this are listed.				
	Black Redhorse	Up to 13		1
	Longear Sunfish	Up to 6		1
Montgomery County - I-74 to State Road 32				
Consumption of any fish from this reach of Sugar Creek should be limited to no more than six meals per year (Group 4) for the general population and NO CONSUMPTION by the at-risk population. Exceptions to this advice for the general population are listed.				
	Black Redhorse	**13+**	□	5
	Channel Catfish	**14+**	□	5
	Freshwater Drum	**13+**	□	5
	Rock Bass	**9+**	□	5
	Smallmouth Bass	**9+**	□	5
Montgomery County - State Road 32 to Parke County including stream reaches along Shades and Turkey Run State Parks				
Consumption of any fish from this portion of Sugar Creek should be limited to no more than one meal per month (Group 3) for the general population and NO CONSUMPTION of any fish by the at-risk population. Exceptions to this advice for the general population are listed.				
	Black Redhorse	15+	□	4
	Channel Catfish	Up to 13	□	2
		20+	□	4
	Flathead Catfish	23+	□	4
	Rock Bass	All	□	2
	Shorthead Redhorse	Up to 13	□	2
		15+	□	4
	Smallmouth Bass	19+	□	4

Location	Species	Fish Size (inches)	Contaminant	Group
Sugar Creek (Middle Wabash River Basin) (Cont.)				
Parke County to the Wabash River				
Consumption of any fish from this portion of Sugar Creek should be limited to no more than one meal per week (Group 2) for the general population and limited consumption of one meal per month of any fish for the at-risk population. Exceptions to this advice for the general population are listed.				
	Black Redhorse	14+	□	3
	Channel Catfish	13-20	□	3
		20+	□	4
	Freshwater Drum	16+	□	3
	Sauger	17+	□	3
	Smallmouth Bass	15+	□	3
	Spotted Bass	15+	□	4
Tanners Creek				
Dearborn County	Bluegill	Up to 6		1
	Carp	19-21	□○	2
		21+	□	3
	Largemouth Bass	Up to 13		1
		17+	□○	3
Tippecanoe River				
Kosciusko County (Oswego to State Road 15)				
	Bluegill	Up to 5		1
	Carp	Up to 23	□	2
		23+	□	3
	Longear Sunfish	Up to 5		1
	Rock Bass	Up to 6		1
	Warmouth	Up to 6		1
Kosciusko County (Downstream of State Road 15)				
	Bluegill	6+	□	3
	Carp	20-27	□	3
		27+	□	4
	Redhorse Species	16-18	□	3
		18+	□	4
Fulton County	Carp	Up to 24	□○	2
		24+	□	3
Pulaski County	Carp	16-25	□○	2
		25+	□	3
	Longear Sunfish	Up to 4		1
Carroll County	Carp	21-22	□○	2
		22+	□	3
Trail Creek				
LaPorte County	Brown Trout	18+	□	3
	Carp	Up to 23	□	4
		23+	□	**5**
	Rock Bass	10+	□	3

Location	Species	Fish Size (inches)	Contaminant	Group
Trail Creek Cont.				
LaPorte County Cont.	Smallmouth Bass	14-19	□	3
		19+	□	4
	Walleye	18-27	□	3
		27+	□	4
Travers Ditch				
Fulton County	Blacknose Dace	Up to 2		1
Unnamed Tributary of Eel River				
Miami County	Creek Chub	Up to 3		1
Wabash River				
Adam and Wells Counties	Channel Catfish	21+	□	3
	Freshwater Drum	Up to 12		1
	Golden Redhorse	Up to 13		1
	White Crappie	Up to 9		1
Huntington and Wabash Counties	Blue Sucker	21-26	□	3
		26+	□	4
	Freshwater Drum	Up to 12		1
	White Bass	11-21	□○	3
		21+	□	4
Miami, Cass, Carroll, and Tippecanoe *(upstream of Lafayette)* Counties	Black Redhorse	19+	□	3
	Blue Sucker	21-26	□	3
		26+	□	4
	Channel Catfish	15+	□	3
	Sauger	13+	□	3
	Shorthead Redhorse	15+	□	3
	Smallmouth Buffalo	Up to 20	□	3
		20+	□	4
Tippecanoe *(downstream from Lafayette)*, Fountain, Warren, Vermillion and Parke Counties	Bigmouth Buffalo	18+	□	3
	Blue Sucker	21-26	□	3
		26+	□	4
	Carpsuckers	Up to 13	□	3
		13-19	□	4
		19+	□	**5**
	Channel Catfish	Up to 20	□	3
		20+	□	4
	Flathead Catfish	21+	□	3
	Paddlefish	34+	□	3
	Sauger	13+	□	3
	Smallmouth Buffalo	Up to 20	□	3
		20+	□	4

General Population ○ = **Mercury** □ = **PCBs**
Group 1 = Unlimited meals Group 2 = 1 meal/week Group 3 = 1 meal/month
Group 4 = 1 meal/2 months Group 5 = DO NOT EAT
(For women and children, please refer to the Guidelines on page 5.)

Location	Species	Fish Size (Inches)	Contaminant	Group
Wabash River Cont.				
Vigo, Sullivan and Knox Counties	Bigmouth Buffalo	21-24	□	3
		24+	□	4
	Blue Sucker	21-26	□	3
		26+	□	4
	Carpsuckers	17+	□	3
	Channel Catfish	13-22	□	3
		22+	□	4
	Flathead Catfish	21+	□	3
	Freshwater Drum	16+	□	3
	Paddlefish	34+	□	3
	Sauger	13+	□	3
	Shovelnose Sturgeon	30+	□	3
	Striped/Wiper Bass	10-12	□	3
		12+	□	4
Gibson and Posey Counties	Bigmouth Buffalo	21-24	□	3
		24+	□	4
	Blue Sucker	21-26	□	3
		26+	□	4
	Bluegill	Up to 6		1
	Carpsuckers	17+	□	3
	Channel Catfish	20+	□	3
	Flathead Catfish	21+	□	3
	Freshwater Drum	16+	□	3
	Paddlefish	34+	□	3
	Sauger	13+	□	3
	Shovelnose Sturgeon	30+	□	3
	Striped/Wiper Bass	10-12	□	3
		12+	□	4
	White Bass	11-21	□	3
		21+	□	4
Wea Creek				
Tippecanoe County	**ALL SPECIES**	**ALL**	□	**5**
West Fork of White River				
Randolph County	Carp	18-22	□	2
		22+	□	3
	Channel Catfish	14-16	□	3
		16+	□	4
	Creek Chub	8+	□	3
	Longear Sunfish	5+	□	3

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(For women and children, please refer to the Guidelines on page 5.)

Location	Species	Fish Size (Inches)	Contaminant	Group
West Fork of White River Cont.				
Randolph County Cont.	Quillback	13-18	□	3
		18+	□	4
	Spotted Sucker	11-13	□	3
		13+	□	4
Delaware County	Black Bullhead	9+	□	3
	Black Redhorse	14-16	□	3
		16+	□	4
	Channel Catfish	14-16	□	3
		16+	□	4
	Largemouth Bass	10-15	□○	3
		15+	□	4
	Quillback	13-18	□	3
		18+	□	4
	Spotted Sucker	11-13	□	3
		13+	□	4
	White Sucker	15+	□	3
Madison County	Green Sunfish	6+	□	3
	Spotted Sucker	11+	□	3
Hamilton County	**Carp**	Up to 17	□	3
		17-20	□	4
		20+	□	**5**
	Largemouth Bass	11-17	□○	3
		17+	□	4
	Longear Sunfish	4-9	□	3
		9+	□	4
	Quillback	13-18	□	3
		18+	□	4
Marion County (Upstream of Broad Ripple Dam)	Largemouth Bass	11-16	□	3
		16+	□	4
Marion County (Downstream of Broad Ripple Dam)	Bluegill	Up to 6		1
	Carp	Up to 19	□	4
		19+	□	**5**
	Channel Catfish	12-17	□	3
		17+	□	4
	Flathead Catfish	13-15	□○	3
		15+	□	4
	Largemouth Bass	17+	□	3
	River Carpsucker	14-17	□	3
		17+	□	4
	Quillback	13-18	□	3
		18+	□	4
	Smallmouth Bass	11+	□	3
	Spotted Bass	11-13	□	3
		13+	□	4

Location	Species	Fish Size (Inches)	Contaminant	Group
West Fork of White River (Cont.)				
Morgan County	Black Redhorse	15-16	□	3
		16+	□	4
	Carp	16-27	□	3
		27+	□	4
	Channel Catfish	18-22	□	3
		22+	□	4
	Flathead Catfish	Up to 30	□	4
		30+	□	5
	Largemouth Bass	16+	□	3
	Quillback	13-18	□	3
		18+	□	4
	River Carpsucker	14-17	□	3
	Smallmouth Bass	15-17	□	3
		17+	□	4
	Spotted Bass	11-13	□	3
		13+	□	4
	Spotted Sucker	11-13	□	3
		13+	□	4
Owen County	Bigmouth Buffalo	24+	□	3
	Channel Catfish	15+	□	3
	Freshwater Drum	15+	□	3
	Quillback	13-18	□	3
		18+	□	4
	River Carpsucker	15+	□	3
	Sauger	Up to 14	□	3
		14+	□	4
	Spotted Bass	11+	□	3
	Spotted Sucker	11-13	□	3
		13+	□	4
	White Bass	14-15	○□	3
		15+	□	4
Greene County	Bigmouth Buffalo	20+	□	3
	Channel Catfish	14-16	□	3
		16+	□	4
	Quillback	18+	□	3
	River Carpsucker	15+	□	3
	Spotted Sucker	11-13	□	3
		13+	□	4
Daviess County	Bigmouth Buffalo	19+	□	3
	Channel Catfish	18+	□	3
	Flathead Catfish	14+	□	3

Location	Species	Fish Size (Inches)	Contaminant	Group
West Fork of White River (Cont.)				
Daviess County Cont.	Quillback	13-18	□	3
		18+	□	4
	Spotted Sucker	11-13	□	3
		13+	□	4
	White Bass	14-15	□○	3
		15+	□	4
White River				
Pike/Gibson Counties	Bigmouth Buffalo	25+	□	3
	Channel Catfish	18+	□	3
	Flathead Catfish	16+	□	3
	Largemouth Bass	17+	○	3
	Quillback	13-18	□	3
		18+	□	4
	Smallmouth Bass	12+	○	3
	Smallmouth Buffalo	18-22	□	3
		22+	□	4
	Spotted Bass	9+	□	3
	Spotted Sucker	11-13	□	3
		13+	□	4
White Lick Creek				
Hendricks County	Channel Catfish	22+	□	3
	Smallmouth Bass	14+	□	3
Morgan County	Channel Catfish	22+	□	3
	Smallmouth Bass	12+	□	3
Whitewater River (Greens Fork, Martindale Creek, Middle Fork, Nolands Fork, West Fork)				
Wayne/Fayette/ Franklin/Dearborn Counties	Black Redhorse	22+	○	3
	Carp	19-25	□○	2
		25+	□○	3
	Channel Catfish	20+	□	3
	Freshwater Drum	15+	□	3
	Golden Redhorse	Up to 14		1
	Longear Sunfish	Up to 5		1
	Northern Hogsucker	Up to 9		1
	Rock Bass	Up to 7		1
	Smallmouth Bass	Up to 10		1
	White Sucker	Up to 10		1

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Group 4 = 1 meal/2 months Group 5 = DO NOT EAT
(For women and children, please refer to the Guidelines on page 5.)

Location	Species	Fish Size (inches)	Contaminant	Group
Whitewater River (West Fork of the East Fork)				
Wayne County	White Sucker	Up to 7		1
Wildcat Creek				
Howard County (Upstream of the Waterworks Dam in Kokomo)				
	Bluegill	Up to 6		1
	Carp	Up to 21	□	3
	Longear Sunfish	Up to 5		1
	Rock Bass	Up to 6		1
Howard County (Downstream of the Waterworks Dam in Kokomo)				
	All Species	**ALL**	□	5
Carroll County	**All Species**	**ALL**	□	5
Consumption of fish from the Wildcat Creek in Tippecanoe County should be limited to no more than one meal every two months or six meals per year (Group 4) for the general population and NO CONSUMPTION for the at-risk population. Exceptions to this advice for the general population are listed below.				
Tippecanoe County	Black Bass Species	10+	□	3
	Carp	**ALL**	□	5
	Carpsucker	12-13	□	3
	Channel Catfish	Up to 22	□	3
	Flathead Catfish	**18+**	□	5
	Freshwater Drum	**16+**	□	5
	Golden Redhorse	12-14	□	3
	Longear Sunfish	Up to 5	□	3
	Shorthead Redhorse	**13+**	□	5
	White Bass	**ALL**	□	5
Wilson Ditch				
Miami County	Creek Chub	Up to 5		1
Young's Creek				
Johnson County	Northern Hogsucker	10+	□	3

General Population　○ = **Mercury**　□ = **PCBs**
Group 1 = Unlimited meals　Group 2 = 1 meal/week　Group 3 = 1 meal/month
Group 4 = 1 meal/2 months　Group 5 = DO NOT EAT
(For women and children, please refer to the Guidelines on page 5.)

EXHIBIT I-5

Partial Monitoring Plan

INTRODUCTION

The steps for developing a monitoring plan are:

1. Define the short- and long- term objectives
2. Decide whether to use a model
3. Identify data needs
4. Identify sampling criteria
5. Develop data management and analysis procedures
6. Address implementation issues

OBJECTIVES

The objectives of a monitoring plan are to:
1. Evaluate the effectiveness of the Nine Minimum Controls (NMC).
2. Define the CSS's hydraulic response to rainfall.
3. Determine CSO flows and pollutant concentrations/loadings.
4. Evaluate the impact of CSOs on receiving water quality.
5. Support model input, calibration, and verification.
6. Support the review and revision, as appropriate, of WQS.
7. Evaluate and select long-term CSO control alternatives.

Objective #1 will be the subject of this partial monitoring plan. The other objectives will be addressed in the CSO LTCP.

MODEL STRATEGY

No model will be used to evaluate the effectiveness of the NMC.

DATA NEEDS

The list of questions below help identify the data needs.

- Have dry weather overflows been eliminated?
- Has wet weather flow to the POTW increased?
- Has the level of rainfall needed to cause CSOs increased?

The following data is required to answer these questions.

- Rain Event Data: start time, total volume, duration, & maxima intensity
- Runoff Event Data: Date of runoff event
- Overflow Event Data: start time & duration
- WPCP Flow Data: Daily plant influent volume

SAMPLING CRITERIA

Duration

Runoff event data need to be collected every day of the year. During warmer periods rain event data can be used. During periods when freezing occurs visual inspections will have to be made. Overflow event data and WPCP flow data will also need to be collected every day of the year.

Location

Overflow event data will need to be collected at all regulators where significant overflows occur. Rain event data will need to be collected through out the combined sewer system (CSS) for the months April through November and from the Fort Wayne International Airport for the months of December through March. WPCP flow data will need to be collected at the headworks of the WPCP.

Frequency

Rain event data and overflow event data will need to be collected continuously. WPCP flow and runoff event data can be collected daily.

Pollutants

Only flow volume will need to be collected.

Data Management

Rain event data, runoff event data, and overflow event data will be collected and processed and saved by WPC Maintenance as described in the CSO Monitoring Program procedures. WPCP influent flow data will be collected by WPCP operators and recorded on their monthly reports.

Analysis

- Rain events will be defined as ending at the beginning of the first 6 hour dry period following its start. Overflow events for each regulator will be matched with the rain events that caused them. If an overflow event is not associated with a rain event then it will be identified as a dry weather overflow (DWO). If an overflow event continues long after the rain event ends it will be investigated to determine if it is a DWO. The number of DWOs that occurred during a year will be determined and compared to previous annual DWO totals.

- Total annual WPCP influent volume will be compared to previous annual volumes to see if it increases.
- Rain events will be defined as ending at the beginning of the first 6 hour dry period following its start. All rain data collected between April 1 and November 30 will be grouped into rain events. Overflow events for each regulator will be matched with the rain events that caused them. The smallest rain event that caused an overflow event for each regulator will be identified and compared with those identified in previous years to determine if the rain event size is increasing.
- Fort Wayne's rivers have been analyzed for a fish advisory. Mercury and PCBs are the fish tissue contaminants identified the 2004 303(d) Report lists only PCBs as a fish advisory. The proposed 2006 303(d) Report lists only PCBs as a fish tissue contaminant. The City has tested CSOs and did not find PCBs present. This concludes that fish advisories are not a result of CSOs.

Implementation issues

All data is currently being collected and all implementation issues are described in the appropriate program's written procedures.

EXHIBIT I-6

2006 Regulator Metering Summary

The City of Fort Wayne has 43 Combined Sewer Overflow discharge points. The flow at 33 of these points is measured with flow meters. The flow at 5 of these points is pumped into the receiving waters and measured using run time meters. Three of the sites (007, 012, & 027) are gravity discharge points that are only used when the adjacent pump station is completely down.

The durations and volumes for the 38 sites that are metered are presented on the attached spreadsheet. The spreadsheet lists the discharge points in numerical order, ranks its volume and duration relative to the other metered sites, and gives each site's total volume and duration for 2006.

	Volume		Duration	
CSO OUTFALL NO.	Rank	Total (MG)	Rank	Total (HRS)
4	16	15.282	10	405.25
5	4	192.772	3	1074.40
7	37	0.000	37	0.00
11	12	24.305	33	57.34
12	28	4.294	36	6.07
13	7	52.626	29	70.25
14	36	0.021	30	66.50
16	37	0.000	37	0.00
17	13	23.387	27	79.25
18	1	768.937	8	678.25
19	32	1.277	34	41.75
20	6	59.329	6	795.00
21	26	5.050	31	64.00
23	21	9.424	23	98.25
24	24	7.001	35	24.75
25	25	6.282	26	80.75
26	3	246.642	4	880.00
27	37	0.000	37	0.00
28	20	11.061	24	88.53
29	30	2.841	25	81.50
32	9	39.786	13	328.00
33	2	309.327	5	857.67
36	27	4.722	28	75.25
39	19	14.267	17	221.75
44	34	0.433	22	100.50
45	35	0.184	21	107.50
48	5	130.496	7	770.71
50	15	17.680	15	239.00
51	29	2.907	32	58.00
52	23	7.863	14	326.80
53	22	8.488	1	5459.00
54	18	15.034	2	1312.20
55	11	28.812	11	402.75
56	8	40.650	12	378.04
57	37	0.000	37	0.00
58	33	1.127	18	167.75
60	17	15.080	20	135.75
61	14	21.382	16	223.50
62	10	32.888	19	144.50
64	31	2.461	9	598.00
67	37	0.000	37	0.00
68	37	0.000	37	0.00
P10-001	37	0.000	37	0.00
		2124.118		

GLOSSARY

A

ACPWQ: Allen County Partnership for Water Quality – ACPWQ was created by the City and other local governmental entities to help educate the public and the media about water resource issues.
Activated Sludge: A result of the following process: primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment, speeding the breakdown of organic matter in raw sewage undergoing secondary waste treatment.
Algae: Simple rootless plants that grow in sunlit waters in proportion to the amount of available nutrients. They can affect water quality adversely by lowering the dissolved oxygen in the water. They are food for fish and small aquatic animals.
AO: Administrative Order
Aqua Indiana: A private utility serving large areas of western and northern Fort Wayne and Allen County.

B

Biosolids: They are nutrient-rich organic materials resulting from the treatment of domestic sewage in a treatment facility. When treated and processed, these residuals can be recycled and applied as fertilizer to improve and maintain productive soils and stimulate plant growth.
BMR: Baseline Monitoring Report
Board of Public Works: The Utilities regulatory body, responsible for approving the Utilities rules and regulations and the appeal body for decisions and/or AOs made or issued by the Superintendent regarding industrial users.
BOD: Biological Oxygen Demand – A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. The greater the BOD, the greater the degree of pollution.

C

Catch Basin: Structures used to collect storm water entering Fort Wayne's combined sewer system. A catch basin is a modified inlet where the invert of the outlet pipe is several feet above the bottom of the structure and where a 90 degree trap is installed on the end of the outlet pipe.
CCC Limits: Criterion Continuous Concentration – An estimate of the highest concentration of material in the water column to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect.
CCTV: Closed Circuit Television
CFR: Code of Federal Regulations
City: The City of Fort Wayne
Collection System: Pipes used to collect and carry wastewater from individual sources to an interceptor sewer that will carry it to a treatment facility.
CMC Limits: Criterion Maximum Concentration – An estimate of the highest concentration of a material in the water column to which an aquatic community can be exposed briefly without resulting in an unacceptable effect.

CMMS: Computerized Maintenance Management System keeps inventory of equipment, access parts information, and schedule maintenance activities and maintain a history of maintenance performed.
CSO: Combined Sewer Overflow – During heavy periods of rainfall or snowmelt, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies.
CSS: Combined Sewer System – A sewer system that carries both sewage and storm-water runoff. Normally, its entire flow goes to a waste treatment plant, but during wet weather, the volume may be so great as to cause overflows of untreated mixtures of storm water and sewage into receiving waters. Storm-water runoff may also carry toxic chemicals from industrial areas or streets into the sewer system.
CSSCIP: City's Combined Sewer System Capacity Improvement Program

D
Dam: A barrier to obstruct the flow of water.
Designated Use: Uses specified in water quality standards for each water body or segment whether or not they are being attained (40 CFR 131.3).
DO: Dissolved Oxygen – The oxygen freely available in water, vital to fish and other aquatic life and for the prevention of odors. DO levels are considered a most important indicator of a water body's ability to support desirable aquatic life. Secondary and advanced waste treatment and generally designed to ensure adequate DO in waste-receiving waters.
DMR: Discharge Monitoring Report
DWO: Dry Weather Overflow – An overflow or discharge from a combined or sanitary sewerage system or storm drainage system that is not the result of wet-weather flows into the system. These flows may be the result of a variety of processes. Dry-weather overflows from combined sewer systems are generally not permitted.

E
Existing Use: Uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards (40 CFR 131.3).
EPA: U.S. Environmental Protection Agency

G
GIS: Geographic Information System – GIS is a term used to describe the creation, manipulation, analysis, and storage of spatial data. This technology integrates common database operations such as query and statistical analysis with geographic data through visualization and maps. These attributes distinguish GIS from other information systems and make it valuable for exploring options, explaining results, and deciding strategies.

I
IDEM: Indiana Department of Environmental Management
IMS: Infrastructure Management System – Electronic database to track maintenance activities

Industrial Pre-Treatment Program: A City program that handles the process to reduce, eliminate, or alter the nature of wastewater pollutants from non-domestic sources (mostly industrial) before they are discharged into Publicly Owned Treatment Works (POTWs).
Infiltration: The penetration of water entering sewers or pipes through defective joints, connections, or manhole walls.
Inflow: Stormwater entering a sewer system from sources such as basement drains, manholes, and storm and driveway drains.
Interceptor Sewer: Large sewer lines that, in a combined system, control the flow of sewage to the treatment plant. In a storm, they allow some of the sewage to flow directly into a receiving stream, thus keeping it from overflowing onto the streets. Also used in separate systems to collect the flows from main and trunk sewers and carry them to treatment points.
IU: Industrial User

L

LIMS: Laboratory Information Management System operates to collect analyze and report laboratory results.
LTCP: Long-Term Control Plan – A document developed by CSO communities to describe existing waterway conditions and various CSO abatement technologies that will be used to control overflows.

M

Manhole: A hole, usually with a cover, through which a person may enter a sewer, boiler, drain, or similar structure.
MGD: Million Gallons per Day – Measure of flow.
MRO: Monthly Report of Operations
MSDS: Material Safety Data Sheet

N

NMC: Nine Minimum Controls – Measures that can reduce CSOs and their effects on receiving water quality and that should not require significant engineering studies or major construction.
NOV: Notice of Violation
NOW: Notice of Warning
NPDES: National Pollutant Discharge Elimination System – A national program under Section 402 of the Clean Water Act (CWA) for regulation of discharges from point sources to waters of the United States. Discharges are illegal unless authorized by an NPDES permit.

O

O&M: Operations and Maintenance
Organic Matter: Carbonaceous waste contained in plant or animal matter and originating from domestic or industrial sources.

P

PCB: Polychlorinated Biphenyls

pH: An expression of the intensity of the basic or acid condition of a liquid; may range from 0 to 14, where 0 is the most acid and 7 neutral. Natural waters usually have a pH between 6.5 and 8.5.
Photosynthesis: The process in green plants and certain other organisms by which carbohydrates are synthesized from carbon dioxide and water using light as an energy source. Most forms of photosynthesis release oxygen as a byproduct.

POTW: Publicly Owned Treatment Works
Primary Treatment: Primary treatment is the second step in treatment and separates suspended solids and greases from wastewater. Waste-water is held in a quiet tank for several hours allowing the particles to settle to the bottom and the greases to float to the top. The solids drawn off the bottom and skimmed off the top receive further treatment as sludge. The clarified wastewater flows on to the next stage of wastewater treatment. Clarifiers and septic tanks are usually used to provide primary treatment. Removal of floating solids and suspended solids, both fine and coarse, from raw sewage.
Pump Station (Lift Station): A station positioned in the public sewer system at which wastewater is pumped to a higher level.

R
Regulator: Engineered bottleneck in the collection system.
Run Off: That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface water. It can carry pollutants from the air and land into receiving waters.

S
SAG: Sewer Advisory Group – Fort Wayne's SAG is a voluntary citizen-based group that has been actively helping the City make decisions about its sewer utility operations since 1995.
Secondary Treatment: The second step in most publicly owned waste treatment systems in which bacteria consume the organic parts of the waste. It is accomplished by bringing the waste, bacteria, and oxygen in trickling filters or in the activated sludge process. This treatment removes floating and settleable solids and about 90 percent of the oxygen-demanding substances and suspended solids. Disinfection is the final stage of secondary treatment.
Sewage: The waste and wastewater produced by residential and commercial sources and discharged into sewers.
SIP: Structure Inventory Program
SIU: Significant Industrial User – An indirect discharger that is the focus of control efforts under the national pretreatment program; includes all indirect dischargers subject to national categorical pretreatment standards, and all other indirect dischargers that contribute 25,000 gpd or more of process wastewater, or which make up five percent or more of the hydraulic or organic loading to the municipal treatment plant, subject to certain exceptions [40 CFR 122.23(b)(9)]
SOP: Standards of Operation
SPCC: Spill Prevention, Control and Countermeasure Plan
SRCER: Stream Reach Characterization and Evaluation Report

SSO: Sanitary Sewer Overflow – Untreated or partially treated sewage overflows from a sanitary sewer collection system.
STF: Sewer Task Force – STF was originally organized to develop recommendations on how the City should proceed to reduce the likelihood of sewer backups into basements. STF is now known as the Sewer Advisory Group (SAG).
Storm Sewer: A system of pipes (separate from sanitary sewers) that carry water runoff from buildings and land surfaces.

T

Trunk Sewer: A sewer that receives many tributary branches and serves a large territory.
TSS: Total Suspended Solids – A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for "total suspended non-filterable solids."

U

U.S.EPA: United States Environmental Protection Agency
UTA: Utility Administration Group

V

VTN: Verbal Telephone Notice

W

Water Quality Criteria: Levels of water quality expected to render a body of water suitable for its designated use. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes.
WQS: Water Quality Standards – State-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of water body and establish the water quality criteria that must be met to protect designated uses.
WEF: Water Environment Federation
Weir: A wall or obstruction used to control flow from settling tanks and clarifiers to ensure a uniform flow rate and avoid short-circuiting.
WPCM: Water Pollution Control Maintenance
WPCP: Water Pollution Control Plant – Any equipment, device, unit, structure, etc., that is used to control, prevent, pretreat, or treat any discharge or threatened discharge of pollutants into any waters of the State of Indiana, including surface and subsurface waters and public or private sewerage systems.
WQS: Water Quality Standards – Regulations that are designed to protect the surface waters of the State. They contain statements and numeric limits that are adopted through administrative rule-making procedures. The standards set forth the water quality needed to protect the uses of the water, such as swimming, public water supply, and the propagation and growth of aquatic life.

United States and State of Indiana v. City of Fort Wayne, Indiana

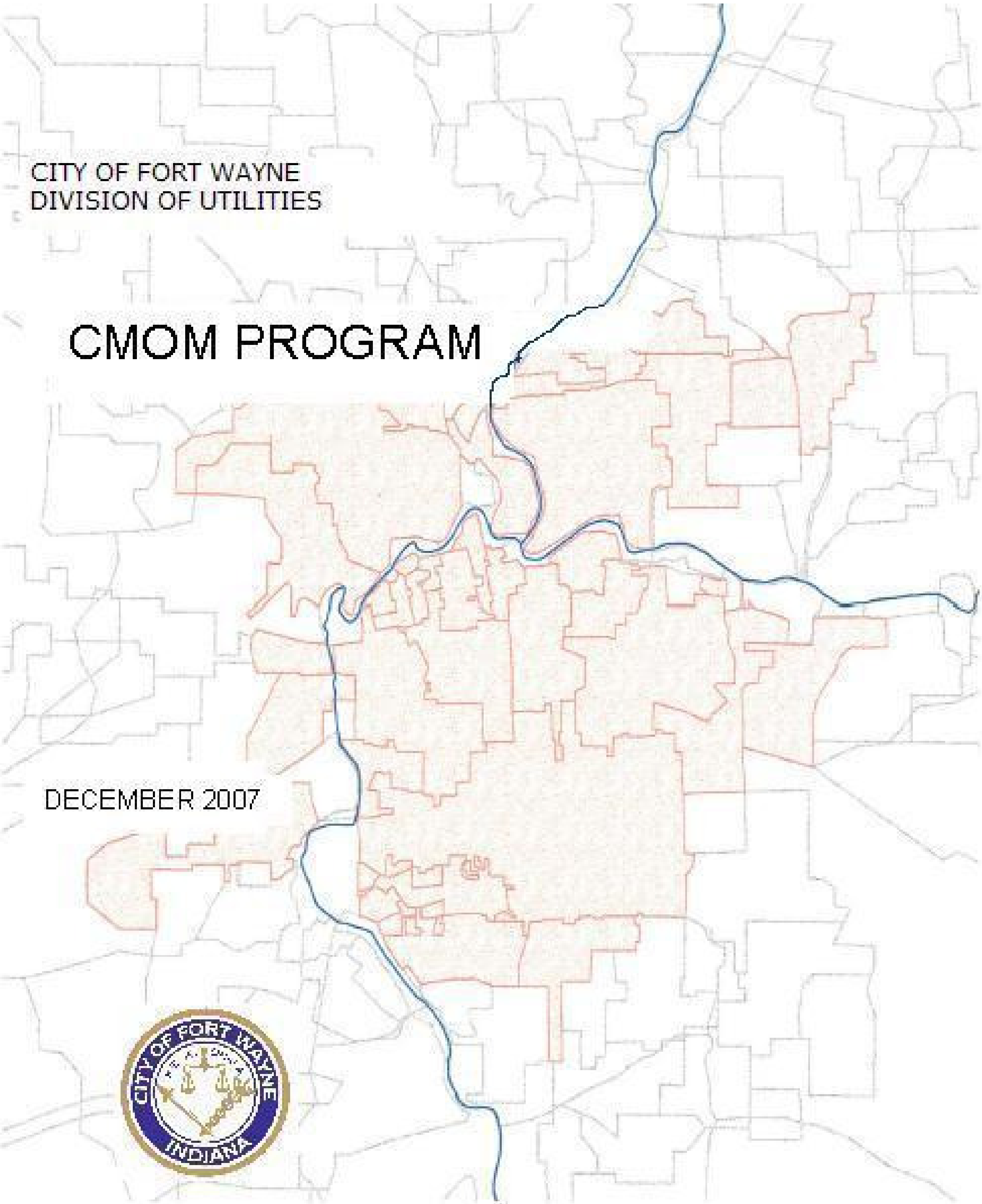
Consent Decree
Appendix 2

Capacity, Management, Operations, and Maintenance Program

CITY OF FORT WAYNE
DIVISION OF UTILITIES

CMOM PROGRAM

DECEMBER 2007



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CITY OF FORT WAYNE, INDIANA
CAPACITY, MANAGEMENT, OPERATION AND MAINTENANCE (CMOM) PROGRAM
2007

1.0 INTRODUCTION

Fort Wayne's Water Pollution Control Utility is responsible for the management and operation of the City's sanitary sewage collection and treatment system including: design, construction, operation, maintenance, and repair of all sewers and sewage treatment facilities. The City's separate sanitary sewer system (SSS) was designed to convey wastewater to the City's Water Pollution Control Plant located at 2601 Dwenger Avenue in Fort Wayne, Indiana (WPCP). When wastewater flows in the SSS exceed capacity, sanitary sewer discharges (SSDs) can occur. Among the causes of SSDs are: infiltration of groundwater or stormwater; pipe defects; vandalism; and blockages. An SSD is defined as any discharge to waters of the State as defined by applicable state law, or to navigable waters of the United States as defined by Section 502(7) of the Clean Water Act, 33 U.S.C. § 1362(7), from Fort Wayne's Sanitary Sewer System. Although SSDs can occur during both dry and wet weather, in the City's experience, the SSDs associated with the SSS are most often associated with wet weather. SSDs can occur out of manholes and onto City streets, sidewalks and other terrestrial locations, sometimes reaching waterbodies.

The SSS is a critical element in the success of wastewater treatment. EPA's 2005 document, *Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems* (hereinafter referred to as "guidance document") identifies criteria used by the EPA to evaluate a separate sanitary sewer system's collection system's management operation and maintenance program activities. The City developed its CMOM program (described herein) according to this EPA guidance document to address its SSS. The City's combined sewer system is addressed separately via the City's Amended Combined Sewer System Operational Plan (CSSOP) and Long-Term Control Plan (LTCP).

1.1 PURPOSE

The purpose of a CMOM approach is to allow sanitary sewer system owners and operators to provide/maintain a high level of service to customers while reducing regulatory noncompliance. According to the guidance document, this includes standard operation and maintenance activities already in place, with an additional information management requirement, to:

- Better manage, operate, and maintain collection systems
- Investigate capacity constrained areas of the collection system
- Proactively prevent SSDs

- Respond to SSD events

In order to provide such services, the City intends to continue to manage, operate and maintain its SSS and ensure that sewage is transported to the WPCP in a safe and effective manner.

1.2 GENERAL INFORMATION - COLLECTION SYSTEM DESCRIPTION

The City's SSS transports sewage from residential homes and businesses to the WPCP for treatment. The City is currently responsible for 1281 miles of sewers and approximately 30,480 manholes from a service area approximately 152 square miles in size. This includes:

- Combination sewers = 346 miles
- Sanitary sewers = 897 miles
- Relief sewers = 37. miles

As of 2000, the population for this service area was approximately 240,000.

The majority of the SSS's sewers operate by gravity drainage flow. In areas where gravity flow is not currently available, 35 wastewater pump stations pump wastewater through special sanitary sewers called force mains to locations where gravity flow is available.

The City's sewer collection system was started well over 125 years ago. The following provides a breakdown summary of the age of the City's sewer system pipes:

- 0-24 years = 14.6%
- 25-49 years = 47.0%
- 50-74 years = 11.4%
- 75-99 years = 15.9%
- 100-125 years = 9.6%
- > 125 years = 1.5%

1.3 REGULATORY REQUIREMENTS

The Clean Water Act's National Pollutant Discharge Elimination System (NPDES) program prohibits discharge of pollutants from any point source into the Nation's waters except as authorized under an NPDES permit. NPDES permits issued to POTWs typically contain conditions requiring proper operation and maintenance practices based upon 40 CFR 122.41(e) ("The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and relative appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit."). The City's current NPDES Permit NO.

IN0032191 was issued December 1, 2004 and modified via a modified permit issued in 2007 with an effective date of December __, 2007.

1.4 GOALS OF THE UTILITY

In 2005, the City Utilities adopted a Strategic Business Plan with the following elements:

Vision: *By delivering high value services, City Utilities will be the utility of choice for our community.*
Mission Statement: *Our mission is to continue to provide water, wastewater and stormwater services for the community in an efficient, effective and highly responsive manner.*

Goal 1: Managing **regulatory** response so that it reflects, to the extent possible, community values and priorities for the allocation of resources.

Goal 2: Making wise and timely investments in **technology** to enhance the performance of the Division of Public Works and City Utilities.

Goal 3: Providing high value services to all **customers** and other stakeholders to build long lasting, positive relationships with our community.

Goal 4: Developing a **growth** strategy that allows the Division of Public Works and City Utilities to address operational needs, fund growth, and remain competitive.

Goal 5: Developing an **asset management** program that efficiently preserves assets while ensuring reliability and meeting customer needs.

Goal 6: Creating a **learning organization** that is efficient, effective and promotes an inspired and accountable workforce.

As documented in the Strategic Business Plan, the City recognizes the importance of using information collection and management practices to tracking how the elements of the CMOM program are meeting performance goals, and whether overall system efficiency is improving. Capital improvements, financial management, asset management and O&M planning activities have been tracked for many years. Performance goals related to wastewater and stormwater management are designed to be flexible to allow WPCM to respond to new priorities as well as unexpected events, such as extreme weather. Therefore, priorities within these goals are constantly being realigned. Maintaining the value of capital assets (the collection system) is a goal of the CMOM program. To track progress toward the City's goals, the City intends to evaluate the following activities on an annual basis:

- Continue to develop and implement the City's CSO reduction projects as part of the Long-Term Control Plan (LTCP)

- Continue with CSO Ponds Master Planning (which is to include a an equalization facility to mitigate SSDs from the City's North Maumee interceptor)
- Continue with WPCP plant upgrades and necessary rehabilitation
- Continue to implement the Combined Sewer Capacity Improvement Program (CSCIP)
- Continue the Fats, Oils and Grease (FOG) Task Force
- Continue Lift Station Task Force
- Degrease 520,000 linear feet of sewer pipe per year
- De-root 210,000 linear feet of sewer pipe per year
- Clean 5,600 catch basin and inlet structures per year
- Televise 135,000 linear feet of sewer pipe per year
- Clean 95,220 feet of sewer pipe per year (this will be represented as a support to the TV program in the future)
- Flush 130,000 linear feet of sewer pipe per year
- Inspect 450 manholes per year
- Budget a minimum of $2 million per year for rehab/repair/replace of small, medium and large diameter pipe
- Continue to design and construct sanitary sewer capacity projects

2.0 COLLECTION SYSTEM CAPACITY, MANAGEMENT, OPERATION, AND MAINTENANCE PROGRAMS

The key elements of the City's CMOM program will be presented in detail in the following sections:

- Collection System Management
- Collection System Operation
- Equipment and Collection System Maintenance
- Sewer System Capacity Evaluation

2.1 COLLECTION SYSTEM MANAGEMENT

Collection system management activities form the structure for effectively operating and maintaining the system.

2.1.1 ORGANIZATIONAL STRUCTURE

The City's Water Pollution Control Utility (City Utilities) is responsible for the management and operation of the City's SSS, combined sewers and WPCP. The Director of City Utilities has primary responsibility for the administration of the entire sewage system including: design, construction, operation, maintenance, and repair of all sewers and sewage treatment facilities.

The Director manages four groups of departments related to the City's sewage collection and treatment programs: Water Resources, Utility Administration (UTA),WPCP, and the Water Pollution Control Maintenance (WPCM) Department.

Water Resources is responsible for the planning and administration of capital projects, service extension permits, and maintaining all sewer maps and GIS infrastructure data. Water Resources is also responsible for planning, evaluating, and developing projects; development, management, and implementation of the capital improvement plan; acquisition of easements and property; and project management from conception through design, construction, completion, and acceptance of the project.

Utility Administration group is responsible for accounting, budgeting, and customer service. They also take the lead in the preparation of rules, regulations, and legislation required to operate City Utilities and for communicating about City Utility policies, procedures and programs.

The WPCP group has the responsibility for operating and maintaining the wastewater treatment plant, one package treatment plant, mechanical regulators, and pumping stations. It is also responsible for regulating industrial waste discharges, pretreatment programs, sampling, analytical laboratory operation, and treatment facilities.

The Water Pollution Control Maintenance (WPCM) group is responsible for both the sanitary and stormwater collection systems, as well as, all in-house sewer-related maintenance and repair functions of the WPC Utility. The WPCM group is involved in a host of other activities including, but not limited to: preventive maintenance, reactive maintenance, emergency maintenance, information gathering, system monitoring, scheduling, and maintenance tracking.

An organizational chart for WPCM is presented in Exhibit A. The WPCM group is organized into 5 functional areas illustrated in Exhibit B and introduced below.

Area	Primary Function(s)
1. Maintenance	* Inspections * Cleaning
2. Construction	* Repairs & Replacements
3. CSO Program	* Monitoring CSOs
4. Administrative	* Management Team * Dispatching * Investigations * Storeroom/Yard Inventory
5. Training	* Training

The purpose of Exhibit B is to highlight primary functions within each of the 5 areas. These designations reflect normal day-to-day operations. As can be seen, much of the work done by the WPCM group relates to information gathering, scheduling, coordination and preventive maintenance. With the exception of the Administrative area, each of the functional areas includes a Supervisor or a Program Manager to report to the Superintendent. The Administrative area is supervised by the Superintendent. A brief description of each area is below.

Maintenance: This area is responsible for overseeing the scheduling of inspections and cleaning for the group. The Operations group performs functions in both areas as needed. The construction group has three crews dedicated to each (3 in stormwater and 3 in sanitary).

Reactive TV inspection and cleaning is performed as requested by the investigators, other areas of the group, or work requested by other groups are performed in this area. This area is also responsible for inspecting and cleaning combined sewers, interceptors and control structures. Details on inspecting and cleaning these sewers may be found in section 2.3.3.

Scheduled preventive maintenance TV inspection and sewer cleaning (cleaning, flushing, derooting, degreasing) operations are also done in this area.

Construction: The Construction area teams perform minor- to moderately-sized repairs and replacements on various elements of the collection system.

CSO Program: The CSO Program area collects CSO flow and rain data from flow meters and the rain gage network and prepare required regulatory reports. It also installs flow meters and helps to maintain the meters.

Administrative: This area is responsible for initiating and scheduling work, investigating customer complaints, managing the replacement materials inventory and preparing annual budgets.

The dispatcher in this area is the first line of contact for the public during normal working hours. The dispatcher initiates "service request" paperwork for customer calls in the department's computer system if a field investigation is needed. After this initial field assessment, the dispatcher may also create "work order" paperwork detailing additional field work required. The dispatcher also processes reports once the investigators are done with a call. All records are maintained in an organized manner and available to City personnel.

The special investigators respond to customer complaint-driven "service requests". They perform field investigations/analysis and then report their findings back to the dispatcher as needed.

During evening hours the night investigator performs the tasks of both the dispatcher and a special investigator. During late night, calls are routed to the night investigators via a pager/call back system. Night investigators in turn investigate complaints or notify "on-call" supervisors if the reported problem warrants additional evaluation or supervision.

The Management team is responsible for scheduling reactive and proactive work activities, creating crew assignments and disseminating work to the appropriate crews. Supervisors and Program Managers also act a liaisons between the crews, the Superintended, and other City departments.

The Superintendent is in charge of the WPCM group and reports to the Director. Although the Superintendent will normally not be personally involved in most service calls, he/she is administratively responsible for activities performed by WPCM, including all fiscal and budgetary matters and coordination with the Director's office. The Superintendent also serves as a valuable technical resource for the design, construction and maintenance of collection systems projects and is often involved in devising strategies and directing actions to solve the most complicated problems.

Administrative support to the WPCM group and storeroom services relating to materials inventory tracking are also provided by this area.

Training: This area is responsible for planning, developing, and implementing training and safety programs for the department.

2.1.2 TRAINING

The City employs a full-time Utility Maintenance Training Coordinator Program Manager . This position is responsible for developing, implementing and scheduling training programs within the WPCM and the City's Stormwater Maintenance group. The various training programs include general environmental awareness, proper operation of specific equipment, policies and procedures, conducting maintenance activities, and identifying opportunities for process improvements.

STANDARD OPERATING PROCEDURES

Each job classification within WPCM has a specific Standard Operating Procedure (SOP) associated with it. The SOPs are utilized to train employees to be safe, effective and efficient in the day-to-day activities for which they are responsible for. If an employee moves from one job classification to another, they are provided with the new job classification's SOP and subsequently trained according to it.

WORKFORCE LEARNING AND FLEXIBILITY PATHWAY INITIATIVE

This initiative aims to train all non-construction personnel on each and every apparatus used to maintain the City's sewer system. Through this initiative, WPCM is educating its employees in capacities that they do not normally operate. Each employee is required to receive structured classroom training that is focused on each of the different apparatus' that the department uses. After employees receive the classroom instruction, they are given an examination to test how much they have retained. Upon successful completion of the written examination, personnel receive structured hands-on training on the apparatus in the field, and are subsequently assessed on skills in running/utilizing the apparatus. By late 2008 all personnel (construction included) will be trained on all service apparatus.

MANUFACTURER-PROVIDED TRAINING

As technology creates new and improved tools and devices for servicing sewer collection systems, WPCM looks to the manufacturers of its varied apparatus' for help in educating the department's employees. Much of the training that is supplied to WPCM is on-site, and often involves hands-on fundamentals. Because WPCM may have several different vendors for the same type of apparatus, employees tend to get good exposure to the latest technology that is available. WPCM looks to the manufacturers to train its people in a way that will make them as efficient as possible when responding to customers' needs.

OSHA MANDATED TRAINING

Occupational Safety and Health Administration (OSHA) mandates employee training for general industry and construction standards per 29 CFR 1910 and 1926. Most of this training is done on an annual basis as specified in the regulations. Examples of required annual training include Blood Borne Pathogen, Respirator Use, Portable Fire Extinguishers and Emergency Action Plan. Some training goes above and beyond OSHA's minimum requirements, as "refresher" courses are offered from time to time. Examples of "refresher" courses include Confined Space Entry, Personal Protective Equipment (PPE) Care and Use and Machine Guarding. Two in-house certified American Heart Association First Aid and CPR instructors provide first aid and CPR training as employee's certifications expire. "Refreshers" may be provided should any employee make a request.

IWEA TRAINING

The Indiana Water Environment Association (IWEA) provides many educational and training opportunities throughout the year. This State organization works with the Indiana Department of Environmental Management (IDEM) to certify classes that City employees attend. An example of this is a class entitled "The IWEA Water & Sewer Construction Inspection Course". This course has enabled construction personnel to make sound decisions during the installation and repair of sewers within our system. IWEA also provides a certification program for Collection System Operators. Examinations are offered twice a year for four different classes of certification. Employees are given resources to study for each examination and are provided with paid study time. Additionally, the IWEA sponsors a competition annually in which teams compete to test their knowledge of collection and treatment system. This competition also serves as a tool for educating all who attend. A City team has attended every year since the early 1990's, each time gaining valuable knowledge from the challenges.

MONTHLY SAFETY COMMITTEE MEETINGS

Monthly safety committee meetings are held during which accidents are reviewed, equipment issues, ergonomic issues, PPE and training are discussed. Often training initiatives result from safety committee decisions.

"TUESDAY TOOLBOX TALKS"

Every Tuesday, WPCM employees discuss safety topics or general topics that deal with day-to-day duties. On occasion (approximately 12 times a year), the entire department may view an instructional video. Topics range from positive attitudes and customer service techniques to tool and operational safety. This program was established in early 2006.

EMPLOYEE APPRECIATION DAY

Employee appreciation day was initiated in summer of 2007. This day is intended to thank employees for their service throughout the year. The day consists of a skills competition on different apparatus, classroom training and team-building exercises. This day provides a relaxed environment, which promotes an enhanced learning experience. The feedback from this initial experience has been overwhelmingly positive. Employees have offered many suggestions for future appreciation days.

2.1.3 INTERNAL COMMUNICATION

WPCM understands that good communication from the top down and the bottom up is an essential part of their work processes. Each morning, WPCM managers meet with the entire workforce to deliver daily work assignments and to make miscellaneous announcements. After the daily assignment meeting, field crews meet with their direct supervisor to pick up any necessary paperwork or additional instructions as related to their current day's work. Throughout the day, field crews and their direct supervisors may be in contact via the City's two-way radios, but are usually directed by the dispatcher. At the end of their shift, field crews return to the office and may again touch base with their direct Supervisors to discuss work progress, delays, complications, etc.

WPCM also conducts weekly managers' meetings. These meetings allow for information to flow from the Superintendent to his subordinates, and vice versa. The managers use this weekly opportunity to enlist their peers in problem resolution, project coordination, and commendations for cooperation in recent projects. This is also where discussions about departmental policy changes are facilitated.

Each member of the WPCM management and administrative staff is equipped with a personal computer and electronic mail. This allows communication to occur with other City staff and external customers, as well as among WPCM management and administrative staff.

In addition to information shared at daily and weekly meetings, administrative information important for employees is also routinely printed and posted in both the main lunchroom and by the time clock. This allows employees who do not have electronic mail to stay "in-the-know".

2.1.4 CUSTOMER SERVICE

City Utilities conducts a public relations program that involves media relations public information, public outreach, public education and public involvement. Each level of communication requires a different level of commitment by City Utilities and a different level of involvement by the public. The public relations program is guided by a strategic communication plan and each activity within the public relations program is guided by a work plan.

The City employs a Public Information Officer who is responsible for coordinating the media relations portion of the public relations program and for preparing and scheduling bill stuffers and government access television programming. City Utilities managers plan, organize and conduct the other aspects of the public relations program.

The City communicates with the following groups and organizations:

1. **Area Partnerships**

   The City is geographically divided into four quadrants. Within each quadrant a liaison group has been created to help facilitate communication with City departments and to assist neighborhood associations within that quadrant. Each Area Partnership has officers and the Partnerships usually meet monthly. Area Partnership meetings are usually attended by Neighborhood Association Presidents within the Partnership area, residents, City staff members including the Police Department and Mayor's Office representatives assigned to the particular Partnership, City Council representatives and business people. In addition to regular business of the group, most Partnership meetings include informational presentations from City departments or other community groups. City Utilities actively seeks out opportunities to discuss various topics with Area Partnerships.

   In addition to rates, City Utility managers have spoken at Area Partnership meetings about topics such as: sewer and stormwater regulatory requirements, combined sewer overflow management plans, drinking water quality, flood control efforts, watershed management, sewer backups, problems caused by grease in sewers, proposed projects that may affect utility service or transportation corridors, major infrastructure improvement projects (such as sewage treatment or water filtration plant improvements) and programs to assist customers in paying their utility bills.

2. Neighborhood Associations

Fort Wayne has about 450 organized neighborhood associations. The majority of the associations have officers and hold at least annual meetings. Many of the associations publish neighborhood newsletters. Neighborhood Associations frequently lobby City departments for programs or projects to improve their neighborhoods. Neighborhood Associations are given an opportunity each year to submit requests to the City to have CEDIT dollars spent on neighborhood projects. As outlined above, neighborhood associations are grouped into Area Partnerships. City Utilities representatives usually speak to Neighborhood Associations when requested to do so by the individual association.

In addition to the topics mentioned in the section above on Area Partnerships, City Utilities managers have spoken at Neighborhood Associations meetings about topics such as: stormwater drainage complaints, storm drain marking, how utility bills are calculated, easement acquisition, detention pond maintenance, downspout disconnection, proposed projects including sewer line extension to replace septic systems, storm drainage installation and water line installation.

3. Association Presidents

Each month, the presidents of Fort Wayne's Neighborhood Associations meet with City representatives to learn more about City projects and programs and to improve their leadership skills. City Utilities managers frequently attend these meetings to give a very short (2 – 3 minutes) "teaser" about a utility topic that could be discussed at an association meeting.

These "previews" have included such topics as: storm drain marking, ways to keep fats, oils and grease from going down the drain (fat free sewers), best trees to plant to keep roots from clogging sewers, drinking water quality, environmentally friendly landscaping, what to do if you can't pay your utility bill, combined sewer overflows, rate increases and other topics similar to those presented to Neighborhood Associations.

4. Community Services Council

The Community Services Council is another portion of the community-oriented government model that includes Neighborhood Associations and Area Partnerships. The Community Services Council is a group comprised of the Presidents of the four Area Partnerships along with representatives of other community organizations. The Council examines policy issues and helps to determine issues that should be addressed by City, County and other agencies working with citizens.

City Utilities has typically addressed the Community Services Council about water, sewer and stormwater rate increase proposals and other topics that may have a significant impact on the long-term health (physical and financial) of the community.

5. Sewer Advisory Group and Stormwater Subcommittee

In 1995 after several heavy summer storms that caused sewer backups, Fort Wayne City Utilities created a sewer task force as a mechanism for creating a dialogue with the community about how much money should be spent to reduce the possibility of having combined sewer backups into homes and businesses. The Task Force developed a set of recommendations for prioritizing sub-basins to receive infrastructure investments. The Task Force recommended that City Utilities should spend $90-million on combined sewer capacity improvements. The Task force also recommended that City Utilities should work with a citizen advisory group on an on-going basis to involve citizens in making decisions about future regulatory programs and infrastructure investments. Thus the Sewer Advisory Group (SAG) was implemented in 1998 and has been meeting either quarterly or bi-monthly since that time.

The Stormwater Subcommittee of the SAG was created in 2005 to help involve citizens in how stormwater quality improvement programs should be implemented locally.

City Utilities managers have talked with the SAG and Stormwater Subcommittee about issues such as: how to present sewer and stormwater rate increases to the community, priorities for sewer maintenance programs, priorities for infrastructure investments, fat-free sewers, sewer friendly trees, storm drain making, stormwater regulatory requirements, stormwater ordinance changes to implement regulatory programs, how to assist citizens who are having trouble paying their bills, the impact of utility rates on people with limited incomes. SAG members are also regularly asked to speak to neighborhood groups and to City Council members about utility issues. They are always invited to project kick-off events and ribbon cuttings for utility infrastructure improvement projects.

6. Ad Hoc Task Forces and Advisory Groups

City Utilities mangers regularly convene groups of citizens and staff members to discuss how specific projects can best be implemented. Ad hoc groups are typically created to help City Utilities gain neighborhood acceptance of a project or when citizen input will be vital to the success of a program or initiative. Most recently the Curdes Avenue Task Force developed recommendations on how combined sewer overflow and basement backup issue could be addressed in their neighborhood. In the recent past, a citizen group assisted City Utilities with design and marketing of the concept of a constructed wetland at the Camp Scott site.

7. Social Service Organizations

As utility rate rise, area social service agencies have received and will in the future receive more requests for assistance from citizens who are having difficulty paying their bills. City Utilities managers – especially those from the Customer Relations Department – meet regularly with organizations such as the Township Trustees, Salvation Army, Catholic Charities, Lutheran Social Services and others to discuss

8. Associated Churches

Associated Churches is a social service organization that assists individual citizens, but it is also an organization that represents the interests of many churches in Fort Wayne. Churches often have limited income but may have large buildings and high utility bills. In Fort Wayne the Associated Churches organization works to safeguard its members against what it sometimes perceives to be water, sewer and stormwater rate increases that are unfair to non-profit organizations. For this reason, City Utilities is careful to meet with the organization prior to introducing rate increases to explain the reason that the increase is necessary and how large users can manage their bills. The group is also keenly interested in stormwater regulatory issues because of the impact they could have on large churches with large parking lots that potentially produce a huge amount of stormwater runoff.

9. School Corporations/Students

For some of the same reasons outlined in the discussion of Associated Churches, City Utilities managers regularly talk with officials of the four school corporations in City Utilities' service area. Because school corporations rely on tax revenue to pay their bills, they have a keen interest in how utility rate increases will affect them

City Utilities managers also work with school curriculum mangers and with individual teachers to make them aware of educational resources that City Utilities can provide such as field trips to utility facilities, curriculum modules on wetlands, watersheds, water resources and drinking water. When invited, City Utilities managers speak to classes and school groups about water treatment, drinking water quality, watershed issues and sewage treatment. For more than 10 years, City Utilities managers have judged entries in the Northeastern Indiana Regional Science Fair and presented awards form City Utilities to deserving projects that focus on a water resources topic.

10. Fort Wayne Board of Public Works and Stormwater Management

Under Indiana law, the Board of Public Works and Board of Stormwater Management are responsible for establishing policies, rules, regulations and operating procedures for the water, sewer and stormwater utilities. The Boards also review and approve all contracts for professional services and construction of utility infrastructure. The Boards establish budgets for the utilities and recommend rates to City Council.

City Utilities managers appear before the Boards on a weekly basis to present information and seek approval of utility policies and contracts.

11. Fort Wayne City Council (and committees)

The Fort Wayne City Council is responsible for approving rates and charges for the water, sewer and stormwater utilities. Also, City Council is responsible for the ordinances that enable the utilities to bill customers and perform collections. Local ordinances also establish the authority that allows City Utilities managers and staff to implement programs to regulate how utility services are used.

City Council has several standing committees that hear proposed legislation and make a recommendation to the full Council to pass the legislation or not.

12. Mayors/Town Councils of Other Communities

Fort Wayne's Water Pollution Control Utility provides sewage treatment to four communities within Allen County under terms established in Water Pollution Control Agreements. City Utilities managers meet with Mayors and Council members from these communities when sewer rate increases are proposed that will affect the cost of sewage treatment or when contract renewals or amendments are necessary. When a community served by Fort Wayne wishes to expand its sewer system to serve new areas, Fort Wayne must also sign a certification stating that treatment capacity is available and will be allocated to the wholesale customer.

13. Sewer Districts

Fort Wayne's Water Pollution Control Utility provides sewage treatment service to three regional sewer districts that operate sewer collection systems in Allen County. Services are provided under the terms of Water Pollution Control Treatment Agreements similar to the agreements between City Utilities and other municipalities discussed above. City Utilities mangers meet with sewer district representatives when sewer rate increases are proposed that will affect the cost of sewage treatment or when contract renewals or amendments are necessary. As with other municipalities, Fort Wayne must sign off on capacity allocations when sewer districts want to serve new areas.

14. Chamber of Commerce and Other Business and Economic Development Groups

Businesses in Fort Wayne, like churches and schools, are particularly attuned to how proposed utility rate increases or regulatory changes will affect their bottom line. City Utilities managers actively seek out opportunities to talk with the Chamber of Commerce and other business groups when rate increases are proposed or when any program changes will affect businesses.

In addition to the Chamber of Commerce, a number of small business organizations exist in Fort Wayne such as the Metro Business Group and Southside Business Association. The Economic Development Alliance is a quasi-governmental entity created as a cooperative effort of the City of Fort Wayne Allen County and the Greater Fort Wayne Chamber of Commerce. The Alliance works to retain existing businesses and jobs and to bring new businesses to the community.

15. Apartment Owner's Association

Large apartment complexes pay some of the biggest customers of the Fort Wayne water, sewer and stormwater utilities. Like other businesses, apartment complex owners are typically concerned about how utility rate changes and regulatory programs will affect them.

City Utilities managers meet with the Apartment Owner's Association to discuss rate changes and new regulatory requirements. Apartment complexes typically discharge a lot of grease to the sanitary sewer system. Often apartment residents are the first to notice taste and odor issues with drinking water. City Utilities managers frequently communicate with maintenance staff members from large apartment complexes about water quality concerns and sewer system operations.

16. Service Clubs

After neighborhood associations and churches, the groups in which citizens are most likely to be involved are service groups such as Rotary, Lions Clubs, etc. Many community and opinion leaders who may not regularly attend Neighborhood Association meeting do participate in service club meetings for the networking opportunities.

City Utilities managers proactively look for opportunities to address service clubs concerning issues of general community interest such as a rate increase or major environmental initiatives such as combined sewer overflow reduction.

17. Watershed Groups

City Utilities managers participate actively in two local watershed groups: the St. Joseph River Watershed Initiative and the Maumee River Basin Partnership of Local Governments.

The St. Joe Initiative is a non-profit organization that is dedicated to improving the quality of the St. Joseph River while promoting economically and environmentally compatible land uses. The St. Joseph River is the source of drinking water for the Fort Wayne water utility. The Initiative conducts weekly water quality testing at 20 sites on the St. Joe River and its tributaries. The Initiative also conducts extensive outreach/education efforts and works with agricultural producers in the St. Joe watershed to encourage the use of conservation practices. City Utilities provides direct financial and in-kind support for the Initiative and holds a seat on its Board of Directors.

The Maumee River Basin Partnership of Local Governments (MRBPLG) is a networking organization that brings together representatives of communities within the Maumee River watershed. The Maumee River is the largest tributary to the Great Lakes and has the largest watershed in the Great Lakes basin. Maumee River communities work together through MRBPLG to share resources and data, to coordinate regulatory compliance efforts, to share technical resources and to lobby. "Core cities" including Fort Wayne and New Haven in Indiana and Toledo, Defiance, Bowling Green, Perrysburg, Lima and Paulding in Ohio fund the effort. Fort Wayne City Utilities managers co-chair the group and regularly speak at meetings about Fort Wayne's stormwater quality management efforts, combined sewer overflow reduction efforts, drinking water quality programs and outreach/education programs.

18. Professional Associations and Industry Organizations

City Utilities managers participate in a variety of national and state professional organizations including the American Water Works Association, American Public Works Association, Association of Metropolitan Sewerage Agencies, Water Environment Federation, Indiana Water Environment Association and its subcommittees, Indiana Association of Stormwater and Floodplain Managers and its subcommittees and the City-County Communication and Marketing Association.

Representatives from Fort Wayne regularly speak to these and other industry organizations about Fort Wayne's experiences with utility rate setting, regulatory program implementation, and public involvement and community outreach/education efforts.

19. Community Events

City Utilities managers participate in many community events where opportunities exist to share information about City Utilities' programs. Some of these events include: Three Rivers Festival Kids Fest, Allen County 4-H Fair, Fort Wayne Home and Garden Show, Earth Day Festival and Johnny Appleseed Festival. Topics addressed include: drinking water quality, what are CSOs, things citizens can do to improve stormwater runoff quality, benefits of wetlands, what is a watershed, how to build a rain garden in your yard, availability and use of biosolids, and environmentally friendly landscaping.

City Utilities has also organized events to showcase its own programs including: open house at Camp Scott Wetlands, Water Filtration Plant Open House and National Drinking Water Week activities in schools.

2.1.4.1 WPCM Customer Service

WPCM operates an effective customer service and public relations program to ensure that City Utilities address all incoming inquiries, requests, and complaints in a timely fashion. The following describes the process by which an employee handles "Service Request" or "Complaint" calls:

"Service Request" or "Complaint" calls are those initiated by the public in response to sewer-related problems. Typically those may include water-in-basement complaints, or reports of sewage in streets. In many instances these calls end up being false alarms in that no real problem is occurring and the caller only perceived that a problem was occurring. In other instances, WPCM finds that the customer's concern is due to problems with building service lines (e.g. building service lateral) on private property or a privately-owned sewer line.

Although not all "Service Request" or "Complaint" calls are actual emergencies, all require a prompt response. The process utilized by WPCM to respond to "Request for Service" or "Complaint" calls is defined in the Process Flowchart. Each step of the flow chart is described in Exhibit C. This procedure is followed for all calls received at WPCM, regardless of whether a sewer overflow has occurred. The "Service Request" procedures outlined in Figure 5-1 provide insight into the coordinated efforts of all members of WPCM and how they work together as an integrated team.

“Service Request” calls also provide WPCM with valuable information. For example, a sewer line may need frequent root removal. By tracking “Service Request” calls, WPCM may determine that, a particular line should be added to the pool of root removal project sites and scheduled in the future for preventive maintenance.

Homeowners are notified by City personnel when their properties may be affected by construction. If extensive field work will be done, the City will notify the public of major construction or maintenance work by the following means:

- Door hangers
- Newspapers
- Local TV news
- Fliers
- Signs
- Utility bill stuffers
- Neighborhood Associations

The City also distributes information on cleanup and safety procedures following basement backups and other overflows.

2.1.5 MANAGEMENT INFORMATION SYSTEMS

In November 2006, the City began a migration from its original Infrastructure Management System (IMS) to the Hansen Information System™. Tracking of complaint calls coming into WPCM, as well as work performed by the field crews, has long been accomplished via the IMS system but are to be recorded in greater detail with the Hansen™ system. The migration of data, and the resulting workflows, is not yet complete. Essential functions are being tracked appropriately but not all sewer assets (mains, structures, etc) have been completely input into the new system. Preventative maintenance routines are still being generated and tracked in the older IMS system. Data is not being lost – it is just not yet being entered at the detailed level that Hansen™ will allow. All collection system maintenance activities are recorded and tracked in electronic databases (Hansen™, Flexidata™ and IMS). These programs are used together to provide a comprehensive picture of all maintenance work completed in the collection system.

Complaint calls and internal requests (those coming from other City departments) are logged into the Hansen™ system as “Service Requests”. If additional field work is required to address a Service Request, then Work Orders are created in the Hansen™ system. Instructions for creating and/or tracking Complaint Service Requests and Work Orders, as well as scheduled work orders, can be found in the Hansen™ HELP menu. Once the City updates Hansen™ to allow it to track scheduled preventative maintenance, written instructions will be located in the HELP menu as well.

Instructions for scheduled inspections and scheduled monitoring and sampling are maintained by the Program Managers who lead the CSO operations and the Stormwater NPDES programs. The CSO Program Manager also has instructions on compliance and overflow tracking.

Equipment and tools tracking programs are currently being developed. A new storekeeper has been hired and been tasked with developing and establish this program. The storekeeper is also responsible for entering inventory materials purchased into the Hansen™ system. Materials used on the jobsites are tracked when the corresponding Work Orders are closed out in the Hansen™ system.

2.1.5.1 Mapping

The City's Geographic Information System (GIS) is a mapping system which includes natural features (rivers, topography, land use), utility information (sewers, manholes, water mains), and property information (property lines, right-of-way lines, addresses, and street segments). The City Utility's GIS Department operates and maintains both the Hansen™ System and GIS as they relate to City Utility infrastructure.

The City's GIS tracking began in 1985 with the tabular, attribute-based (no graphics) IMS for street segments, water, and sewer mains. In 1990, a City GIS Department was formed and created a cadastral base map. The City began a mapping venture with the local gas company to create a digital version of the City's then-existing manually-drafted base map. By late 1992, a digital base map was created, and then underwent 2 years of updates and aesthetic changes. The digital base map data has a high degree of relative and temporal accuracy, with a varying degree of absolute accuracy (+/- 40 feet). These accuracies have made the City's GIS a very productive, successful and expanding project.

WPCM Service Request and Work Order data recorded in Hansen™, and various other tracking systems, can be linked to the City's GIS via unique structure identification numbers or the street address associated with those records. Because of this, GIS analysis is available for looking at numerous themes including but not limited to: complaint call locations, maintenance (reactive and proactive) activity locations, repairs and replacements in the collection system, pipe condition assessment ratings, pipe attributes (age, material, diameter), etc.

2.1.6 SSD NOTIFICATION PROGRAM

In cooperation with the EPA and IDEM, the City has identified 4 SSD systems where sanitary sewer discharges occur. Those 4 areas are generally identified as Devonshire, Warfield, Rothman and North Maumee, and collectively include twelve structures. Eleven of the twelve are listed as sanitary sewer discharge points in the City's current NPDES permit (the twelfth has been eliminated).

The City reports discharges from its sanitary sewer system to IDEM in accordance with its NPDES permit. Receiving waters, if any, are identified within such reports, and records of the reports are kept by WPCM. The City reported a total of 32 sanitary sewer discharges in 2005 and 2006. As the agencies are aware, recent judicial decisions, including the U.S. Supreme Court's decisions in *SWANCC*, *Rapanos* and *Carabell*, have resulted in a significant lack of clarity as to the scope and meaning of the term, "Waters of the United States" as used in the Clean Water Act. In *Rapanos* and *Carabell*, no clear majority of the Justices could to agree on the meaning and scope of "Waters of the United States." Due to this lack of clarity, the City is unable to specify which of its reported sanitary sewer discharges have reached waters that are considered to be "Waters of the United States."

When an SSD occurs, the City reports the date, time, location, cause, volume of the overflow, how it was stopped and any remediation actions taken. The City continues to visually inspect all 11 structures on a daily basis according to the schedule previously agreed upon between the City, IDEM and the EPA. The City documents the results of those visual inspections and reports any identified SSDs to IDEM and EPA.

2.1.7 LEGAL AUTHORITY

Fort Wayne provides sewage treatment for 14 satellite collection systems. Those systems are operated by other municipal sewer utilities (4), a private utility company (3), or regional sewer districts (7).

The following describes the total area in each satellite community that contributes flow to the Fort Wayne collection and treatment systems.

Wholesale Customer	**Service Area Acreage**
Leo-Cedarville Regional Sewer District	12,700
Town of Huntertown	11,635
City of New Haven	11,110
Arcola (Allen County Regional Sewer Dist.)	9,196
Maysville Regional Sewer District	7,672
Town of Grabill	3,131
Town of Zanesville	1,078
AquaIndiana – Pine Valley	485
AquaIndiana – Clearwater	474
AquaIndiana – Lake River Estates	285
Hessen Cassel (Allen County Regional Sewer Dist.)	278
Muldoon (Allen County Regional Sewer Dist.)	264

Mayhew (Allen County Regional Sewer Dist.)	144
Canyon Run (Allen County Regional Sewer Dist.)	136

Satellite communities are required to enter into an agreement with the City. Each "wholesale contract customer" relationship is governed by a contract document (copies of such documents have previously been provided to EPA and IDEM for illustrative purposes). The contracts have similar requirements and terms. Provisions regarding expiration dates, service area size, volume and peak limits and reopeners vary by customer. Each contract contains a provision requiring the wholesale customer to adopt its own sewer use ordinance and providing for the City's review and approval of such ordinances. Nonetheless, the City does not own or operate the sewer systems of its wholesale contract customers. Rather, such customers independently must maintain and operate their sewer systems up to the point of connection with the City's SSS. Accordingly, the City's CMOM program does not apply or concern sewers owned or operated by the City's wholesale contract customers.

Most of the contracts extend for 20 years from the initial effective date. Each allows for contracts to be modified by agreement of the two parties. Contracts that have been recently renegotiated contain provisions for periodic reopeners to discuss specific provisions. Each contract also allows for Fort Wayne to adjust wholesale sewage treatment rates by ordinance.

Each contract contains either a 90-day average volume limit or an instantaneous peak flow limit. The contracts provide financial penalties when either the volume limit or peak flow limit is exceeded.

Fort Wayne uses three documents to implement standard and requirements for inspections and new connections. First, the City's Sewer Use Ordinance (SUO) provides that the Board of Public Works shall adopt General Rules and Regulations for the Water Pollution Control Utility as well as standards and specifications. The Board of Public Works has adopted Rules and Regulations (most recent update effective May 15, 2002) that specify processes for inspections and approval of new connections. The Board of Public Works has also adopted a Development Criteria/Standards Manual that sets standards and specifications for sewer construction and connections to the public system.

All of the contracts with satellite communities currently contain provisions under which the satellite operator authorizes City Utilities to be the authority for industrial and commercial discharge limits. Therefore, the limitations stated in Fort Wayne's SUO apply to wholesale contract customers unless they chose to enact more stringent requirements.

Because it is made contractually applicable to the City's wholesale contract customers, the City's SUO requires wholesale contract customers to issue control permits for significant industrial users (SIU). The SUO contains provisions for addressing excess strength of waste surcharge from satellite communities[1]. Wholesale contract customers are treated as commercial accounts and are subject to quarterly effluent quality testing and follow up compliance through testing in the case of an exceedance. Strength of waste surcharges are applied to these contract customers as described in the SUO.

2.2 COLLECTION SYSTEM OPERATION

2.2.1 BUDGETING

The Budget is one of the most important variables in the CMOM program. The City's wastewater utility budget includes treatment, maintenance, engineering, overhead and administration costs.

2.2.1.1 Rate Analysis

Rate studies identify funding requirements necessary to operate the City's overall wastewater system and implement its overall wastewater Capital Improvement Program (CIP). The CIP includes combined sewer overflow controls, improvements to wastewater treatment facilities, pumping stations, sanitary sewer rehabilitation, construction of new sanitary sewers to ensure adequate capacity, and sanitary/storm sewer water quality projects. The City increases rates in two ways; 1) cost of service studies and 2) across-the-board increases. Cost of service studies are more precise but are more costly and time consuming to prepare than across-the-board increases. Across-the-board rate increases generally raise rates for all classes of customers while cost of service studies impact each customer class to varying degrees.

The City typically alternates between cost of service studies and across-the-board increases to balance the cost of rate cases. This pattern also recognizes that fundamental cost patterns don't change rapidly. The City enacted rate increases in 1997 (35.84%), 2001 (38.00%) and 2007 (25%). The 1997 increase was based on a cost of service study and the 2001 and 2007 rate increases were based on an across-the-board application.

2.2.1.2 Basis Of Rates

The basis for billing in wastewater utility for majority of customers is usage based on water consumption metering. In addition to wastewater charges based on water consumption, industrial and commercial customers pay additional surcharges for strength beyond that of

[1] City of Fort Wayne Code of Ordinances: Chapter 51 Sewers, Excess Strength of Waste Surcharge is defined – In the event a contract customer user contributes waste having a toxic strength in excess of domestic waste characteristics, as hereinbefore define, a surcharge based on the following unit process charges will be in effect for all waste found to be in excess of limitations.

normal sewage. Surcharges are applied for suspended solids, the higher of biochemical oxygen demand (BOD) or chemical oxygen demand (COD), ammonia nitrogen and Phosphorus. Surcharges for each are as follows:

- Suspended Solids - $0.0943 per pound in excess of 300 mg/l
- BOD - $0.1955 per pound in excess of 300 mg/l
- COD - $0.0978 per pound in excess of 600 mg/l
- Ammonia Nitrogen - $0.2862 per pound in excess of 25 mg/l
- Phosphorus - $1.3271 per pound in excess of 10 mg/l

The City imposes various other charges related to sewer service. Restaurants attract a 25% extra surcharge anticipating a standard BOD load. Wholesale contract customers' rates are based on the same cost allocation principles used during typical cost of service studies and result in common treatment rates but varying conveyance rates. Customers connected to certain developer-installed interceptors pay capital surcharges until the installation cost is recovered.

All setting and rate increases require Board of Public Works and City Council approval.

2.2.1.3 Budget Process

Operating Budget:

In the third quarter of each year, budget templates are prepared for each department along with a budget kick-off memorandum. The budget memorandum describes any budget constraints or conditions that each department must consider as departmental budgets are prepared. The budget template includes the prior year's budget, actual spending for the current year and a space for next year's budget amount. Each department is also given a salary worksheet with current staff, critical employee data and current pay rates. Based on the appropriate assumptions, the salary worksheet calculates the next year's wages and benefits.

A budget memorandum is prepared by each department manager and e-mailed to the budget manager along with the completed budget worksheets. Each budget is entered into the budget portion of the general ledger system. The budgets are uploaded into worksheets for analysis and better quality report presentation. The City Utilities Controller contacts each department and rationalizes the appropriate budget amounts based on prior spending and current operating plans. The Controller presents the budget to the Director of City Utilities and then the Mayor noting revisions, if any. Finally, the Controller presents the budget to Board of Public Works for final approval.

Capital Budget:

Capital budgets cover the next five year's capital expenditures and are refreshed annually. The capital budgets guide the overall improvement strategy and provide essential cash flow data useful in analyzing financing and rate setting needs. Typically, the City distribute its current 5-year capital budget electronically as a spreadsheet. Department managers, with support from engineering staff and guided by operating plans, review and update the data as well as add another year's requirement.

The results are compiled and redistributed. Department managers clarify their changes and explain project justifications in subsequent meetings. The Controller evaluates the cash needs and may put limits on the number or size of certain projects. A final package is assembled and goes through the same steps as the operating budget: reviews by the Director, Mayor and approval by the Board of Public Works.

2.2.1.4 Reporting Analysis

OPERATING BUDGET:

Each month, budgets and actual spending are downloaded into spreadsheets. Variances are computed and the spreadsheets are stored on a shared network drive. An e-mail notifies the department managers that the budgets are available for review and analysis. Variances over a designated amount need to be explained by the appropriate department manager. The budget manager summarizes the results for the Controller. E-mails are exchanged if the variance was unexpected or potentially of a recurring or unmanageable nature.

Most often, spending concerns are addressed before any funds are committed to the issue. Department managers contact the Financial Services Department to discuss any problem requiring funds in excess of budgeted amounts. Budgets are important tools and help formulate responses to day-to-day activities as well as provide context for new or surprising events.

CAPITAL BUDGET:

At any point in time, the City may have over 300 capital projects in progress, valued in excess of $40 million. To manage this large volume of work, City Utilities developed a tracking and reporting tool that refreshes actual spending data daily, compares spending to budget and is available on-line throughout the organization.

Quarterly, senior engineering staff meets with all departments to review progress and budgets for existing projects and to evaluate the need for new projects. Change requests are cataloged and the engineers, department managers and Controller meet again and evaluate the changes for cost/benefit and cash flow. The approved changes are loaded into the tracking and reporting tool and are also loaded into the cash flow projection models.

LONG-TERM BUDGETS:

The Water Pollution Control Utility utilizes a five-year capital budget, which is updated every year. Operating budgets are prepared for the current year. We also have a continuous improvement cycle that starts with a utility-wide Strategic Plan. Three to five year strategic operating plans are developed at the Department level based on the division's strategic plan. The strategic-operating plans include a long term budget section consisting of staffing discussions and targeted budget improvements.

AUDITS:

After the close of each year, the books and records are audited by the Indiana State Board of Accounts. The audit is conducted in accordance with generally accepted audit standards. The audit concludes that the financial statements present fairly, in all material respects, the financial position and change in financial position and cash flows for each major fund of City Utilities in conformity with accounting principles generally accepted it the United States.

Additionally, Fort Wayne's Internal Audit Department conducts operational and financial audits periodically. The Internal Audit group reports to a City Audit Board consisting of business professionals and high ranking city officials.

FUNDING SOURCES:

Funding of CMOM-related activities is derived from a variety of sources including: Water Pollution Control Utility general revenues, state revolving loan funds, revenue bonds and occasionally stormwater utility general revenues. All user fees (rates) and new debt require Board of Public Works and City Council approval. The following paragraphs briefly detail each source.

Water Pollution Control Utility general revenues are collected from sewer user fees. These funds are used to maintain, upgrade and construct new sanitary facilities and infrastructure, contribute to shared general and administrative expenses and fund debt service associated with financing Water Pollution Control Utility projects.

State Revolving Fund (SRF) monies are made available at below-market interest rates to the City through the IDEM and the State Budget Agency. The City pledges repayment of the borrowed SRF funds from future Water Pollution Control Utility general revenues. SRF funds may be used to maintain, upgrade and construct sanitary facilities and infrastructure and address combined sewer overflow issues. Projects that extend sewers for future development are not eligible for SRF funds.

Revenue Bonds funds are derived from publicly issued debt for long-lived facilities and infrastructure projects. Bonding allows for a large infusion of cash to accelerate completion of important infrastructure projects. Future revenues are pledged to pay the debt service on

Revenue Bonds (hence the name "Revenue" bonds). Typically, these bonds have a duration of 15 or 20 years. As a municipal organization, revenue bonds issued by the City are considered tax-exempt and attract lower interest rates than bonds issued by for-profit organizations.

Stormwater Utility general revenues are generated from a fee placed upon all properties inside the City limits. Residential properties pay a flat fee (typically one ERU) and non-residential properties pay based on the amount of impervious surface (multiple ERUs) on their property, minus allowable credits for stormwater controls. Stormwater Utility funds may be used only for expenditures related to the City's stormwater system. Some stormwater system improvements that are completed by the City also benefit the wet-weather impacts on the sanitary sewer system.

2.2.2 WATER QUALITY MONITORING

In addition to effluent and pretreatment monitoring required by the City's NPDES permit, the City conducts river water quality monitoring once a week from April 1 through October 31 at six sites in the three rivers (this sampling is described more fully in the City's LTCP). E.Coli data from the sampling program is generally posted on the City's website cityoffortwayne.org during the recreation season. River sampling is also conducted once a month during the winter months (November through March) in a shared program with IDEM. River sampling is conducted by Fort Wayne's Industrial Pretreatment Section (IPS). Analysis of the monthly sampling events is performed in house and by IDEM with appropriate chain of custody.

Monitoring locations are important in establishing water quality. The safest and easiest access points have been designated on bridges. There are two existing monitoring locations on each river. The sampling sites are located at Harrison St., Anthony Blvd., Spy Run Ave., Ferguson Rd., Landin Rd. and Mayhew Rd. Bridges. Weekly samples are collected at each site to determine water quality. Sampling from these sites provides upstream as well as downstream water quality data. The upstream sampling points are significantly upstream of the City's first CSO discharge point.

As detailed at Chapter 3 of the City's CSSOP, the City thoroughly reviewed its existing pretreatment ordinances and rules, water quality data, and SIU discharge data to determine if SIUs were impacting the water quality of the receiving waters. The review concluded that the City's existing ordinances or rules were adequate and accomplishing intended purposes.

2.2.3 HYDROGEN SULFIDE MONITORING AND CONTROL

Fort Wayne receives very few odor complaints attributable to hydrogen sulfide. The complaints that are received are tracked in the Hansen™ data management system and then mapped in the GIS application.

In order to limit the formation of hydrogen sulfide, the City of Fort Wayne Department of Water Resources Development Criteria / Standards Manual requires all sewers to have a minimum slope that will maintain a flow velocity of 2 ft/sec when flowing full. Minimum slope requirements are found in "Unit III – Sanitary Sewer Design Standards" , Chapter III, Sections 3.8 as shown below:

Hydraulic Design Criteria

General

Manning's Equation shall be utilized to determine the required pipe size and slope. Manning's equation is as follows:

$$Q = \frac{1.49}{n} (A) (r_H)^{2/3} /S^{1/2}$$

Design shall be for full flow at saturation conditions with the following characteristics:

a. Roughness coefficient, n = 0.013
b. Minimum velocity, v = 2.0 ft/sec
c. Minimum pipe size, D = eight inches (8")
d. Minimum allowable slopes

Hydraulic Grade Line

The hydraulic grade line for peak flows shall not rise above the crown of the pipe. If velocity entering a manhole is above critical, the hydraulic grade line must be computed to ensure that service connections will not experience surcharging that causes back-ups. In critical instances or when requested by Water Resources, the hydraulic grade line shall be computed to show its elevation at manholes, transition structures, and junction points. The calculations shall provide for losses at structures and elevation differences. When necessary, the pipe exiting the manhole must be adjusted in elevation to ensure that the energy gradient remains constant across the manhole.

Water Resources shall be consulted when either hydraulic grade line or energy grade line calculations are required.

Velocity

The minimum velocity allowed in sanitary sewer pipes under design flow conditions shall be two (2.0) ft/sec. The maximum allowable velocity shall be 15 ft/sec.

In instances where severe topographic constraints or other unusual conditions result in a design velocity which must be greater than 15 ft/sec, Water Resources must be consulted during design. Special provisions shall be made to protect against displacement by erosion and impact. Specific, written approval will be required for the special provisions as well as for hydraulic design and the pipe material selection.

Slopes

Exhibit III-3-3 defines the minimum allowable slopes for various pipe sizes. These minimum slopes shall be required during design. As-built sewers with slopes less than those defined which result in velocity of flow being less than two (2.0) ft/sec may not be accepted by the City of Fort Wayne.

Slope Between Manholes

Sewers shall be laid with uniform slope between manholes or other junction structures.

Corrosion and odor control programs are in are developed and put in place to solve hydrogen sulfide problems when they exist. Written procedures for applying chemicals have been developed with help from the manufacturer based up on data from each application location.

Through the proactive and reactive closed circuit television (CCTV) programs, all sewer segments showing signs of hydrogen sulfide corrosion are noted by the appropriate defect codes. If segments are corroded to point of possible failure, they are rehabbed/repaired/replaced through the City's Sewer Repair & Replacement Program.

2.2.4 SAFETY

The City's Utility Maintenance Training Coordinator/Program Manager provides training for the WPCM's safety program. Employees are made aware of safe work procedures and specific regulations and policies. These policies and procedures are documented at WPCM.

Safety programs are in place for the following areas:

- Lockout/tagout
- MSDS

- Chemical Handling
- Confined Space Permit Program
- Trenching and Excavations
- Biological Hazards in Wastewater
- Traffic Control and Work Site Safety
- Electrical and Mechanical Systems
- Pneumatic and Hydraulic Systems Safety

Safety equipment necessary for system staff to perform their daily activities and also undertake any emergency repairs include:

- Rubber/disposable gloves
- Confined Space Ventilation Equipment
- Hard Hats
- Safety Glasses
- Rubber Boots
- Antibacterial Soap and First Aid Kit
- Tripods or Non-entry Rescue Equipment
- Fire Extinguishers
- Equipment to Enter Manholes
- Portable crane/hoist
- Atmospheric Testing Equipment and Gas Detectors
- Oxygen Sensors
- H_2S Monitors
- Full Body Harness
- Protective Clothing
- Traffic/Public Access Control Equipment
- 5-minute Escape Breathing Devices
- Life Preservers for Lagoons
- Safety Buoy at Activated Sludge Plants
- Fiberglass or Wooden Ladders for Electrical Work
- Respirators and/or Self Contained Breathing Apparatus
- Methane Gas or OVA Analyzer
- LEL Metering

2.2.5 EMERGENCY PREPAREDNESS AND RESPONSE

The City understands that proper emergency planning and response are important elements of any safety program. An emergency plan has been developed to identify the steps staff should take in the even of emergency situations.

The Fort Wayne Fire Department's Hazmat team responds to all chemical spills within the City's sewer service area. When an incident occurs, the Fire Department contacts WPCM. WPCM assists by providing maps of the sewer and storm system in effort to prevent the spill from entering a nearby waterway. The procedures in the plan are located in Exhibit E. This plan is specific to the collection system and is reviewed annually.

2.2.6 MODELING

The City's overall sewer modeling strategy was initiated in the late 1990s, and began with development of a system-wide planning-level model to support LTCP development efforts. Since then, and as part of the strategy, the City has updated and refined its model in local areas on an as needed basis to support master planning efforts and specific projects and studies. For example, as part of the preliminary design efforts for the City's ongoing Combined Sewer Capacity Improvements Program, the City updates the model for targeted subbasins to support analysis efforts. The northern portion of the collection system model was updated in 2002 as part of master planning and capacity analysis efforts.

The development of the City's original full-system model is documented in the 1999 "Fort Wayne Combined Sewer System Analysis" report. Additional refinements to the model reflecting significant system changes and/or refinements to local calibration, are documented in a series of additional technical memoranda and reports.

As part of its LTCP development the City needed a hydraulic model that could:

- Accurately represent the CSS hydraulics, including backwater effects and surcharging
- Adequately estimate runoff flows influent to the sewer system
- Predict the behavior of unmonitored overflows
- Perform both short and long term simulations
- Assess the effects of control alternatives for the LTCP
- Support an analysis of LTCP controls and their ability to meet the Demonstration Approach and/or Presumption Approach requirements

The City selected XP SWMM modeling software, a complex dynamic model, as the hydraulic model for the collection system. The model includes all relevant hydraulic features, including significant in-system pump stations.

The City's model is a planning-level tool, used to predict a wide range of hydraulic performance measures in the system including peak flow capacity, peak flows, combined sewer overflow frequency, volume, etc. This information is used directly in the City's wet-weather planning efforts and also supports informed decisions on system growth, operation, maintenance and design.

2.2.7 ENGINEERING DESIGN & CONSTRUCTION

2.2.7.1 Design Standards

City Utility's Water Resources departments are involved in the design and permitting process for new sewer infrastructure construction and sewer connections. Guidelines and basic design criteria and standards for the installation of new sewers, pump stations, City infrastructure projects, and other related items are specified in:

- City of Fort Wayne, Department of Water Resources Development Criteria/Standards Manual, January 2002 (Development Criteria/Standards Manual).
- City of Fort Wayne, Department of Water Resources Design Manual – Volumes 1-4
- Water Pollution Control Utility General Rules and Regulations
- Applicable State requirements for sewer main extensions under Indiana Administrative Code, Title 327, Article 3.

Generally stated, the Development Criteria/Standards Manual:

- Enumerates general standards that have been either commissioned or authorized by local and state agencies to facilitate Water Resources compliance with local, state and federal regulations.
- Identifies submittal requirements and procedures for the review of private infrastructure projects within the service areas for the individual departments within the Department of Water Resources, specifically Development Services.
- Serves as a reference document for developers and engineers to define review procedures and design requirements, hence facilitating the approval of infrastructure projects.

The Design Manual further details design procedures and methods, provides more comprehensive design guidelines and methodology, provides more discussion of intent, and contains various computation worksheets to assist in infrastructure design. The Development Criteria/Standards Manual is intended to be used in conjunction with the Design Manual.

The purpose of these design standards is to provide guidance for the design of sanitary sewer systems and pump stations. These standards set forth minimum criteria for the design and construction of all such facilities within the City's jurisdiction.

Compliance with this standard does not eliminate the need to comply with other applicable City, County, State and Federal ordinances and regulations. This includes, but is not limited to, the submission and approval of preliminary and final subdivision plats, IDEM permits (IDEM or City issued) for sanitary facilities construction, building and zoning permits, construction inspections, appeals, and similar matters.

The design of an expansion to or extension of the sanitary sewer system in Fort Wayne, whether privately-owned or publicly-owned, requires the approval of the following agencies:

- City Utilities
- Indiana Department of Environmental Management

2.2.7.2 Easements

All public sanitary sewers and City-owned pump stations must be constructed in public right-of-way, easements, or on publicly-owned or City Utilities-owned properties.

2.2.7.3 Inspection

Inspections are accomplished through professional service agreements with outside contracted inspection services providers. Inspectors ensure projects are constructed to City specifications, keep daily logs as well as test reports that are turned over to the City when the job is complete.

2.2.8 PUMP STATION OPERATION

City WPCP staff operate, maintain, and perform minor repairs to all 34 city-owned sewage lift stations. Exhibit F illustrates the location of all 34 sewage lift stations. Due to the specialized nature of work, duties are divided into mechanical and electrical categories and performed by their respective crews. Variations in equipment type, configuration, and physical environment, determine station design and O&M requirements.

2.2.8.1 Inspection

There are two, two-person mechanical crews who are charged with visiting every lift station at least twice per month. A three-person electrical crew visits every lift station monthly, at a minimum. Station visits generally consist of inspection and preventative maintenance work on equipment and systems. Details of the work performed are summarized on standard log forms.

2.2.8.2 Engineering

City Utilities Planning and Design Services department (PDS) provides nearly all engineering, studies, and capital planning for existing lift stations. Capital planning has identified and prioritized most major repair/replacement activities thru 2010. Since 2003, nearly half of all lift stations have received major mechanical improvements. Three stations are currently being studied for possible elimination.

2.2.8.3 Response

By the end of 2007, 32 of 34 stations will have backup power capabilities. Most stations have a portable generator receptacle; two have dual electrical feeds; seven have a generator on-site. The WPCP has two 300kW portable generators and two 6" portable diesel pumps for bypass pumping in the event of emergency. All stations are equipped with audible and visual failure alarms. 33 of 34 stations are equipped with Supervisory Control and Data Acquisition (SCADA) telemetry.

2.2.8.4 Record Keeping

Inspection logs filled out by the mechanical and electrical crews are kept at the WPCP. The 33 sewage lift stations in the SCADA system are monitored by an operator at the WPCP. The SCADA system detects pump run times, faults, high level alarms, power failures, intruder alarm, and on-site generator activity. All data is stored using Proficy™ Historian software system.

2.3 EQUIPMENT AND COLLECTION SYSTEM MAINTENANCE

The City has a comprehensive equipment and collection system maintenance program. The system is maintained by both WPCM and WPCP staff on a daily basis. The maintenance activities of each (WPCM and WPCP) are detailed separately below.

2.3.1 WPCM PLANNED AND UNPLANNED MAINTENANCE

Although many of these tasks can be considered preventative or reactive, others are "emergencies" and cannot be anticipated. City Utilities is aware that its reputation, in the eyes of the public, often depends on how it responds to such "emergencies". The majority of preventative or proactive work done by the WPCM is to address potential problem areas in the collection system before they become "emergencies". WPCM expends a significant effort in the following work areas:

- Root and debris removal;
- Internal inspection by closed circuit television (CCTV) to detect pipe defects before they become failures;
- Grease removal;
- Caller complaint investigation;
- Construction activities (main and structure repair/replacement).

2.3.1.1 Preventive Maintenance

Although City Utilities recognizes that some maintenance emergencies are inevitable, it places a premium on preventive maintenance to minimize the occurrence of future "emergencies."

Many of the programs administered by WPCM were introduced in Section 2.1.1 along with a brief discussion as to which functional area was in principal charge. WPCM relies heavily on the use of CCTV to provide information that drives subsequent maintenance activities.

For the purpose of preventive maintenance, WPCM generally selects lines to be CCTV inspected based on the following:

- Sewers located in areas of reported basement flooding
- Sewers located in areas of repeated requests for service
- Sewers located in areas of planned public improvements

Pipe defect information obtained from CCTV is entered into the City's sewer televising database, and labor and equipment usage for each survey is tracked in the Hansen™ database. The database assists City Utilities in deciding which lines need additional maintenance and repair, what type of action is appropriate, and when this work may be required.

Based on the findings obtained from CCTV, City Utilities may perform one or more of the following activities:

- Perform additional line cleaning/root removal
- Perform minor repairs
- Recommend a Capital Improvement Project

Each of these activities is described further below:

Perform Additional Root Removal and Sewer Cleaning

WPCM will sometimes discover that the available capacity in a sewer line has been reduced by the presence of roots, grease, grit material and other debris. By removing these obstructions, the available capacity in a line can be effectively restored.

Perform Minor Repairs

In other instances, CCTV inspection work will reveal situations where a minor or moderate repair is warranted. Typical repairs performed by WPCM include point repairs on main line sewers, manholes or force mains.

Recommend a Capital Improvement Project

In other instances where the scope or complexity of repairs require engineering design and/or efforts of an outside contractor, WPCM will work with other City Utility departments to formulate a capital improvement project.

2.3.1.2 Reactive Maintenance

WPCM understands that, because the occasional occurrence of emergencies is unavoidable and incapable of anticipation regardless of preventative maintenance efforts, it is imperative to be prepared to properly respond when an emergencies does occur. As discussed in Section 2.1.4, Service Requests are created in Hansen™ , detailing complaint information and field investigation. After the initial field investigation is complete, the field crews and management team work together to determine appropriate next steps to resolve the emergency.

Emergency contractors are used to assist WPCM with larger maintenance and repair projects. A procedure for hiring contractors to perform emergency repairs has been established by statute (IC 36-1-12-2; IC 36-1-12-9). The situations in which emergency contractors are mobilized vary; however emergency contractors are generally used for larger maintenance and repair projects.

2.3.2 WPCP PLANNED AND UNPLANNED MAINTENANCE

WPCP staff are responsible for all in-house maintenance and repair functions at the City's WPCP related to mechanical or electrical equipment. In addition, WPCP employees are responsible for other activities including operating the water pollution control treatment plant, a package treatment plant, the biosolids facilities, the industrial pre-treatment program, the sanitary sewer system and pump stations, and the WPCP laboratory.

More specifically, the WPCP's Maintenance group is charged with the mechanical and electrical maintenance for the WPCP and its appurtenances. Electricians install wiring, calibrate instruments, and maintain instrument and control systems. Two mechanical crews perform preventative and reactive maintenance at the WPCP. The mechanical crew performs preventative and reactive maintenance at the pump stations and mechanical regulators through out the collection system.

Although it is impractical to here detail every function performed by the WPCP maintenance group, the following sections describe the operation and maintenance procedures for the facilities, pump stations, and mechanical regulators respectively. These sections emphasize WPCP capabilities to operate and perform preventive and emergency maintenance.

2.3.2.1 Facility Maintenance

The maintenance of the City's facilities and combined sewer system are detailed in Chapter 1 of the City's CSSOP but, for illustrative purposes, can be summarized as described below.

Preventative Maintenance

Each facility was designed for its own set of site conditions and, therefore, has unique components and maintenance requirements. WPCP's preventative maintenance program is a key consideration during the design and construction of a new facility. The facility's layout and equipment selection are decided with maintenance in mind. At the end of construction, an O&M manual is prepared and provided to WPCP's Maintenance group. Upon receiving the O&M manual, information about parts, maintenance procedures, and maintenance frequency is entered into the City's Computerized Maintenance Management System (CMMS). The CMMS has become a reference for parts and automatically generates work orders for preventative maintenance. The initial maintenance procedures and schedules have been refined by actual experience. Similar information about the City's older facilities have also been input into the CMMS. Preventative procedures and schedules are kept in the WPCP's CMMS.

Emergency/Reactive Maintenance

WPCP operators monitor the status sensors and alarms for the equipment used in facilities. When an unanticipated equipment failure or emergency situation is identified, a walkie talkie is typically used to contact the maintenance supervisor who directs necessary response activities and create a work request in the CMMS. Emergency procedures manuals are maintained at the three plant operators' stations. After the work is completed the activities are recorded in the CMMS.

2.3.2.2 Pumping Stations

The maintenance of the City's pumping stations are detailed in Chapter 1 of the City's CSSOP but, for illustrative purposes, can be summarized as described below.

Preventative Maintenance

A schedule listing the preventative maintenance and inspection frequency is maintained for each station. Preventative maintenance activities typically include, but are not limited to the following:

- Check operation of pumps
- Report pump run times when applicable
- Check floats or float sticks, clean as necessary
- Check wet well and clean when necessary
- Change charts and check ink levels when applicable
- Check for unusual vibration, bearing heat, belt wear, pipe leaks etc.

Records of all preventative maintenance activities are kept on file in the CMMS.

Emergency/Reactive Maintenance

WPCP operators monitor the status sensors and alarms for the equipment used in the pump stations. When an unanticipated needed repair or emergency situation is identified, WPCP staff contact the maintenance supervisor who facilitates the necessary response activities and creates a work request in the CMMS. Emergency procedure manuals are maintained at the three plant operators' stations. After the work is completed the activities are recorded in the CMMS.

2.3.3 SEWER CLEANING

Maintaining a clean sewer is an important part of the preventive maintenance program. Roots, grease, and deposited solids are the most common cleaning problems. Cleaning methods can be grouped into 3 general categories: hydraulic cleaning, mechanical cleaning and chemical cleaning. WPCM uses methods from each of these three categories on a regular basis. Each is discussed briefly below, and Table 3.4 of the Water Environment Federation (WEF). 1999. Wastewater Collection Systems Management, Manual of Practice No. 7, 5th Edition suggests which methods should be used for what types of stoppages.

2.3.3.1 Hydraulic Cleaning

Hydraulic cleaning refers to any application of water to clean SSS sewers. Hydraulic cleaning includes the use of sewer balls, pigs, high-velocity jet nozzles and vacuums. These methods are discussed more fully in Water Environment Federation (WEF). 1999. Wastewater Collection Systems Management, Manual of Practice No. 7, 5th Edition

2.3.3.2 Mechanical Cleaning

The term mechanical cleaning denotes the use of machinery to scrape, cut or pull material out of a sewer. Among the most common methods of mechanical cleaning are rodding, power rodding and the use of bucket machines. These methods are discussed more fully in Water Environment Federation (WEF). 1999. Wastewater Collection Systems Management, Manual of Practice No. 7, 5th Edition

2.3.3.3 Chemical Cleaning

Chemical dosing is an option only after careful observation and planning and close consideration of the problems associated with the process. Chemicals cannot clear sewer line stoppages and are often expensive. Moreover, chemicals used to solve one problem in one location may cause a problem somewhere else. Chemicals can also harm the environment, employees, or the treatment process. Chemical cleaning is discussed more fully in Water Environment Federation (WEF). 1999. Wastewater Collection Systems Management, Manual of Practice No. 7, 5th Edition

2.3.4 PARTS AND EQUIPMENT INVENTORY

An inventory of spare parts, equipment and supplies for WPCM is maintained at the following City locations:

- 520 E. Wallace Street
- 515 E. Wallace Street
- 302 E. Pettit Avenue
- 600 E. Wallace Street

Collection system maintenance equipment and replacement parts are maintained by the City's Fleet Management group. Supplies and material used for collection system repair and maintenance include, but are not limited to, pipe, precast concrete manhole components, castings, fittings, etc. WPCM maintains an inventory of replacement parts. The supply levels and materials usage costs are tracked by the Hansen™ system.

All crews and field personnel are equipped with necessary equipment and tools to perform all aspects of operation and maintenance of the collection system. A list of parts and inventory is located in Exhibit G.

2.3.5 MAINTENANCE SCHEDULING

2.3.5.1 WPCM

All SSS sewer segments are cleaned during structural inspections. SSS sewers are also commonly cleaned as the result of a performance inspection. When these types of inspections identify SSS sewer segments with chronic problems, the segments are put on a regular cleaning list, also known as the scheduled maintenance program. There are lists for grease, roots, and sediment. The frequency of cleaning is dependant upon the type of obstruction and the severity of the problem. In some segments grease removal is required weekly. In others, root removal is required every two years.

2.3.5.2 WPCP

WPCP staff use the CMMS to establish and monitor appropriate maintenance schedules. The initial maintenance procedures and schedules have been refined by actual experience. A schedule listing the preventative maintenance and inspection frequency is maintained for each pump station.

2.4 SEWER SYSTEM CAPACITY EVALUATION – TESTING AND INSPECTION

The primary mechanism to determine the available capacity of SSS sewers is the use of capacity schematics, developed through a combination of the City's hydraulic model and engineering judgment. These schematics show pipe diameter, pipe capacity and peak wet-weather flow under a reference design storm. In addition, the City's hydraulic model and flow metering is used on a case-by-case basis to further investigate capacity and connection decisions. However, the model is not used as the sole determinant in accepting or rejecting new connections.

The following are testing and inspection procedures conducted by the City:

2.4.1 Inspections

Purpose

Inspections can be used to determine the structural integrity of the system's components, performance of the system, or the cause of poor system performance. Manhole inspections, pulling a mandrel through sewers, and CCTV are all used to determine the structural condition of sewers. Metering and user observations are used to detect sewer performance problems. Visual inspections of surface conditions, manhole inspections, smoke testing, dye testing, and CCTV are all used to determine the causes of poor system performance.

Visual Inspection of Surface Conditions

Surface conditions above and/or near buried sewer assets may be used as an indicator of structural problems in the collection system. Sidewalk irregularities, cracked, settled, or dipped pavement, or depressions along the path of a pipe are all common indicators. If a joint is bad or a pipe is broken, wastewater may wash away the surrounding soil and create a cavity beneath the surface. Sometimes the weight of the overlying soil is enough to cause a pipe collapse and a depression at the surface. In easements, these depressions can be seen a flooded or sunken areas along the pipe route.

2.4.2 TESTING

Smoke Testing

In years past, City Utilities contracted with outside firms for most smoke testing. Currently, however, the City is developing an in-house program to assist in the discovery of inflow and infiltration problem areas. Smoke tests reveal roof, footing, and yard drain connections, as well as leaky manholes, cracked and leaky pipes, poor joints, and missing caps.

Smoke testing procedures can be found in Chapter 4 "Methods of Infiltration and Inflow Evaluation" of Water Environment Federation (WEF) 1994. Existing Sewer Evaluation and Rehabilitation, Manual of Practice FD-6, 2nd Edition.

Dye Water Testing

Dye testing is a method used to locate rain or ground water entry points into the SSS. Dye testing with a non-toxic dye is one method used in determining where a pipe or structure drains. This also aids in identifying private and public pipes. Dye testing is also used to identify illegal connections.

2.4.3 SSES - INTERNAL TV INSPECTION

Sewer inspection is an important and invaluable part of the City's maintenance program. The main method of inspecting the sewer collection system for the City is through the use of CCTV.

In 1995, through a Sewer Task Force comprised of representatives of neighborhood associations and City officials, a policy was adopted to clean and televise the City's sewer system. That policy required the City to televise all of the large diameter (+36") sewers and clean and televise all of the medium (16-36") diameter sewers. The small (<16") diameter sewers were to be proofed by means of pulling a wire basket through each sewer segment. This proofing would show only a "Go" or "No Go" situation in the segment. A "No Go" would mean there was a blockage and this would require the segment to be televised to find the blockage and remove it.

The defect-coding system the City had at that time used only 16 defect codes. This limitation precluded the reflection of pipe conditions desired by the City. Consequently, in 1997, the City had a televising software program called "Rapid View" designed, based on the world standard "*WRc*" standard defect coding system. This coding system increased the number of defect codes to be tabulated for sewer segments to 80. The purpose of establishing these defect codes, and using the computer software Rapid View, was to begin setting a "Sewer Condition Assessment Rating" for all SSS segments.

The benefits of having established this rating system in 1997 are many. This rating system allows the City to inventory and assess its SSS. It allows the City to refine its existing, extensive GIS system and improve the accuracy of its mapping system. The sewer condition assessment rating allows the City to repair, replace, rehabilitate, plan and schedule work in the most efficient and effective manner. Prioritizing is crucial to a preventative and predictive maintenance program and to the elimination of SSD's, basement backups and inflow and infiltration removal. Utilizing a condition assessment rating also allows a prioritization of work and shifts maintenance from a reactive to a proactive mode. Fort Wayne's existing inspection and data collection efforts directly support a CMOM program.

Since the initiation of the sewer televising program and condition assessment rating system was established in 1997, the program has continued to be refined and improved. Some of the major improvements that have been accomplished are noted in following paragraphs.

In 2005, the City began process improvements to prioritize the sewers needing to be televised. These efforts resulted in the development of prioritization model and three general phases and/or levels of televising prioritization. City engineering plotted basement backups, basement floods and maintenance calls that occurred from 1995 to 2005 on individual quarter section maps of the City. The locations plotted were per the City's GIS data base according to the address the complaint or call occurred. The sewer segment(s) next to these addresses of calls and complaints were highlighted on the quarter section maps and identified as high priority. In Phase I of televising the City intends to televise the high priority line segments that have been highlighted on the quarter section maps. In addition to complaint data, installation dates for when each sewer segment was constructed were entered into the prioritization model. The resulting analysis indicates that it is not the age of the sewer that is most critical, but the time period when it was originally constructed (certain construction years and/or periods of time consistently have pipe in worse condition than those years around them). After the sewers in Phase I are televised, it is the intent of Phase II to then televise the sewer segments constructed during the years that appear to be the most problematic. Phase III is intended to then televise the remaining pipe in the system beginning with the oldest sewers and continuing through to the most recent. As the sewers are being televised, the Sewer Condition Assessment Rating, as mentioned in above paragraphs will be performed.

In 2006. the City's sewer evaluation program went through another major change. It was decided that City forces would stop proofing small diameter sewers and begin a program of televising all sewers. In this way, a true sewer condition assessment rating could be done for every foot of the SSS. The City also purchased a new televising truck and a new combination jet/ vac truck dedicated to proactive televising so all this work could be done in house, and not contracted out had been in past years.

Also, in 2006, a new computer software program was purchased for the televising. All televising videos are now digitally captured and stored in a computer server, with backup. This eliminates the need for VCR tapes or DVD's. The videos may be viewed on computers throughout different City departments that are involved in the collection system. The new computer software called "Flexidata™" is based on the NASSCO's PACP (Pipeline Assessment and Certification Program) program. This new system, along with the City's PACP coding system, automatically scores each sewer segment on ten attributes: five scores for structural defects and five scores for O&M defects. The PACP coding system uses over 240 defect codes to better qualify the condition of the sewer. This scoring system furthers the establishment of a true sewer condition assessment for every segment in the sewer system. All TV operators are tested and Certified in the use of the PACP ratings.

The PACP coding system uses a 5 point scale for assessing the condition of each pipe: 5 being the worst to 1 being the best. The City has amended that scale and uses a "Red", "Yellow" and "Green" scale. A SSS segment given the rating of "Red" is a sewer that is in poor condition and will be repaired or replaced within the next five years. A sewer segment rated "Yellow" will be re-cleaned and re-televised in ten years to see if it has deteriorated to the point of needing to be repaired or replaced. A sewer segment rated "Green" will be re-cleaned and re-televised in twenty years to see if its condition has deteriorated to the point of giving it a new sewer rating.

In summary, this internal televising inspection and the sewer condition assessment rating system helps manage timely, relevant information to prioritize appropriate maintenance and sewer rehabilitation activities. The City's implementation of the above-described sewer evaluation program is well underway. To date, 940,000 lf of sewers have been given a sewer condition assessment rating.

2.4.4 SURVEY AND REHABILITATION

The City has had an ongoing, budgeted and established sewer rehabilitation program since July of 1998. The program is titled "Sewer Repair / Replacement Program". The program has a Program Manager and a Designer II. In 1998, the Mission Statement for the Repair / Replace Program was established as follows;

> ***"The <u>Sewer Repair Replacement Program</u> is responsible to develop, implement and monitor sewer repair / replacement strategies to identify deteriorating areas of the sewer collection system. It is also to coordinate the review and analysis of sewer maintenance data to select and prioritize sewer repair and replacement projects to solve chronic maintenance problems."***

In 2003, the City performed a "Snapshot-in-time" analysis of its sewer collection system using data collected from 1995 to 2003. Using the GIS system, a count was made of all basement backups, basement floods and all WPCM complaint calls resulting in actual work repairing our sewers in that time period.

The City's wastewater service area is divided into quarter sections. The total calls in that eight year period were attached to their appropriate quarter section. The quarter sections were subsequently prioritized based on the total number of backups, floods and maintenance calls.

The purpose of having such a prioritized list is to approach a large sewer system in the most effective way to find those sewer segments that create blockages or that are in structurally poor condition. By locating and repairing these sewer segments Fort Wayne hopes to eliminate SSDs, basement backups and basement floods and reduce the frequency and costs of emergency repairs. The prioritized list is used to help establish the proactive televising schedule described above and to optimize the use of human and material resources by shifting maintenance activities from reactive to proactive. This leads to savings through avoided overtime costs, reduced emergency construction costs, and the elimination of basement backups and basement floods.

Since the establishment of the Repair / Replace Program in 1998, 304,765 lf (57.72 miles) of sewers, (or 4.5% of the entire system), have been repaired/replaced. The breakdown of repairs is as follows:

Structural Repairs	=	290,853 lft.
I/I Removal	=	13,912 lft

Small diameter sewers	=	164,687 lft.
Medium diameter sewers	=	135,689 lft
Large diameter sewers	=	4,389 lft.

Combination sewers	=	195,955lft.
Separate Sanitary sewers	=	108,810lft.

The City uses various rehabilitation methods to repair of its sewers. The methods that have been used in the past are Cured-in-Place lining, Pipe Bursting, Excavation, GRP (Glass Reinforced Panels) and Horizontal Directional Drilling (HDD).

2.4.5 SEWER CLEANING RELATED TO INFLOW AND INFILTRATION REDUCTION

The City's Inflow and Infiltration Reduction program is prioritized first by major interceptor, then by subbasin, then by minibasin. Cleaning and televising priorities for inflow/infiltration reduction are based primarily on sewer age, pipe material, environmental factors, and flow monitoring. Pipes less than 20 years old and those made of PVC or HDPE are typically given the lowest priority and not cleaned/televised unless other factors warrant such activity.

2.4.6 FLOW MONITORING

City Utilities utilizes flow monitoring for three basic functions: billing, engineering, and CSO monitoring. Nineteen (19) magnetic meters are dedicated to billing large customers.

The City's PDS department uses four area/velocity meters for inflow/infiltration tracking as well as other hydraulic issues that may present themselves. These four meters are installed by WPCM, downloaded and maintained by an Operations Technician from Engineering Support Services (ESS), and evaluated by a Designer or Program Manager in PDS. Data is compared to nearby rain gauges to determine whether I/I exists and whether it is likely to be inflow, infiltration, or both. In addition to City owned monitors, City Utilities sometimes contracts out flow monitoring work for large projects in order to further calibrate the sewer model maintained by Malcolm Pirnie.

2.4.7 MANHOLE INSPECTIONS

There are two types of manhole inspection are performed by the City. The older and more in-depth assessment is performed by City televising crews as part of their normal cleaning operations. Results from these detailed inspection are written on a form and forwarded to PDS where the data is entered into an electronic database. (Eventually, as the Hansen^{TM} Information System migration is complete, the data will be entered directly into Hansen^{TM}.) The database is a useful tool in making design decisions on a variety of projects. Twenty-seven pieces of information are recorded during this type of inspection. This type of inspection is geared more toward noting structural features of the manhole.

The second type of inspection is performed as part of the inflow/infiltration removal program and focuses on areas where inflow/infiltration is known or suspected. This type of inspection is performed by PDS during and just after rainfall events. The purpose is to witness and document rainfall induced inflow/infiltration and groundwater infiltration. Observations are written down and remediation is diagnosed during inspection. Diagnoses are based on location and severity of leaking. Hand written data is then entered into an electronic database where each manhole is placed into one of the following categories: Good Manhole/Do Nothing; Manhole Rehab Contract; Give to Maintenance; and No Access. Once categorized, the appropriate response activity is scheduled and completed.

2.4.8 MANHOLE REPAIRS

Manhole repair work can be generated by WPCM or PDS. Manhole repairs are typically performed either by WPCM or outside contractors, depending on the rehabilitation method, repair environment, and availability of City crews. For structural repairs requiring excavation or I/I repairs on the chimney, WPCM is given the first opportunity to perform the work. If the repair is beyond the means of WPCM, it is combined with similar type work and publicly bid. If a coating system is prescribed, it is automatically bid out.

3.0 CONCLUSION

Fort Wayne's Water Pollution Control Utility is committed to properly manage, operate and maintain the City's SSS. This includes: design, construction, operation, maintenance, and repair of all aspects of the SSS. The SSS is a critical element in the success of wastewater treatment. City Utilities has implemented its CMOM program in an effort to provide/maintain a high level of service to customers while reducing regulatory non-compliance. The City has already been practicing activities that are included in a CMOM program. Consequently, this document largely serves to formalize and consolidate the already existing activities undertaken by City Utilities.

EXHIBIT A-1

Current as of 10/2/07

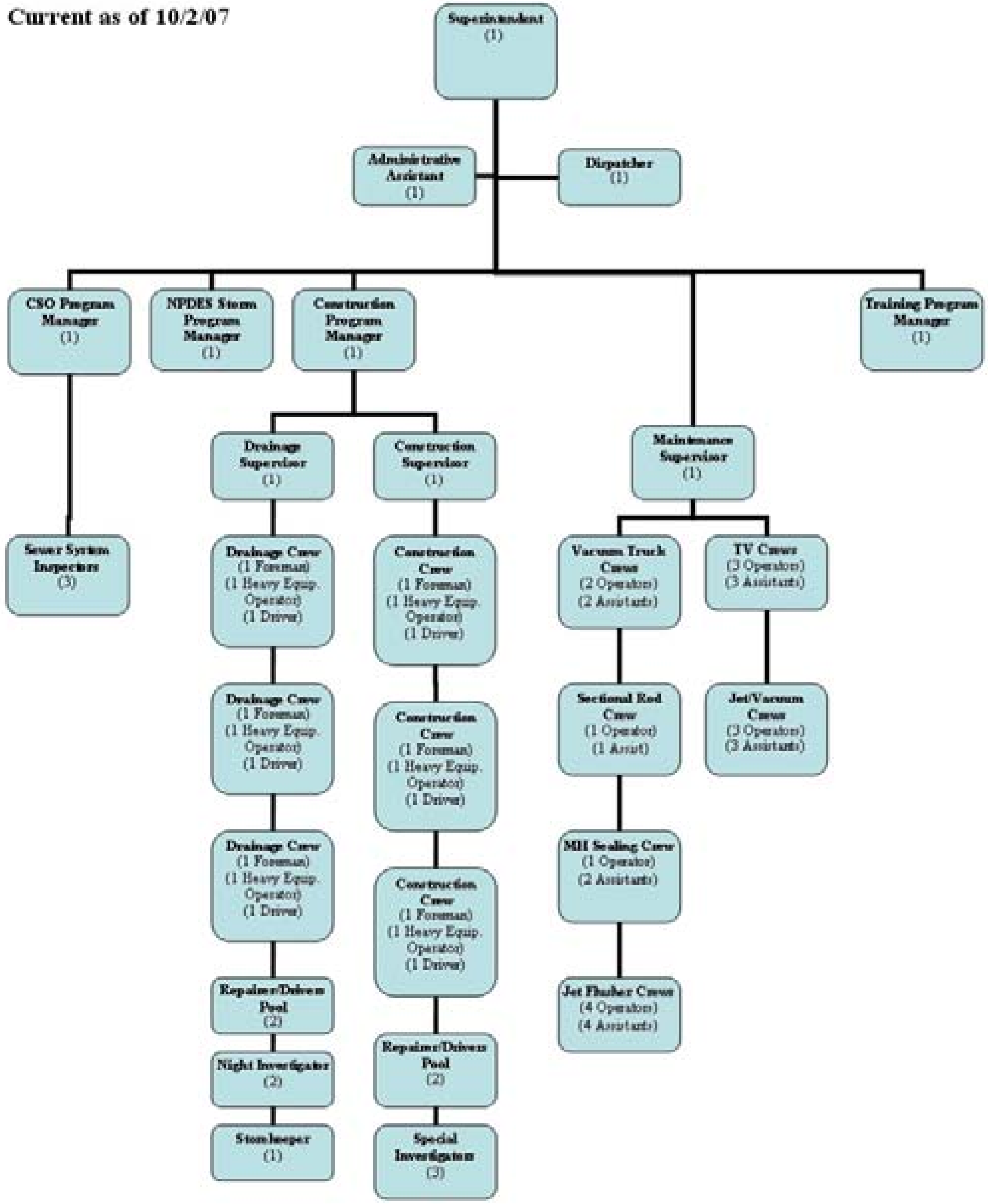


EXHIBIT A-2

WPCP Organizational Chart

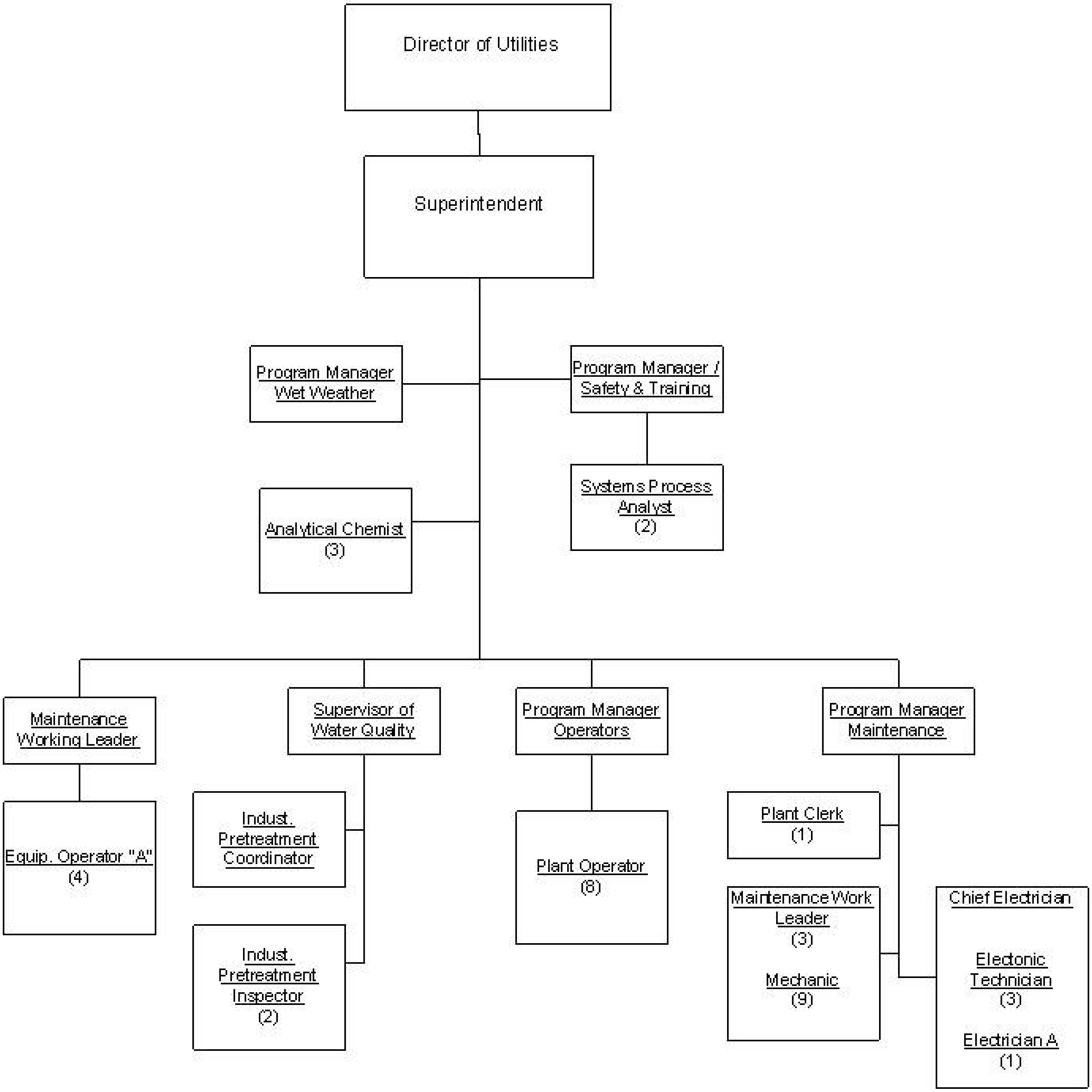
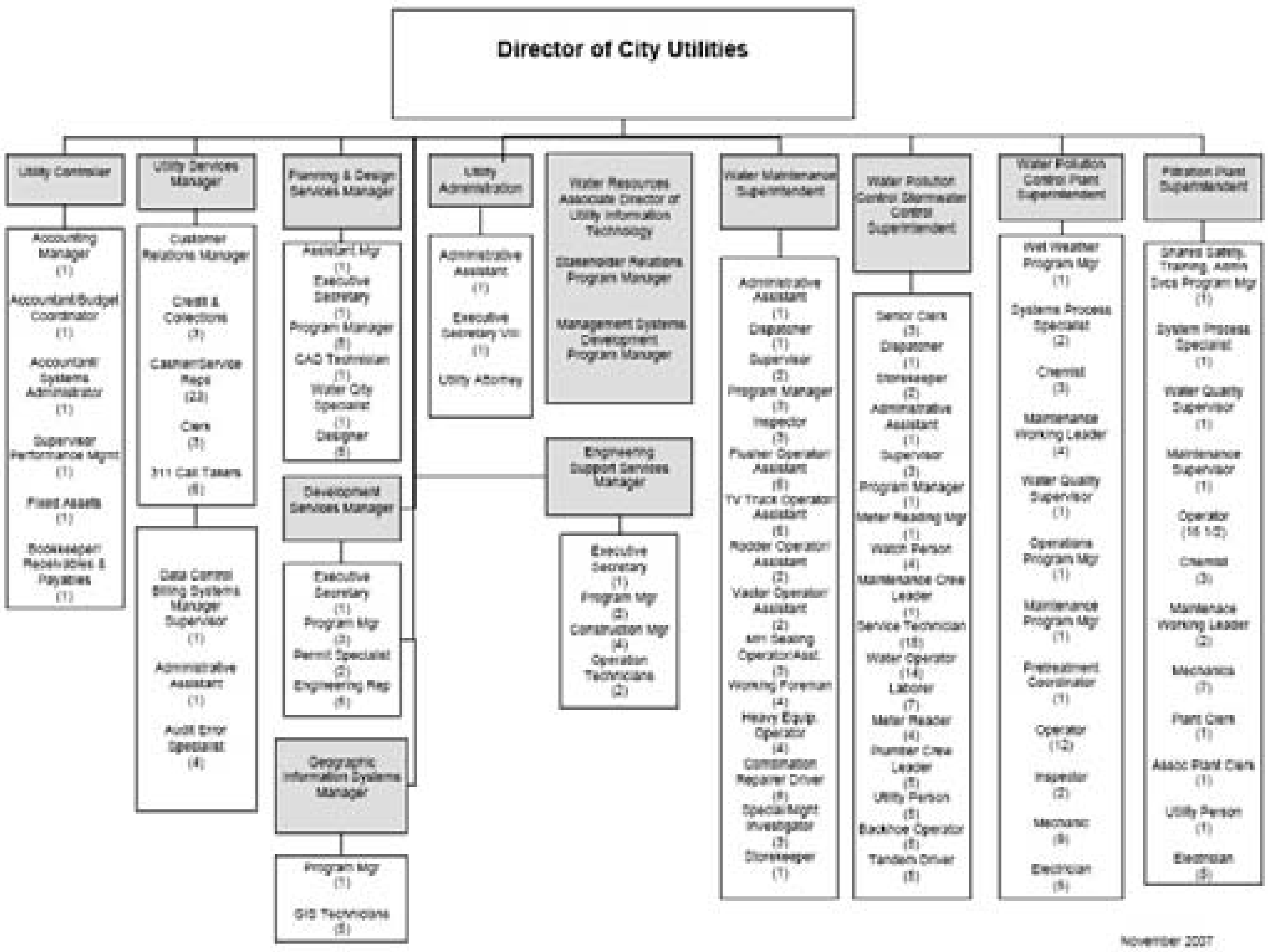


EXHIBIT A-3



Director of City Utilities
Utility Controller
Accounting Manager (1)
Accountant/Budget Coordinator (1)
Accountant/ Systems Administrator (1)
Supervisor Performance Mgmt (1)
Fixed Assets (1)
Bookkeeper/ Receivables & Payables (1)
Utility Services Manager
Customer Relations Manager
Credit & Collections (3)
Cashier/Service Reps (23)
Clerk (3)
311 Call Takers (6)
Data Control Billing Systems Manager Supervisor (1)
Administrative Assistant (1)
Audit Error Specialist (4)
Planning & Design Services Manager
Assistant Mgr (1)
Executive Secretary (1)
Program Manager (8)
CAD Technician (1)
Designer (6)
Development Services Manager
Executive Secretary (1)
Program Mgr (3)
Permit Specialist (2)
Engineering Rep (6)
Geographic Information Systems Manager
Program Mgr (1)
GIS Technicians (5)
Utility Administration
Administrative Assistant (1)
Executive Secretary (1)
Utility Attorney
Water Resources Associate Director of Utility Information Technology
Stakeholder Relations Program Manager
Management Systems Development Program Manager
Engineering Support Services Manager
Executive Secretary (1)
Program Mgr (2)
Construction Mgr (4)
Operation Technicians (2)
Water Maintenance Superintendent
Administrative Assistant (1)
Dispatcher (1)
Supervisor (2)
Program Manager (7)
Inspector (3)
Flusher Operator/ Assistant (6)
TV Truck Operator/ Assistant (6)
Rodder Operator/ Assistant (2)
Vactor Operator/ Assistant (2)
Working Foreman (4)
Heavy Equip. Operator (4)
Combination Repairer Driver (6)
Storekeeper (1)
Water Pollution Control Stormwater Control Superintendent
Senior Clerk (3)
Dispatcher (1)
Storekeeper (2)
Administrative Assistant (1)
Supervisor (3)
Program Manager (1)
Meter Reading Mgr (1)
Watch Person (4)
Maintenance Crew Leader (1)
Service Technician (15)
Water Operator (14)
Laborer (7)
Meter Reader (4)
Plumber Crew Leader (5)
Utility Person (5)
Backhoe Operator (5)
Tandem Driver (5)
Water Pollution Control Plant Superintendent
Wet Weather Program Mgr (1)
Systems Process Specialist (2)
Chemist (3)
Maintenance Working Leader (4)
Water Quality Supervisor (1)
Operations Program Mgr (1)
Maintenance Program Mgr (1)
Pretreatment Coordinator (1)
Operator (12)
Inspector (2)
Mechanic (9)
Electrician (5)
Filtration Plant Superintendent
Shared Safety, Training, Admin Svcs Program Mgr (1)
System Process Specialist (1)
Water Quality Supervisor (1)
Maintenance Supervisor (1)
Operator (16 1/2)
Chemist (3)
Maintenace Working Leader (2)
Mechanics (7)
Plant Clerk (1)
Assoc Plant Clerk (1)
Utility Person (1)
Electrician (5)
November 2007

EXHIBIT B

Functional Areas of WPCM

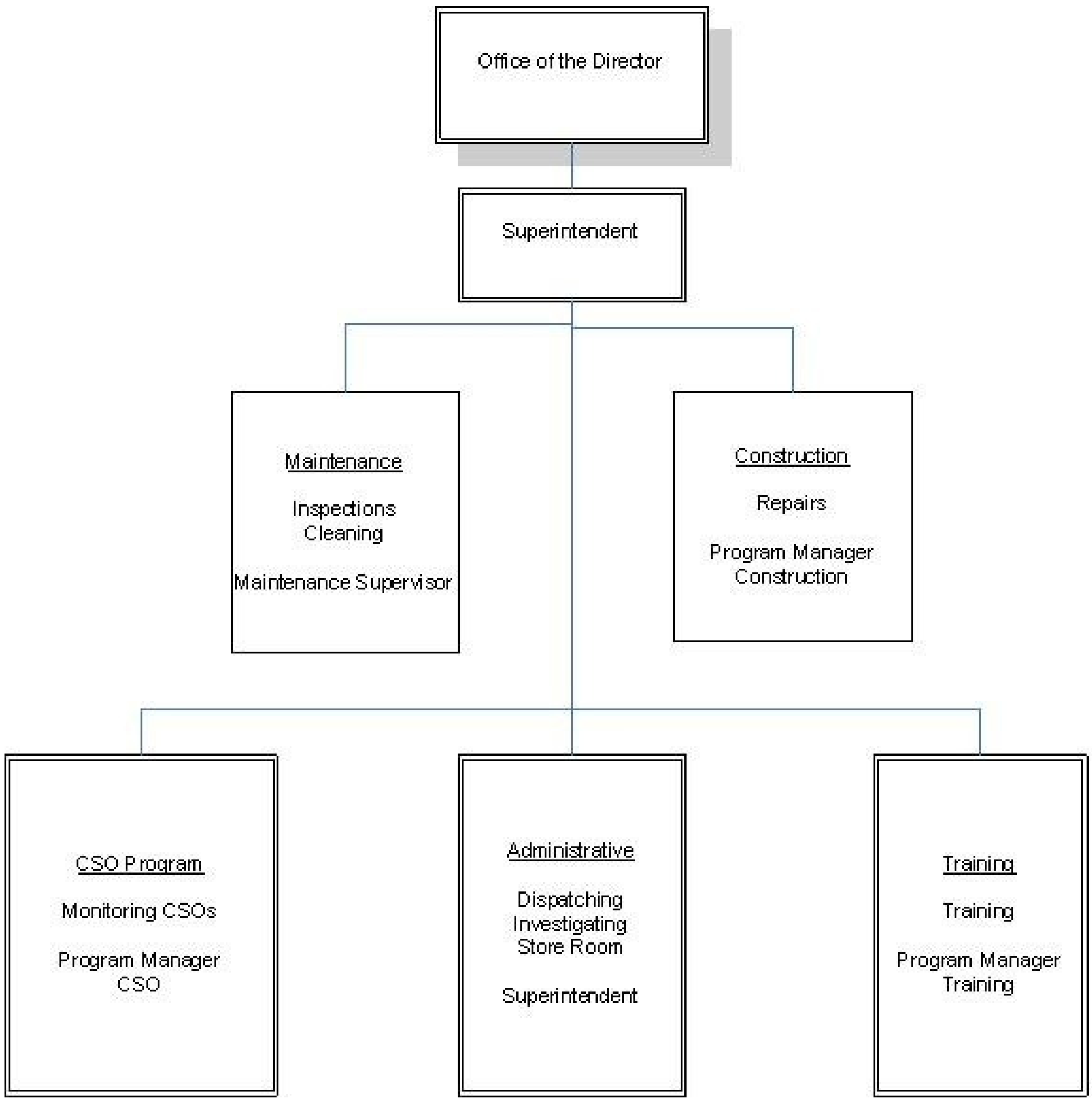


EXHIBIT C

Exhibit C WPCM Call Process

Step 1 – Dispatcher Receives Telephone Call

Request for service calls are received by the Dispatcher at 427-1255. Dispatchers are trained to elicit information on the exact nature and magnitude of the problem, including whether the sewer problem is on private property or in the WPC Utility owned main-line sewer.

Step 2 – Dispatcher Logs Basic Information in Log Book

At this time, the Dispatcher manually logs key information into the "Log Book". Information to be obtained is as follows:

- Name of the person calling,
- Phone number of the person calling,
- Date and time the call was received,
- Location of the problem, and
- Type of problem.

Step 2A – Dispatcher Creates a Service Request for the Investigation

The Dispatcher enters the information from the "Log Book" into the Hansen database and prints a Service Request.

Step 3 – Dispatcher Dispatches an Investigator to Assess the Situation

The Dispatcher pages Investigators by radio to respond to the service call. An Investigator has a pickup truck containing some hand tools and a few barricades.

Step 4 – Investigator Assesses the Situation

During this step, the investigator arrives on site and locates the problem. If needed, the investigator places the initial barricades. The investigator then attempts to determine the cause of the problem.

Step 5 – Investigator Adds Findings to Service Request

The findings are written down on the Investigator's Daily Time Sheet, and reported to the Dispatcher. When the investigator returns to the office he adds the findings to a hard copy of the investigation work order.

Step 5A – Dispatcher Enters the Information from the Completed Service Request into Hansen

Step 6 – Is Further Action Required?

At this point the Investigator has assessed the situation and reported to the Dispatcher if further action is needed.

Step 7 – Is This an Emergency Situation?

In addition to reporting the need for additional action to the Dispatcher, the Investigator has indicated if emergency action is required or if routine action is required.

Step 7A – Dispatcher Dispatches Crew.

If emergency action is required the dispatcher dispatches an appropriate crew. If the situation merits discussion with a supervisor the appropriate supervisor is contacted.

Step 7B – Dispatcher Creates a Follow-up Work Order.

The Dispatcher enters the dispatch information in the Hansen database and prints a work order.

Step 8 – Supervisor Investigates Site.

The supervisor may be involved in determining site conditions and crew requirements when follow-up work is requested.

Step 9 – Is This a Capital Project?

The supervisor determines if this could be included in a current capital project. If it could be a capital project, the Supervisor should check with Engineering.

Step 9A – Forward Site Information to Engineering.

If it is determined that the work is or should be part of a capital project, the Supervisor should forward all inform he has to Engineering.

Step 10 – Can This Work Be Handled With WPCM Forces?

The Supervisor determines if WPCM Group has the required resources to perform the required work.

Step 10A – Contract Work.

If the Supervisor determines that the WPCM Group does not have the required resources he solicits bids from contractors.

Step 11 – Supervisor Plans Project and Creates a Follow-up Work Order.

The Supervisor obtains the required locates, permits, traffic plans, and notifications. Then the Supervisor creates the follow-up work order in Hansen that provides the appropriate crew with the information that they need to complete the required tasks.

Step 12 – Supervisor Dispatches Crew.

The supervisor gives the appropriate crew the follow-up work order and sends them to the site.

Step 13 – Crews Perform Work.

Step 14 – Crews Report Resources Used On Follow-up Work Order.

Crews record work results, labor hours, equipment hours, and material used on the hard copy of the follow-up work order. They will also indicate on the hard copy if additional follow-up work is necessary.

Step 15 – Dispatcher Enters Information From the Completed Work Order Into Hansen.

EXHIBIT D

Fort Wayne WPC Plant Standard Operating Procedure No. 450-3 IPS Procedure 18 Revised: 12-07	
River Sampling Procedure River samples are collected weekly from April 1 through October 31 at six sites to monitor river water quality in the three rivers. E.coli data from the sampling program is posted weekly on the City's website during the recreation season.	
Equipment No.	**Locations** • St. Marys at Ferguson Rd. (SMF) • St. Marys at Spy Run Ave.(SMSR) • St. Joseph at Mayhew Rd. (SJM) • St. Joseph at Tennessee St. (SJT) • Maumee at Anthony Blvd. (MAA) • Maumee at Landin Rd. (MAL)
Equipment Type • IDEM sampling device • River elevation/depth worksheet • River chain-of-custody sheets • Electronic distance sounding unit	• Coolers with ice • Non-talc disposable gloves • Safety glasses • YSI 600 Sonde multiprobe • DO bottles with fixing reagent
Safety Precautions • Use the arrow board and flashers when stopping at sampling sites. • Park the van so that it protects personnel from oncoming traffic. • Contact the Sheriff for the Mayhew site. • Wear gloves. • Wear safety glasses.	**References** • 2007 Amended CSSOP Manual • YSI 600 Manual

EXHIBIT E

FORT WAYNE FIRE DEPARTMENT

HAZARDOUS MATERIALS CONTROL GROUP

STANDARD OPERATING GUIDELINES

Table of Contents

SCOPE

THE PURPOSE AND INTENT OF THE FORT WAYNE FIRE DEPARTMENT HAZMAT TEAM IS AS FOLLOWS:

Identification:

Hazmat product identification can become an extremely difficult task considering the conditions and potential exposure problems. It will be the responsibility of the Hazmat Team, using the tools and person protective gear available, to advance into he incident area and to obtain and communicate any and all information regarding hazardous material to command for evaluation and consideration.

Stabilization:

The Hazmat Team, using the tools and equipment available to them, may, after the material has been identified and the strategic options evaluated, be directed to take whatever measures are considered necessary to stabilize the incident. The definition of stabilizes in this context would include: "action by the team to confine the incident to the area involved", and "action taken to prevent escalation of the incident".

Containment:

Hazmat containment would include only those actions necessary to prevent the spread of the incident beyond a defined boundary.

It is not the intent of the Fort Wayne Fire Department to become involved in the clean up, recovery or disposition of Hazmat waste. It is our function to identify the threat to the community, stabilize the incident, to minimize the threat to life and property and to attempt to contain the incident within reasonable bounds and to protect the incident scene until a Hazmat contractor arrives and can insure their ability to reduce and remove the threat from the community.

This manual is a basic outline of the Fort Wayne Fire Department's Standard Operating Procedures at a Hazardous Materials Incident. These procedures are NOT intended to restrict the actions necessary to bring a Hazmat incident to a successful conclusion.

Fort Wayne Fire Department Goals

1. The primary operational goal of our department shall be isolation, containment and stabilization of the product.
2. Extreme caution shall be exercised by all Fire personnel to insure minimum exposure.
3. All available specialized tools, equipment and apparatus shall be used to provide maximum protection and efficiency.
4. Only those persons specifically trained shall use the specialty equipment.
5. All tactics and procedures described herein form the basis for hazardous materials incidents but, when conditions warrant, shall not relieve department personnel of the responsibility for exercising initiative and independent judgment.

Control of the Response Effort

Experienced responders do not rush in. They stop as soon as they have visual sighting and perform a detailed size-up, using binoculars to evaluate the situation, if necessary, before committing personnel and equipment. They identify fire/explosion/reactive/health/environmental hazards and evaluate potential impacts. They identify rescue needs and estimate danger areas, exposures, consider wind direction and velocity, consider potential secondary emergencies, and decide if evacuation may be necessary.

Experienced responders initiate a staging area outside the danger zone where all personnel and equipment report in and receive orders. Those not needed immediately are placed on remote standby until needed. Personnel and equipment area committed to the danger zone only as needed and sufficient reserves are obtained and held in readiness. A command post is established immediately to serve as a focal point for information gathering and decision making. Approach of committed personnel and equipment is from up-wind and upgrade , using natural barriers for protection. Specific individuals area assigned to protect equipment and tools from run-offs, vapors, sprays or residues. Ignition sources are identified and controlled, and unmanned equipment is used when possible. Standby personnel are used to lug and carry equipment so the attack team will not expend valuable energy before arranging at the point of attack. Long lays of hose are utilized rather than driving apparatus close to the danger zone. Responders recognize that some people think they are immune, so attention is paid to insuring that protective equipment is not only available but used, that face shields are down and self-contained breathing apparatus is worn. Operations in the danger zone are performed with the minimum number of personnel to limit casualties if the situation gets out of hand.

Hazardous Materials Preparedness

Seven factors are crucial to initiating and maintaining the high level of preparedness that is necessary: continuous training, provision of specialized equipment and materials, identifiable support for the program from the top on down, extensive prior planning, extremely effective organization, detailed written guidelines and procedures, and placement of a high priority on communications.

There is a constant upgrading of equipment and techniques because, as the state-of –the-art changes out there, we have to adapt and learn how to handle new hazards. The vast growth in products and processes within the entire petro-chemical industry has really affected the fire service. The whole situation has changed. We are no longer just fighting Class A fires. We have to be ready to combat nearly any challenge the mind can devise.

Purpose

1. The purpose of this Plan is to identify and remove the threat to public heath and safety, which may result form an accident involving hazardous materials. It is not a detailed operational manual, but more of a planning guide.

2. The Fort Wayne Fire Department (FWFD) Operations Chart listed on page 15, is a basic step-by-step flow char indicating required actions to be taken when a hazardous materials has been, or may be, released into the environment. The chart is designed as a simple, but effective indication of how hazmat incidents can be mitigated.

3. Hazardous materials are commonly used, transported and produced, in Allen County and surrounding areas. The operational concepts upon which this Plan is based are applicable to hazardous materials identification and mitigation.

4. The guidelines presented in this Plan are written with the concept that the Fort Wayne Police Department may be in charge of the perimeter, and all activities outside of the perimeter, and that the Fort Wayne Fire Department Incident Commander will be in charge of activities inside the perimeter. (When an incident occurs outside of the City of Fort Wayne in fire districts protected by the FWFD, the County Sheriff Incident Commander may be in charge of establishing the perimeter and control all activities outside of that perimeter.

5. The basic concept of mutual aid is the backbone of any hazardous material response. The Fort Wayne Fire Department Hazmat Control Group and its resources area available, and will respond to incidents outside of its jurisdiction, when requested. However, when responding to an incident outside of its jurisdiction, the Fort Wayne Fire Department's Hazmat representative will report to the individual in charge at the scene, and offer services to assist in mitigating the incident.

SECTION 1

HAZARDOUS MATERIALS DEFINITIONS

Hazardous Materials Incident Levels

Hazardous material incident levels are separated into three (3) levels to assist in determining the seriousness of the situation.

Level I

A Level I response can be defined as one which can be easily handled with the initial emergency response crews. This means that law enforcement, fore and emergency medical personnel form the immediate area able to mitigate the incident. Mutual aid response and evacuation are not necessary. Examples of a Level I incident include a gasoline spill which is contained and not ignited, a leak of a small cylinder of chlorine not requiring any evacuation, an outside leak from a 55-gallon drum, and a small pesticide spill.

Level II

A Level II is one that is more complex than a Level II. At this level, some sort of specialized regional response team would be needed. Outside help from other agencies (government and private) will have to be used. Examples of incidents at this level include: A leak from a drum of a poison, fire involving pesticide storage, a propane truck on fire with flame impingement on the tank, and a rail car leaking chlorine.

Level III

A Level III incident can be simply defined as a disaster for the local community. It is one, which has escalated beyond the ability of the local government to cope with problems. As a result, many other agencies would now be involved. Assistance would be provided by transportation companies, manufacturers, Coast Guard, Environmental Protection Agency, state and local health groups, local elected officials, and local government legal advisers. Because of the magnitude of this level of incident, the duration is measured in days instead of hours. Incident Commander must be concerned with the logistical problems of the evacuees as well as the emergency forces.

The Level I, II, and III is determined by the incident commander:

1. Recommended agency responses are listed in the Agency Response Guide on Page____. It is a guide to be used for information and planning purposes.

2. The primary response team responds to all levels of incidents. The secondary response team can be called during a Level I incident if the I.C. feels they are necessary.

SECTION II

RESPONSE

Response

1. In some cases a hazardous materials situation will require the expertise of several agencies. Because of the wide variety of agencies that may be involved, and the differences in which their services may be required, two groups were organized for maximum efficiency. Groups are categorized by the intensity of the need for their services. The two groups are designated as the Primary and Secondary Response Groups.

2. The Primary Response consists of agencies whose specialized services are needed in most initial emergency calls. They are responsible for responding immediately to the dispatched incident, unless otherwise requested.
   A. FWFD Communications, shall dispatch a full assignment as indicated by the Zone Map (if the incident is one of minor involvement, a "One Engine Company" shall be dispatched).

   B. Dispatcher shall radio responding Battalion Chief and provide all available information.

   C. Dispatcher shall notify Hazmat Group Leader and all Staff Personnel and provide all available information if a Level II or III incident is called, (They may be notified at Level I, if requested).

   D. City EMS and Law Enforcement Agencies will respond.

   E. All hospitals shall be alerted if incident appears serious.

3. The Secondary Response consists of agencies who specialize as information sources, or those who will provide auxiliary assistance at the scene.

   A. State Police
   B. Fort Wayne Department of Public Health
   C. Department of Street and Highways (includes County Department)
   D. City Water and Sewer Departments
   E. NIPSCO and Indiana Michigan Power (AEP)

Their responsibilities lie with contacting other agencies to provide services such as: removal, containment, specialized emergency teams, etc. The Secondary Response will be contacted and placed on standby until service are required.

Agency Response Guide

Agency	Level I			Level II			Level III		
Primary Response:	A	S	R	A	S	R	A	S	R
City Fire Department			X			X			X
City Law Enforcement			X			X			X
EMS			X			X			X
Secondary Response:									
County Sheriff Department				X					X
Indiana State Police				X					X
City Street and Highway				X					X
City and State Highway Departments				X					X
City Public Health				X					X
Other Support Agencies:									
*Hospitals				X				X	
Indiana & Michigan (AEP)				X					X
NIPSCO				X					X
Indiana Public Health				X				X	
Department of Transportation				X				X	
Technical Support Agency's				X				X	

*Agency may be employed in Level I or II.
Note: Agencies in Standby Status may be required to respond immediately upon request.

A-Alert S-Standby R-Respond

FORT WAYNE FIRE DEPARTMENT

1. Within the jurisdicational areas of the Fort Wayne Fire Department as provided by law and ordinances, the Department's responsibility will be as follows:

   A. Command of all activities within the perimeter established by the Fire Incident Commander, to include the Incident Command Post.

   B. Coordinate activities of nay and all support agencies functioning within the perimeter.

   C. Provide a Public Information Officer, in coordination with the City Police Department or County Sheriff's Department.

   D. Provide specialized equipment, material and expertise available from the Department's resources for successful mitigation of the incident.

   E. Provide a Safety Officer who will provide for decontamination of personnel by wash-down, R & R area and continuous air supply of Self Contained Breathing Apparatus.

   F. Coordinate or provide assignment of outside fire departments responding on a mutual aid basis.

   G. Assist any and all support agencies in any way possible.

   H. Maintain chronological record of all activities pertinent to the incident, including initial assessment of incident, continual update of progress, responses of various agencies and additional equipment, weather conditions and changes, and any other information that may be required in a final report.

   I. Insure constant open communications with Fire Department Communications.

2. In area outside the City limits, or contractual districts of the Fort Wayne Fire Department jurisdiction, the Department will act as a support agency and function under the direction of the Incident Commander, if called upon to respond by an appropriate authority, Fire Chief, Police.

SECTION III

STANDARD OPERATING GUIDELINE

General Factors to Consider

Due to the wide variety of situations Fire Department personnel may encounter in dealing with hazardous materials, these considerations will not attempt to provide specific guidelines on any one individual chemical or situation and are not listed in any priority.

It is imperative that the First Arriving Unit determine what hazardous material(s) is involved, and how much, prior to taking action to stabilize the incident. The major problem in most cases is to identify the material involved. Look for D.O.T. identification four digit number labels, markers, and shipping papers.

The best Way to make a positive identification of hazardous materials involved in transportation accidents is through the shipping papers carried on all vehicles regardless of the mode of transportation. Highway vehicles carry shipping papers in the driver packet located in the tractor cab, usually on or near the driver's seat. Railroad shipping papers, or waybills, are located with the train's conductor. The waybills are kept in the order that the train is made up, from front to rear, listed by the initials and the number of cars in the trains consist. The waybill packet usually has a train manifest with it which is a computer printout listing all the engine numbers and cars in the train as the way the training is made up, shipper, consignee, originating point, destination, and engine. Air cargo shipments have an air bill on each piece of the shipment. The captain of the aircraft will have a cargo manifest with him.

Entering the scene to make a positive identification ma be a considerable risk. The danger of explosions, leaking gas and poisoning may be great. If an approach can be made to secure the shipping papers, do it in the following manner:

A. Operate with a Two-Man Team
B. Wear Full Turn Out Clothing
C. Wear SCBA
D. Use Natural Barriers (hills, gullies, etc)
E. Approach from Upwind
F. Avoid Contact with the Hazardous Materials
G. Secure Papers, Assess Problems Quickly and Return
H. Have a Two Man Back Up Team Ready

If an approach cannot be made safely, await the arrival of the H.M.C.G. (It may be necessary to make immediate rescue but this should be done with an awareness of the same risks and procedures mentioned for securing the shipping papers).

Transportation emergencies are often more difficult than those at fixed locations. The materials involved may be unknown, warning signs may not be visible, the driver may be killed or missing.

Hazardous materials incidents involving fixed installations involve different procedures for identifying materials involved if the problem occurs when the plant is in operation. Valuable information can obtained from the plant manger, plant engineering, and plant supervisors. Bulk storage facilities may or may not have identifying markings, such as product names or NFPA 704 system of identification. Fire company pre-planning can be a useful tool for identify the used of hazardous materials and hazardous processes.

<u>Considerations</u>

<u>First Arriving Units:</u> The first arriving officer must begin a size up and consciously avoid committing to a dangerous situation. When approaching, slow down or stop to assess any visible activity-taking place. Evaluate the effects of the weather and location of the situation. All other units will stop at a safe location form the incident until instructed to take specific action.

<u>Size Up</u>: The Incident Commander must make a careful size up before deciding on a commitment. It may be necessary to take immediate action to make rescue or evacuate an area, but this should be done with an awareness of the rush to Fire Department personnel, and taking advantage of available protective equipment.

The objective of the size-up is to identify the nature and severity of the immediate problem and gather sufficient information to formulate a valid action plan. <u>A HAZARDOUS MATERIALS INCIDENT REQUIRES A MORE CAUTIOUS AND DELIBERATE SIZE UP THAN MOST FIRE SITUATIONS!</u>

Avoid premature commitment of companies and personnel to potentially hazardous locations. Proceed with caution in evaluating risks before formulating a plan and keep uncommitted companies at a safe distance.

The following items may be significant to consider at any hazardous materials incident. (Not all will be significant at any particular incident).

1. Cooling Containers:
   A. Use adequate water supply (minimum 500 gpm)
   B. Apply heavy streams to vapor space.
   C. Use unmanned streams
   D. Use natural barriers to protect personnel

2. Remove Uninvolved Containers:
   A. Move individual containers
   B. Move tank cars away from flame
   C. Cool containers before moving

3. Stop Leak:
   A. Close valves
   B. Place plug in openings
   C. Place container in upright position
   D. Use water spray to approach leak

4. Apply Diluting Spray
   A. Dilute water soluble liquids
   B. Flush corrosives to reduce danger
   C. Use spray streams to absorb vapors
   D. Use water with caution on some materials

5. Construct Dams, Dikes or Channels:
   A. Direct running liquid away form explosives
   B. Control run off from corrosive materials
   C. Use sand or dirt

6. Remove Ignition Sources
   A. Start down wind.
   B. Eliminate all sources of heat, spark, and friction.

7. Natural Gas Leaks
   A. No attempt shall be made to stop a leak in a natural gas line rupture.
   B. Units shall stand by and wait for the arrival of the gas company.
   C. When responding to a gas leak in a structure, gas detection equipment shall be used to determine the concentration of the product before entrance is made. Remember: When introducing fresh air into a gas filled structure, the gas can reach its explosive range.

8. Call for additional resources when the need is only anticipated. The actions taken by the Incident Commander in the first minutes of an incident affects the outcome more than any other single factor.

On Scene Decision

1. Prior to the arrival of the Battalion Chief, the first FWFD Officer on the scene shall verify dispatcher information. Company Officer shall brief Battalion Chief upon his arrival. When Battalion Chief is apprised of incident situation, he will notify communication of status and request additional assistance as necessary. Note: If a large liquid fire is a part of the incident, then Foam Unit shall be dispatched.

2. The Incident Commander shall determine, to the best of his ability, the level of the incident.

3. If a level II or III is announced, then members of the Hazmat Control Group shall be notified and respond with the Hazmat trailer. The Incident Commander shall also determine the best and most safe location for the Incident Command Post. This information shall be provided to all agencies in the Primary and Secondary Response Groups. Fire Communications shall also be notified of evacuation requirements, if necessary. Communications shall attempt to provide wind direction to the Incident Commander.

4. Preparation of establishing the Incident Command Post must begin when the initial response is made. Location of the Incident Command Post will be determined by the type situation encountered, wind direction and accessibility. The ICP must be located on the perimeter, a safe distance form the incident. The ICP must be prepared to relocate if there is a change in the incident seriousness or wind direction.

5. Requests for additional assistance will be decided upon as soon as possible after the arrival of the Incident Commander.

6. Additional assistance is a judgment decision by the Incident Commander. Additional assistance is not limited to what has been identified in the plan, but will normally follow the outline of this plan. Additional assistance may not involve Police Department personnel, but must be considered. Upon arrival of the Law Enforcement Incident Commander, all facts concerning the incident shall be
reviewed with the Police Incident Commander as soon as possible.

Stabilizing the Emergency

A. Extinguish the Fire

1. Determine proper extinguishing agent
2. Wear full protective clothing and SCBA
3. Determine quantity and flow rate of foam needed to extinguish fire.
4. Delay attack until sufficient foam is available on site unless it is necessary to protect exposures by limiting fire intensity.
5. Have foam flowing from nozzle before attacking fire.
6. Approach from up-wind and up-grade.
7. Maintain back –up lines during attack.
8. Attack from side of container rather than the ends.
9. Remove or cool container rather than the ends
10. Apply water to vapor space of exposed containers and especially to the point of flame impingement.
11. Set unmanned monitors and pull back firefighters when adequate coverage of exposed containers cannot be assured.
12. Do not extinguish burning gases unless the supply can be shut off.
13. Give though to allowing pesticides to burn out while protecting exposures.

B. Confining Released Chemical

1. Wear full protective clothing and SCBA
2. Catch leaking material in a container
3. Avoid contact with the material or with vapors of the material.
4. Avoid working in flammable atmospheres.
5. Confine spills with dams of dirt, sand, fire hose, or other available materials.
6. Cover storm drains
7. Notify Water Department when a spill threatens or has entered a waterway.
8. Cover spills with foam to suppress vapors.
9. Absorb or disperse vapors with water fog.
10. Avoid water on the leak of containers of chlorine and similar corrosive materials.
11. Remove ignition sources near and down wind from flammable vapors.

C. Stopping Further Release

1. Stop the leak if it safe to do so wearing fire clothing
2. Wear full protective clothing and SCBA.
3. Shut off valve to control leak.
4. Plug or slow leak with available material.
5. Be sure plugging material is compatible with chemical.
6. Avoid overhead leaks and other type leaks that saturate fire clothing.
7. Leave poisons, corrosives, pesticides, PCB's and radioactive materials to H.M.C.G.

Disposal of Petroleum Contaminated Materials

Response to a small volume of petroleum product (less than 150 gallons) by local fire departments or other response agencies often ends with that agency in possession of contaminated absorbent materials that must be disposed of. IDEM recommends the following guidelines can be used to dispose of contaminated petroleum materials.

I. Containment and Removal of Spilled Materials:

1. Use absorbents to collect the petroleum, build dikes to keep it out of severs and streams, etc. Suitable materials include:
    a. sand
    b. oil-dry, kitty litter
    c. commercially available absorbent pads and booms

2. Do not flush petroleum into a waterway or sewer. It may actually increase the toxic effect of the petroleum to aquatic organisms and the bacteria in sewage treatment plants. The materials previously listed may be used, provided they are prevented form entering the waterway or sewer, but they must be removed and disposed of. If they do enter or threaten to enter the waterway or sewer, then it becomes a spill that must be contained and cleaned up.

II. Disposal

1. If the total amount to be disposed of is less than 220lbs., the hazardous waste and special waste rules do not apply. Therefore, if you take some reasonable precautions, it can be disposed of as normal solid waste by putting it into sturdy plastic bags and putting it into a dumpster or trash bin. The following are alternative suggestions for disposing of these materials:
    a. If the fuel has been spilled onto a roadway and there is no waterway nearby, and if sand was applied, it can be left in place or swept to the road shoulder.
    b. If sand was used as an absorbent, another possibility may be to take it to an asphalt batch plant to be incorporated into their product.
    c. If the absorbent must be removed from the site, then consider the following suggestions.
        1. Highly volatile products (i.e. gasoline) should be placed on Visqueen (protected from rainfall), and allowed to volatilize for a day or two to eliminate the flammable vapor hazard; then bag the absorbent and dispose of it as regular solid waste.
    d. If the total amount to be disposed of is more than 220 lbs.; it must be treated as special waste and in this case, it is the responsibility of the spiller to clean up the spill.
    e. If a clean-up company is needed, several companies are listed on the spill notification form (page___) for your use. On any Hazmat incident, remember to notify the EMS Office. If a clean-up company is needed, their office must make that decision. If this procedure of notification is not followed, you could be liable for the clean up bill.
    f. After every Hazmat incident, remember to complete all necessary paperwork and forward it to the office.
    g. When responding to an incident involving illegally dumped hazardous materials, have dispatch notify the following personnel:

        Fire 11
        Director of Emergency Management
        Arson Investigator

Standard Operating Guidelines for First on the Scene

A. Circumstances of HMI (Hazardous Materials Incidents) vary so widely it is impossible to establish specific guidelines to cover all incidents.

B. The goal is to remove the threat to public health or welfare, safety and property, which may result from a hazardous materials incident.

C. Do not compound the problem by creating a disaster out of an emergency.

D. The First On-Scene Officer is the Incident Commander until properly relieved by a more senior officer. As such, he makes all the decisions.

E. The Incident Commander must take charge and set the scene for a coordinated response and recovery.

F. No one is an expert in all areas of hazardous materials. Experts in specific fields need to be called.

G. You may have to delay attending to the injured in order to save the lives of many others.

H. Do not concern yourself with saving the H/M or carrier. It can be replaced.

I. Keep the dispatched advised of your actions. He will advise others.

J. Isolate the area of everyone not directly involved.

K. Do not become part of the problem yourself.

Standard Operating Guidelines
First on the Scene

TREAT ALL CONTAINERS AS HAZARDOUS MATERIALS UNTIL PROVEN OTHERWISE!!

The first arriving unit must avoid committing itself to a dangerous situation.

1. Size –Up: the situation and report the incident as a possible Hazmat Incident. Give Exact Location.

2. Stay Up-Wind and Up-Grade: Avoid driving into or near vapor clouds and coming in contact with liquids or fumes.

3. Isolate: The area of nonessential personnel.

4. Eliminate: Ignition sources (smoking, flares, combustible engines).

5. Rescue: Injured only if Prudent.

6. Identify: materials and determine conditions (spills, fire, leak, solid, liquid vapor, single or mixed load, way-bills, bills of lading-shipper, owner, manufacturer, carrier).

7. Initiate Evacuation if necessary, Down-Wind-first. Report your actions.

8. Establish Command Post Location: Up-Wind a safe distance. Give exact location and approach route.

Standard Operating Guidelines
Later Arriving Companies

All later arriving fire companies shall stage:

1. Away from the site unless otherwise directed by the First In Officer

2. Up-Wind and Up-Grade form the emergency

3. Out of and well away from vapor clouds.

Standard Operating Guidelines
Incident Commander

The Incident Commander is responsible for incident activities, including the development and implementation of strategic decision and for approving the ordering and releasing of resources.

Duties:
1. Size Up: Hazard assessment, materials identification, exposure hazards, etc.
2. Conduct: initials briefing
3. Crowd control, relocation and/or evacuation
4. Establishment of Command Post, Staging Area, and if necessary, the hazard zone, evacuation zone, restricted area and isolation.
5. Determine information needs and inform Command Personnel of those needs
6. Develop and action plan it must provide for:
    a. safety of citizens
    b. safety of firefighters
    c. evacuation of endangered area, if necessary
    d. control of the situation
    e. stabilization of hazardous material and its disposal
    f. decontamination of personnel (civilian and fire)
7. Verification of material involved (samples, records, labels, owner, manufacturer)
8. Notify/alert emergency medical facilities
9. Assess Utility of hazard potential (drainage, sewers, storm sewers, streams, highways, electrical, gas)
10. Determine/notify owner of property involved
11. Authorize release of information to new media
12. Keep necessary records
13. Approve plan for demobilization

Command and Control

Control of hazardous material emergencies is vital in stabilizing the emergency without injury to fire personnel and civilians. The I.C. shall:
1. Establish a Command Post and therein shall remain throughout the incident
2. Define limits of the hazard zone, and, if needed, the evacuation zone, restricted zone, and isolated zone. Also a staging zone, if not already established.
3. Size up the emergency
4. Develop and initiate a plan of action.

Command Size Up
The following incident factors will be considered when developing a plan of action:
1. Type of incident
    a. Fire
    b. Spill
    c. Release
    d. Leak

Command Post
Fort Wayne Fire Department Command Post procedures shall apply during a hazardous material emergency and the Command Post will be:
1. Establish outside the hazard zone
2. Positioned where the overall scene can be viewed.
3. H.M.C.G. will be located adjacent to the C.P. when possible

Hot Zone
The hot zone in an area surrounding the emergency for a distance in which personnel are in immediate danger the hot zone shall be:
1. Cleared of all personnel
2. Controlled by the Fire Department
3. Guarded by Fire personnel assigned by the I.C.
4. Entered only by personnel in full protective clothing and who have a assigned duty.
5. Maintained until the conclusion of the emergency.
6. Appropriate agencies will be notified when transportation or shelter is needed for evacuees.

Evacuation Zone
The evacuation zone is an area beyond the hazard zone and depends on the nature and quantity of the hazardous materials. It may be a radius around the hazard zone for a potential explosion or downwind from the hazard zone for toxic and flammable vapors.
Guidelines for the evacuation zone are:
1. Evacuation may be ordered by the Incident Commander
2. The evacuation zone may be evacuated and controlled by the Police Department
3. Fire personnel will commence evacuation if Police have not yet arrived.
4. Additional Fire companies may be called by the I.C. to aid Police during large scale evacuations.
5. Firefighters will be assigned areas of the evacuation zone, which have been overrun by hazardous vapor clouds or in any way have become dangerous for personnel without protective clothing and SCBA.
6. Appropriate agencies will be notified when transportation or shelter is needed for evacuees.

Warm Zone
The warm zone is an area in which only necessary and authorized personnel shall enter. This area will be where only acceptable contamination levels exist.

Cold Zone
The I.C. shall establish the cold zone. This area is the closest that back-up forces and Incident Commander will be located. This area shall be free of contaminated atmosphere.

Isolated Area
There shall be an isolated area, within the restricted zone, where the Hazardous Material Response Group and their vehicle shall be isolated form all other personnel. The isolated area shall be as close as possible to the Command Post.

Staging Area
If not already established, the I.C. will establish a staging area. All personnel not specifically committed shall report to this area and shall remain there until ordered to do otherwise.

Standard Operation Guidelines
Hazardous Material Control Group (H.M.C.G)

The Fort Wayne Fire Department Hazardous Material Control Group was formed due to the rising amount of hazardous material used in the area, as well as the vast amounts that are shipped through the City and County by rail, road, and air.

Responsibilities of the Team at hazardous material emergencies include:

1. Serve as advisor to the Incident Commander.
2. Maintain contact with the Incident Commander.
3. Identify the hazardous material and determine hazard.
4. Communicate with technical advisors and kept the Incident Commander apprised of their recommendations.
5. Monitor the area for toxic and flammable vapors
6. Confine released material
7. Secure leaking containers
8. Establish zones defined by the Incident Commander
9. Provide decontamination area for personnel
10. Insure the proper clean up and decontamination of the site.
11. Keep records for time of exposure to hazardous material for exposed team members.

Standard Operation Guidelines
Decontamination

After a hazardous material incident has been encountered, requiring the use of total protective clothing, a decontaminating area must be established and personnel decontaminated prior to being approached by anyone.

Decontamination of personnel applies to civilians on the scene prior to the arrival of the fire units, as well as fire personnel working within the incident.

1. Special attention will be given to personnel and equipment during all hazardous material incidents.
2. Efforts will be made to minimize the number of personnel and the amount of equipment in the contaminated area.
3. Careful determination will be made as to the specific decontamination procedures necessary to handle a particular product.
4. Prior to entry into a contaminated area by the H.M.C. G. a decontamination station should be set up.
5. Due to weather conditions or other pertinent factors, decontamination out of doors may not be advisable. In this situation the nearest suitable firehouse may be made available to decontaminate all men and equipment.
6. During decontamination close attention shall be given to water run-off. Wherever possible, this water shall be collected and disposed of properly.
7. Any fire personnel exposed to any hazardous material must be decontaminated. Remember, if you are exposed to a hazardous material, do not bring that contaminant from the exposed to the unexposed personnel when they arrive on the scene.
8. See Section on Decontamination for further details.

Decontamination

I. Introduction

Personnel responding to hazardous substance incidents may become contaminated in a number of ways including:

- Contacting vapors, gases, mists, or particulates in the air
- Being splashed by materials while sampling or opening containers. Walking through puddles of liquids or sitting or kneeling contaminated soil.
- Using contaminated instruments or equipment.

Protective clothing and respirators help prevent the wearer from becoming contaminated or inhaling contaminants. Good work practices help reduce contamination on protective clothing, instruments, and equipment.

Even with these safeguards, contamination may occur. Harmful materials can be transferred to clean areas, exposing unprotected personnel. During removal of contaminated clothing, personnel may contact contaminants on their clothing or inhale them. To prevent such occurrences, methods to reduce contamination, and decontamination procedures must be developed and established before anyone enters a site and must continue (modified when necessary) throughout site operations.

Decontamination consists of physically removing contaminants or changing their chemical nature to innocuous substances. How extensive decontamination must be depends on a number of factors; the most important being the type of contaminants involved. The more harmful the contaminant, the more extensive and thorough decontamination must be. Less harmful contaminants may require less decontamination.

Combining decontamination, the correct method of doffing personnel protective equipment, and the use of site work zones minimizes cross contamination form protective clothing to wearer, equipment to personnel, and from one area to another. Only general guidance can be given on methods and techniques for decontamination. The exact procedure to use must be determined after evaluating a number of factors specific to the incident.

II. Preliminary Considerations

A. Initial Planning

The initial decontamination plan assumes all personnel and equipment leaving the Hot Zone (area of potential contamination) are grossly contaminated. A system must be established for personnel decontamination to wash and rinse, at least once, all the protective equipment worn. This is done in combination with a sequential doffing of protective equipment, starting at the first station with the most heavily contaminated item and progressing to the last station with the least contaminated article. Each procedure requires a separate station.

The spread of contaminants during the washing/doffing process is further reduces by separating each decontamination station by a minimum of three (3) feet . Ideally, contamination should decrease as a person moves form one station to another further along in the line.
While planning site operations, methods should be developed to prevent the contamination of people and equipment. For examples, using remote sampling techniques, not opening containers by hand, bagging monitoring instruments, using drum grapplers, watering down dusty areas, and not walking though areas of obvious contamination would reduce the probability of becoming contaminated and require a less elaborate decontamination procedure.

The initial decontamination plan is based on a worst-case situation or assumes no information is available about the incident. Specific conditions at the site area then evaluated, including:

- Type of contaminant
- The amount of contamination
- Levels of protection required
- Type of protective clothing worn
- Type of equipment needed to accomplish the task

The initial decontamination can be modified, eliminating unnecessary stations or otherwise adapting it to site conditions. For instance, the initial plan might require a complete was and rinse of chemical protective garments. If disposable garments are worn, the wash/rinse step could be omitted. Wearing disposable boot covers and gloves could eliminate washing and rinsing these items and reduce the number of stations needed. Changes in the decontamination procedure must be noted in the Site Safety Plan.

B. Contamination Reduction Corridor

An area within the Contamination Reduction Zone is designated the Contamination Reduction Corridor (CRC). The CRC controls access into and out of the Hot Zone and confines decontamination activities to a limited area. The size of the corridor depends on the number of stations in the decontamination procedure, overall dimensions of work control zones, and amount of space available at the site. A corridor of 50 feet by 20 feet is the minimum area for full decontamination. Whenever possible, it should be a straight path.

The CRC boundaries should be conspicuously marked, with entry and exit restricted. The far end is the hotline, the boundary between the Hot Zone and the Contamination Reduction Zone. Personnel exiting the Hot Zone must go through the CRC. Anyone is the CRC should be wearing the same level of protection as the entry team or one level below. Another corridor may be required may be for heavy equipment needing decontamination.

Within the CRC, distinct areas are set aside for decontamination of personnel, portable field equipment, removed clothing, etc. These areas should be marked and personnel restricted to those wearing the appropriate level or protection. All activities within the corridor are confined to decontamination.

Personnel protective clothing, respirators, monitoring equipment, and sampling supplies are all maintained outside of the CRC. Personnel don their protective equipment away form the CRC and enter the Hot Zone through a separate access control point at the hotline.

III. Extent of Decontamination Required

A. Modifications of Initial Plan

The original decontamination plan must be adapted to specific conditions found at incidents. These conditions may require more or less personnel decontamination than planned, depending on a number of factors.

1. Type of Contaminant

The extent of personnel decontamination depends on the effects the contaminants have on the body. Contaminants do not exhibit the same degree to toxicity (or other hazard). Whenever it is known or suspected that personnel can become contaminated with highly toxic or ship destructive substances, a full decontamination procedure should be followed. If less hazardous materials are involved, the procedure can be downgraded.

2. Amount of Contamination

The amount of contamination on protective clothing (and other objects or equipment) is usually determined visually. If, on visual examination, it appears grossly contaminated, a thorough decontamination is generally required. Gross material remaining on the protective clothing for any extended period of time may degrade or permeate it. This likelihood increases with higher air concentrations and greater amounts of liquid contamination. Gross contamination also increases the probability of personnel contact.

3. Level of Protection

The Level of Protection and specific pieces of clothing worn determine on a preliminary basis the layout of the decontamination line. Each Level of Protection incorporates different problems in decontamination and doffing of the equipment. For example: decontamination of the harness straps and a backpack assembly of the self-contained breathing apparatus is difficult. A butyl rubber apron worn over the harness makes decontamination easier. Clothing variations and different Levels of Protection may require adding or deleting stations in the original decontamination procedure.

4. Work Function

The work each person does determine the potential for contact with hazardous materials. In turn, this dictates the layout of the decontamination line. All personnel in the Hot Zone with a potential for direct contact with the hazardous material will require more thorough decontamination. Different job functions, or certain stations in a line could be omitted for personnel performing certain tasks.

5. Location of Contamination

Contamination on the upper areas of protective clothing poses a greater risk to the worker because volatile compounds may generate a hazardous breathing concentration both for the worker and for the decontamination personnel. There is also an increased probability of contact with skin when doffing the upper party of clothing.

6. Reason for Leaving Site

The reason for leaving the Hot Zone also determines the need and extent of decontamination. A worker leaving the Hot Zone to pick up or drop off tools or instruments and immediately returning may not require decontamination. A worker leaving to get a new air cylinder or to change a respirator or canister, however, may require some degree of decontamination. Individuals departing the CRC for a break, lunch, or at the end of the day, must be thoroughly decontaminated.

B. Effectiveness of Decontamination

There is no method to immediately determine how effective decontamination is. Discolorations, stains, corrosive effects, and substances adhering to objects may indicate contaminants have not been removed. However, observable effects only indicate surface contamination and not permeation (absorption) into clothing (tools or equipment). Also many contaminants are not easily observed.

In many cases, depending on the substances involved, chemical protective clothing (or naturally absorbable materials) may have to be discarded. If it cannot be determined that clothing or other items, for example, tools and equipment have been completely decontaminated, the only safe action is to consider them hazardous wastes and have them dispose of properly.

C. Equipment

Decontamination equipment, materials, and supplies are generally selected based on availability. Other considerations are ease of equipment decontamination or disposability. Most equipment and suppliers can be easily procured. For example, soft bristle scrub brushes or long handle brushes are used to remove contaminants. Water is buckets or garden sprayers are used for rinsing. Large galvanized washtubs or stock tanks can hold wash and rinse solutions. Children's wading pools can also be used. Large plastic garbage bags store contaminated clothing and equipment. Contaminated liquids can be stored temporarily in metal or plastic cans or drums. Other gear includes paper or cloth towels for drying protective clothing and equipment.

D. Decontamination Solution

Personnel Protective equipment, sampling tools, and other equipment are usually decontaminated by scrubbing with detergent water using a soft bristle brush followed by rinsing with copious amount of water. While this process may not be fully effective in removing some contaminants (or in a few cases, contaminants may react with water), it is a relatively safe option compared with using a chemical decontaminating be identified. A decon chemical is then needed that will change the contaminant into a less harmful substance. Especially troublesome are unknown substances or mixtures form a variety of known or unknown substances. The appropriate decontamination solution must be elected in consultation with an experienced chemist. If the product is one which decontamination with soap and water is not adequate, the protective clothing shall be disposed of at the site. Remember dry decontamination can be used if necessary depending on the chemical involved and prevailing weather conditions.

E. Establishment of Procedures

One decontamination procedures have been established, all personnel requiring decontamination must be given precise instruction (and practice, if necessary). Compliance must be frequently checked. The time it takes for decontamination must be ascertained. Personnel wearing SCBA's must leave their work area with sufficient air to walk to CRC and go through decontamination.

IV. Decontamination during Medical Emergencies

A. Medical Emergency Decontamination

The plan should establish procedures for decontaminating personnel with medical problems and injuries. There is the possibility that decontamination may aggravate or cause more serious health effects. If life threatening injuries are received, prompt life saving first aid and medical treatment should be administered concurrently with decontamination. Whenever a member of the Hazmat Response Team needs medical assistance, a copy of their physical shall be sent along with that person to the medical facility.

B. Physical Injury

Physical injuries can range from a sprained ankle to a compound fracture, form a minor cut to massive bleeding. Depending on the seriousness of the injury, treatment may be given at the site by trained response personnel. For more serious injuries, additional assistance may be required at the site of the victim may have to be treated at a medical facility. Life saving care should be instituted immediately after decontamination. The outside garments can be removed (depending on the weather) if they do not cause delays, interfere with treatments, or aggravate the problem. Fully encapsulating suits or chemicals –resistant clothing can be cut away. If the outer contaminated garments cannot be safely removed, the individual should be wrapped in plastic, rubber, or blankets to help prevent contaminating the inside of ambulances and medical personnel. Outside garments are then removed at the medical facility.

C. Heat Stress

Heat related illnesses range form heat fatigue to heat stroke, the most serious. Heat stroke requires prompt treatment to prevent irreversible damage or death. Protective clothing may have to be cut off. Less serious forms of heat stress require prompt attention or they may lead to a heat stroke. Unless the victim is obviously contaminated, decontamination should be omitted or minimized and treatment begun immediately. Any fluids or foods shall not be consumed before decontamination has been completed.

D. Chemical Exposure

Exposure to chemicals can be divided into two categories:

- Injuries from direct contact, such as acid burns or inhalation of toxic chemicals
- Potential injury due to gross contamination on clothing or equipment

For inhaled contaminants treatment can only be by qualified physicians. If the contaminant is on the skin or in the eyes, immediate measure must be taken to counteract the substance’s effect. First aid treatment usually is flooding the affected area with water; however, for a few chemicals, water may cause more severe problems.

When protective clothing is grossly contaminated, contaminants may be transferred to treatment personnel or the wearer and cause injuries. Unless severe medical problems have occurred simultaneously with splashes, the protective clothing should be washed off as rapidly as possible and carefully removed.

E. Protection for Decontamination Workers

The Level of Protection worn by decontamination workers is determined by:

- Amount of Contaminant
- Type of contaminant and associated respiratory and skin hazards
- Total vapor/gas concentrations in the contaminations reduction corridor
- Time of exposure to contaminant

V. Decontamination of Equipment

Insofar as possible, measures should be taken to prevent contamination of sampling and monitoring equipment. Sampling devices become contaminated, but monitoring instruments, unless they are splashed , usually do not. Once contaminated, instruments are difficult to clean without damaging them. Any delicate instrument which cannot be easily decontaminated should be protected while it is being used. It should be placed in a clear plastic bag, and the bag taped and secured around the instrument. Openings are made in the bag for sample intake and exhaust.

A. Decontamination Procedures

1. Sampling Devices

Sampling devices require special cleaning. The EPA Regional Laboratories can provide information on proper decontamination methods.

2. Tools

Wooden tools are difficult to decontaminate because they absorb chemicals. They should be kept on site and handled only by protected workers. At the end of the response, wooden tools should be discarded. For decontaminating other tools, Regional Laboratories should be consulted.

3. Respirators

Certain parts of contaminated respirators, such as the harness assembly and straps, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in soap and water and scrubber with a brush. Regulators must be maintained according to manufacturer's recommendations. Persons responsible for decontaminating respirators should be thoroughly trained in respirator maintenance.

4. Heavy Equipment

Bulldozers, trucks, back-hoes, bulking chambers, and other heavy equipment are difficult to decontaminate. The method generally used is to wash them with water under high pressure or to scrub accessible parts with detergent/water solution under pressure. In some cases, shovels, scoops, and lifts have been sand blasted or steam cleaned. Particular care must be given to those components in direct contact with contaminants such as tires and scoops. Swipe test should be utilized to measure effectiveness. Personnel doing the decontamination must be adequately protected for the methods used can generated contaminated mists and aerosols.

B. Sanitizing of Personnel Protective

Respirators, reusable protective clothing, and other personal articles not only must be decontaminated before being reused, but also sanitized. The inside of masks and clothing becomes soiled due to exhalation, body oils, and perspiration. The manufacturer's instructions should be used to sanitize the respirator mask. If practical, protective clothing should be washed (in a dedicated unit) after a thorough decontamination; otherwise they must be cleaned by hand.

C. Persistent Contamination

In some instances, clothing and equipment will become contaminated with substances that cannot be removed by normal decontamination procedures. If persistent contamination is expected, disposable garments should be used.

D. Disposal of Contaminated Materials

All materials and for decontamination must be disposed of properly. Clothing, tools, buckets, brushes, and other equipment that is contaminated must be secured in drums or other containers and labeled. Clothing not completely decontaminated onsite would be secured in plastic bags before being removed from the site. All contaminated materials and equipment which must be disposed of will be left at the scene for the clean up company to remove.

Contaminated was and rinse solutions should be contained by using step in containers (for example, child's wading pool) to hold spent solutions. Another containment method is to dig a trench about four inches deep and line it with plastic. In both cases, the spent solutions are transferred to drums, which are labeled and disposed of with other substances on site.

VI. Decontamination Layout

The following sections will established decontamination for all incidents. Depending on the product, this procedure can be modified. Wind direction must be considered when setting up decon. Remember to stay up wind.

Level A Decontamination

A. Equipment Worn

The full decontamination procedure outlined is for personnel wearing Level A protection (with taped joints between gloves, boots, and suit) consisting of:

- Fully encapsulating suit
- Self contained breathing apparatus
- Hard hat (optional)
- Chemical resist and, steel toe and shank boots
- Boot covers
- Inner and outer gloves

B. Procedure for Full Decontamination

Station 1: Segregated Equipment Drop

Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Each will be contaminated to a different degree. Segregation at the drop reduces the probability of cross-contamination.

Equipment:

- Various size containers
- Plastic liners
- Plastic drop cloths

Station 2: Outer Glove and Boot Removal
Equipment –plastic container

Station 3: Gross Decon Shower
Personnel to walk through shower to rinse off outer protective equipment.
Equipment:

- 1, decon shower
- containment box

Station 4: Wash and Rinse with Assistance of Helper
Equipment:

- 1, kiddie pool
- 1, long handle, soft bristle brush
- detergent water

Station 5: SCBA Tank Change Up Wind
If necessary exchange tank gloves and boots. Tape joints.
Equipment:

- plastic container
- stool
- clean gloves and boots
- spare SCBA bottles

Station 6: Suite Removal
With assistance of helper, remove fully encapsulating suit, put in bag.
Equipment:

- large plastic bag
- stool

Station 7: Inner Glove and Boot Removal
Equipment:

- plastic container

Station 8: SCBA Removal
Disconnect face-piece and with assistance from helper remove backpack.
Equipment:

- drop cloth
- table

Station 9 Field Wash
Shower if highly toxic materials are known or suspected to be present.
Wash hands and face if shower is not available.
Equipment:

• water	basin	towels
• soap	field shower	tarp (shower curtain)

Station 10 Redress/Medical Check

Personnel will put on clean clothing and have his vital sign's checked

Equipment:

- tables
- chairs
- clothes
- medical person

Standing Operating Guidelines
Staging Area Officer

I. Responsibilities
   A. Manage all staging area activities: Apparatus parking, Company Standby Area.
   B. Develop organization sufficient to handle assignments
   C. Plan layout of staging area consider immediate and future needs.

II. Establish Location
   A. Apparatus parking-police assistance
   B. Outside agencies
   C. Equipment and supplies pool location
   D. Staging command location
      1. control
      2. communication

III. Strategy, Tactics
   A. Assess resources needs commands, communications, equipment, supplies, apparatus, personnel, relief, police, etc.
   B. Consult with I.C.
   C. Give job assignments

IV. Needs
   A. Food
   B. First Aid facilities
   C. Restroom facilities

V. Records
   A. Staging Officer will keep a log of all materials and supplies, equipment and apparatus, and all personnel entering or leaving the staging area.

Standard Operating Guidelines
Public Information Officer

1. The Public Information Officer (PIO) will function as a part of the Incident Command Post and will be the spokesman for all matters pertaining to the incident.

2. If the incident occurs within the Fort Wayne City Limits, the PIO may be a member of the Police and/or Fire Department. If the incident is in the fire protection districts serviced by the FWFD, the PIO will be either a FWFD officer or a County Sheriff Officer.

3. The duties of the PIO include:
   A. Maintain a current status of incident
   B. Brief the new media on a timely basis, at 15 minute intervals
   C. Select briefing area, in a safe area, preferably adjacent to the CP.
   D. Insure information furnished is timely and accurate.

4. If evacuation is necessary, exact areas of evacuation shall be provided to all media for immediate dissemination.

Standard Operating Guidelines
Safety Officer

1. The Safety Officer shall be appointed by and report to the Incident Commander
2. The Safety Officer should provide the I.C. with recommendations on establishing the Hazard Zones, based on the identification and evaluation of the hazard.
3. The Safety Officer should maintain the security and control of entry into the various hazard zones.
4. The Safety Officer should implement a site safety plan (safety of all on scene personnel)
5. The Safety Officer should make the final decisions on any tactics proposed
6. The Safety Officer should monitor Communications between entry personnel and I.C.
7. The Safety Officer should ensure all pertinent data is collected and recorded.

Standing Operating Guidelines
Communications

When an incident is reported to communications, the following information should be obtained in as much detail as possible:

A. identification of the caller, how he/she can be contacted
B. exact location of the incident
C. basic description of what occurred
D. identification of vehicle, building or object involved
E. Approximate time incident occurred

1. The dispatcher will attempt to obtain any and all information from the person reporting a hazardous material incident. The information should, if possible, include material name and/or type, amount and size of container(s), problem (leak, spill, fire, etc).
2. If possible, the dispatcher should stay on the phone with the caller.
3. Additional information shall be relayed to responding units.
4. Who is to be dispatched? (see agency response guide)
5. Give location, the exact number related to street corner, intersections, cross streets, or other physical land-marks, such as large building s, signs, etc.
6. Give disposition (if known) type of material involved, visible activity (smoke, fire, etc), type of vehicle involved, type of placard, traffic control information (blocked streets, etc.) , weather information.
7. Notify the companies of wind direction and velocity, temperature, relative humidity, precipitation (type, amount, intensity, beginning and ending time)
8. Weather reports are to be updated hourly at 10 minutes before the hour. Emergency updates will be prepared upon request.
9. Response outside the Fort Wayne Fire Department jurisdiction will only be made when requested by Allen County Sheriff, Indiana State Police or a Fire Chief or his representative. The Fire Chief or Duty Chief, in that order, will authorize the response.

Weather Information for Hazardous Material Accident/Incident

To be requested from National Weather Service (NWS); supply information in paragraph A to NWS.

A. General requirement presented to NWS.
 1. Area of interest: (Give the particular area for which the weather information id desired)
 2. Date/Time: (Give time period for which the weather information id desired)

B. Information to be supplied by NWS.
 1. Location form which the information is applicable
 2. Date/time: (when the weather information is valid).
 3. Wind: hazardous material accident/incident (wind direction to the nearest 10 degrees or 16 cardinal points and wind speed to nearest know, accurate to + 5 knots)
 4. Temperature available-Baer field airport
 5. Relative humidity: (nearest 5%)
 6. Precipitation:
    - Type
    - Amount
    - Intensities
    - Beginning and end time
 7. Cloud:
    - Coverage (eights or tenths of sky)
    - Type (standard classifications)
    - Base height (feet)

E.M.S.

Items to be considered include:
1. Special protection
2. Decontamination of Patient
3. Decontamination of Ambulance
4. Protection of Hospital Emergency Room becoming contaminated.

EMS personnel need to be aware of necessary safety precautions. When an individual dons and EMS jacket and begins to perform emergency medical work, an invisible shield protects them from the chemical hazard, some think.

Think about the last incident which your department handled, were there EMS personnel on the scene and did they have full protective clothing and breathing apparatus? Or, were they encase in a coat, leather shoes, and without gloves? Certainly no protection for them.

Yet, these EMS people are called upon to work in the toxic atmosphere as well as handle any civilian or emergency workers injured. Does contamination occur before handling? Each of these items must be considered.

Remember that EMS personnel can also be injured and care must be exercised in handling, treating, and transporting individuals who have an injury due to exposure to chemicals.

EMS personnel must exercise care to provide for their own protection for their own protection when responding to hazardous material incidents.

EMS personnel are there to assist the H.M.C.G. Medical vitals will be taken for all entry personnel. If the On-Scene medical personnel determine that any entry personnel does not meet certain medical requirements (pulse rate, temperature, heart rate,etc.)he/she will not enter the Hot Zone.

Before any person exposed to a hazardous material is transported to the hospital information concerning the material and incident shall be relayed to the On scene EMS personnel and hospital.

Standing Operating Guidelines
Radiological Accident

A. In an incident involving radioactive materials spillage or leakage, police and fire department personnel will take the following emergency actions at scene of incident, pending the arrival of radiological emergency experts.
   1. Rescue injured or trapped persons and remove them form the area, if radiation levels permit, otherwise additional personnel may be exposed.
   2. Limit first aid to those actions necessary to save life or minimize immediate injury.
   3. Try to hold all people who have been involved in the incident in the incident area until the radiation monitoring team arrives. They must be checked with a radiation survey instrument for radioactive contamination before being allowed to leave scene.
   4. When it is necessary to send an individual to a hospital or other medical facility BEFORE a radiological emergency team or a physician knowledgeable in radiological health arrive, inform ambulance and other transporting vehicle personnel who will be in contact with the individual, of the possibility of radioactive contamination. Also, inform the hospital or medical facility that the individual may be contaminated with radioactive material.
   5. Be sure no none except Emergency Service Personnel is admitted into the area, and advise all persons not to handle or remove any part of the debris from the incident.
   6. Fight fire, and to the extent possible, keep upwind and avoid smoke, fumes and dust.
   7. DO NOT eat, drink, or smoke in the incident area, or use food or drinking water that may have been in contact with radioactive material.
   8. DO NOT handle, use or remove from the incident area any material, equipment, or other items suspected of being radioactively contaminated unless released by radiation monitoring personnel.

B. When the emergency monitoring team arrives on the scene, it will advise and act as requested by and under the general direction of the official in charge, (Incident Commander), direct the technical operations and , as necessary, perform the following operations:
   1. Survey and determine facilities, equipment, area or environmental radioactive contamination.
   2. Initiate steps to minimize personnel exposure and the spread of contamination.
   3. Conduct instrument check for contamination of exposed emergency workers and other persons involved in the incident area.
   4. Segregated and, if necessary, have contaminated persons decontaminated.
   5. Initiate or recommend other decontamination action as required.
   6. Provide information to the Emergency Operating Center for release to the public, when necessary, to minimize public alarm or to assist in the conduct of emergency activities.
      (advice and instructions to be issued to the public would be dictated by requirements on the developing situation)

C. When decontamination is required, take the following actions:
   1. Have the local Public Works Department assist in decontamination and disposal of contaminated material if the use of heavy equipment is required.
   2. Have the Fire Department provide personnel and equipment (for wash-down, etc) to assist in decontamination.
   3. Have Police obtain names and addresses of al persons involved, restrict access to the incident area and prevent unnecessary handling of incident debris; and if necessary , initiate evacuation of areas subject to contamination.
   4. When a transportation incident involves radioactive material, DO NOT move vehicle, shipping containers, or wreckage, except to rescue people. Detour pedestrian and vehicle traffic. If a right of way must be cleared before radiological emergency assistance arrived, move vehicle and debris the shortest distance required to open an pathway. Before permitting the passage of traffic, spillage on the cleared pathway should be washed, or wetted and swept, to the edge of the pathway with a minimum dispersal of wash water and spilled material.

D. If no explosion has occurred and it is believed that a nuclear weapon is involved, take the following actions:
   1. Restrict area of incident and keep public as far from the scene as practicable. Restrict the area 2000 feet or more in all directions.
   2. Rescue injured or trapped persons as quickly as possible rescue and remove them form the incident area.
   3. Evacuate all unnecessary personnel within the area as quickly as possible, except those involved in emergency operations.
   4. Do not allow public entrance to the area.
   5. Fight fire as though toxic chemicals are involved: keep upwind and avoid smoke, fumes and dust.

E. If an explosion has occurred and a nuclear weapon is believed to be involved, take the following actions:

1. Restrict area for 2000 feet or more in all direction.
2. Rescue injured or trapped persons
3. Evacuate all persons form the area and prevent access until advice can be obtained form appropriate radiological and ordinance experts.
4. Fight fires and handle other emergency situations that may occur as an aftermath, in accordance with appropriate emergency service checklists.
5. When the radiological monitoring (and ordinance, if applicable) experts indicate the incident area is safe, resume normal routine, notify the Emergency Operating Center, and submit final reports as required.

Standing Operating Guidelines
Incident Command

I. Introduction

The personnel needed to respond to a hazardous materials incident can vary greatly,. Regardless if few or many responders are involved, they must be organized. Without a coordinated, organized effort, the primary reason for responding (protection of the public's health, environment and property) may be ineffective.

The number of people responding to an incident may range from a few to hundreds, and represent a variety of sources from government as well as private industry. Some incidents are readily managed by trained responders from local jurisdictions. Others may require additional responders from state and federal agencies and form private industries. These groups, each with diverse functions and responsibilities must blend into a cohesive response unit capable of conducting the required remedial activities.

Every hazardous materials incident in unique. The materials involved, their effect, as well as operations required to prevent or reduce the effect of their release are incident specific. Common, however, to all incidents, is the need for organizations.

II. Incident Command System

In order to better maintain control of an incident and according to OSHA 1910.120, Sec. Q the Incident command System shall be implemented when a hazardous materials incident occurs. It s an in-place command system used by the Fire Service when responding to emergencies which may threaten the community. The ICS designates who is in charge, establishes a chain of command and lists key personnel and their functions.

The Incident command System shall automatically be activated when a hazardous materials incident occurs. The first arriving officer shall be the Incident Commander and remains so throughout the incident until a higher ranking officer properly relieves him/her of that responsibility.

Using the ICS as a framework provides the Incident Commander with a manageable and organized structure necessary to control the incident. The size and complexity of the organization needed is dictated by the magnitude of that particular incident.

III. Command Staff and Responsibilities

A. Incident Commander: Directly responsible for the overall incident activities. Determines manpower and other resources needed. Develops strategy for controlling the incident.

B. Safety Officer: Designated by and reports to Incident Commander. Is responsible for overseeing all operations at the scene and identifies hazards and hazardous situations. Has emergency authority to stop operations or activities due to unsafe conditions.

C. Operations Officer: Responsible for management of the incident. Supervises suppression operations. Briefs and receives directions from Incident Commander.

D. Public Information Officer: Is the liaison between the Incident Commander, the news media and the public. Prepares and releases new updates.

E. Resource Officer: Responsible for obtaining all the resources needed to control the incident. Collects and stores information and prepares reports on incident activities.

F. Staging Officer: Determines sites and arranges for which areas to be used for staging equipment, supplies, additional units and arriving personnel.

G. Medical Officer: Responsible for all needed medical service. Provides on-site triage, treatment, hospital transport and medical monitoring of on-site personnel.

H. Liaison Officer: Is the liaison between the Incident Commander and other government and private organizations.

I. Sector Officer: Supervisor for the various sectors (activities) that may be needed, for example: evacuation of people form the immediate area, monitoring or collecting samples and others.

The severity and size of an incident will determine the number of command staff personnel needed to successfully mitigate an incident.

IV. H.M.C.G. Command Structure

When a hazardous materials incident occurs, the Fire Department's Hazardous Materials Team shall be integrated into the Incident Command System. The response team, as an entity and aside from the ICS, must be organized such that they can effectively function to control and restore the situation.

The H.M.C.G. must have a table of organization and personnel job descriptions paralleling the command structure of the ICS. The following job descriptions are written specifically for the H.M.C.G., thereby establishing an organized and functional hazardous materials Incident Command System, which would help maintain control and bring about a successful outcome of an incident.

A. Hazmat Sector Officer: Ensures all pertinent data is recorded and collected. Oversees all areas of response team and assigns personnel to various Hazmat sectors needed. Responsible for stabilization and mitigation of the incident. Reports to Operations Officer or Incident Commander, depending on size of incident.

B. Safety Officer: Designated by the Hazmat Sector Officer and reports to the Hazmat Officer. Maintains control and security of entry and exit of all personnel between the various zones. Assures that safe practices are being observed by H.M.C.G. personnel. Responsible for assessing the incident, monitoring entry personnel and changes that might occur during the incident.

C. Decon Officer: Responsible for establishment and control of the entire decontamination process.

D. Research Officer: Identifies product and researches the chemical characteristics of the product. Determines compatibility of product to protective equipment.

E. Entry Officer: Responsible for entry team and back-up personnel. Reports to Hazmat Sector Officer

Section IV
Resources

Post Incident Analysis

Identify the Problem:

A. Provide date of incident
B. Provide time of incident
C. Location: address or general area description.
D. Type of emergency, ie, structure fire (commercial, residential, train wreck, bus fire, plane crash, etc.
E. Describe situation as seen on arrival of first unit, (ie, “Rear half of building totally involved and fire coming through the roof.”)Provide drawings of the entire problem with the location of units committed.
F. Provided equipment dispatched on each alarm. Include companies and time of dispatch.

Identify the Objective:

A. State the plan of attack utilized
B. Provide alternatives considered at time of arrival
C. If any changes were made in the original plan during subsequent alarms, stated the new plan and the reason for the change.

Implementation of Strategic Plan:

A. Provide unit numbers and reasons for any special equipment and time requested.
B. Provide unit numbers, arrival time, and assignment given to incoming units by arrival sequence for all alarms.
C. Changes in strategies, time unit involved and reason.

Discussion:

A. General discussion form first alarm people
B. Same as “A” involving second alarm people
C. Same as “A” involving third alarm people
D. List major problems as identified by your personnel. Be descriptive and provide the name of the person identifying the problem.
E. Identifying minor problems
F. Identifying all safety violations

Conclusions:

Provide any recommendations for changes in tactics, equipment, location, improvement of safety, etc. In general, what could be done to improve the next emergency of this type?

Hazmat Control Team Member Job Description

1. Will have completed one year of service with the Fort Wayne Fire Department
2. Must pass an annual physical
3. Will assist in training when necessary
4. Will give assistance to the team leader in the daily operation of the team
5. Must be able to think quickly and clearly under stress
6. Must be able to communicate freely both verbally and physically
7. Must be able to adjust behavior pattern from structural firefighter tactics to hazmat emergencies
8. Will attend monthly training sessions
9. Must be willing to attend various schools and seminars
10. Will attend mandatory training sessions set up by the team leader
11. Will assist in maintaining all hazmat equipment
12. Will assist the team leader in making suggestions at a Hazmat incident
13. Must successfully complete the State Hazmat technician Certification Course
14. Must meet all NFPA 472 and OSHA 1910.120 standards pertaining to hazardous materials team emergency responders.
15. Must maintain on a yearly basis, a minimum of 24 hours documents hazardous materials team training to remain as member of the H.M.C.G.

H.M.C.G. Team Leader Job Description and Responsibilities

1. Will select the team members
2. Will initiate training sessions for team members when necessary
3. Will set up and conduct training sessions for rest of the Fire Department
4. Will conduct training sessions for any other City Department that the Chief deems necessary
5. Will take care of the day to day business of the team
6. Will make an annual report
7. Will recommend team members to attend various training program and seminars
8. Will make purchase recommendations
9. Will manage the maintenance of accurate resource information
10. Will provide for the maintenance of team records including: training records, exposure time and products response records and any other information pertinent to the Hazmat function.
11. Will work with the incident commander regarding team and/or equipment needs, SOP's tactical considerations and problem resolution at a Hazmat Incident
12. Will develop training schedules and programs
13. Will meet semi-annually with team members to discuss team organizational problems and needs
14. Will file and maintain all records pertaining to the Hazmat response team
15. Will establish and maintain a Hazmat response team and it equipment to the degree prescribed by the Fire Chief
16. Will monitor all activities of the Hazmat team and is support agencies to insure that the rules and regulations of the Fort Wayne Fire Department area adhered to.

17 Will keep the Fire Chief informed of all team activities periodically

H.M.C.G. Requirements for Probationary Trainees

All training shall be in accordance with NFPA 472 and OSHA 1910.120 Hazardous Materials Emergency Response Standards. The instruction shall be completed within one year form the date applicants are selected for training as H.M.C.G. members. The training shall be scheduled and instructed by the Team Leader and/or various outside instructors.

The probationary period will be one year, during this period no tech pay shall be paid. Upon completion of the probationary period the new member must obtain a Masters in Hazardous Materials within one year. If the Masters in Hazardous Materials is not completed in the allotted time the member has two options, first continue as a member of the team without tech pay until the certification is obtained or resign.

When the number of personnel involved in training exceeds the number of available positions, the following procedure shall be utilized. All persons who complete the training and required testing will receive a ranking according to their final test average. The person with the highest average will be offered the first opening on the H.M.C.G

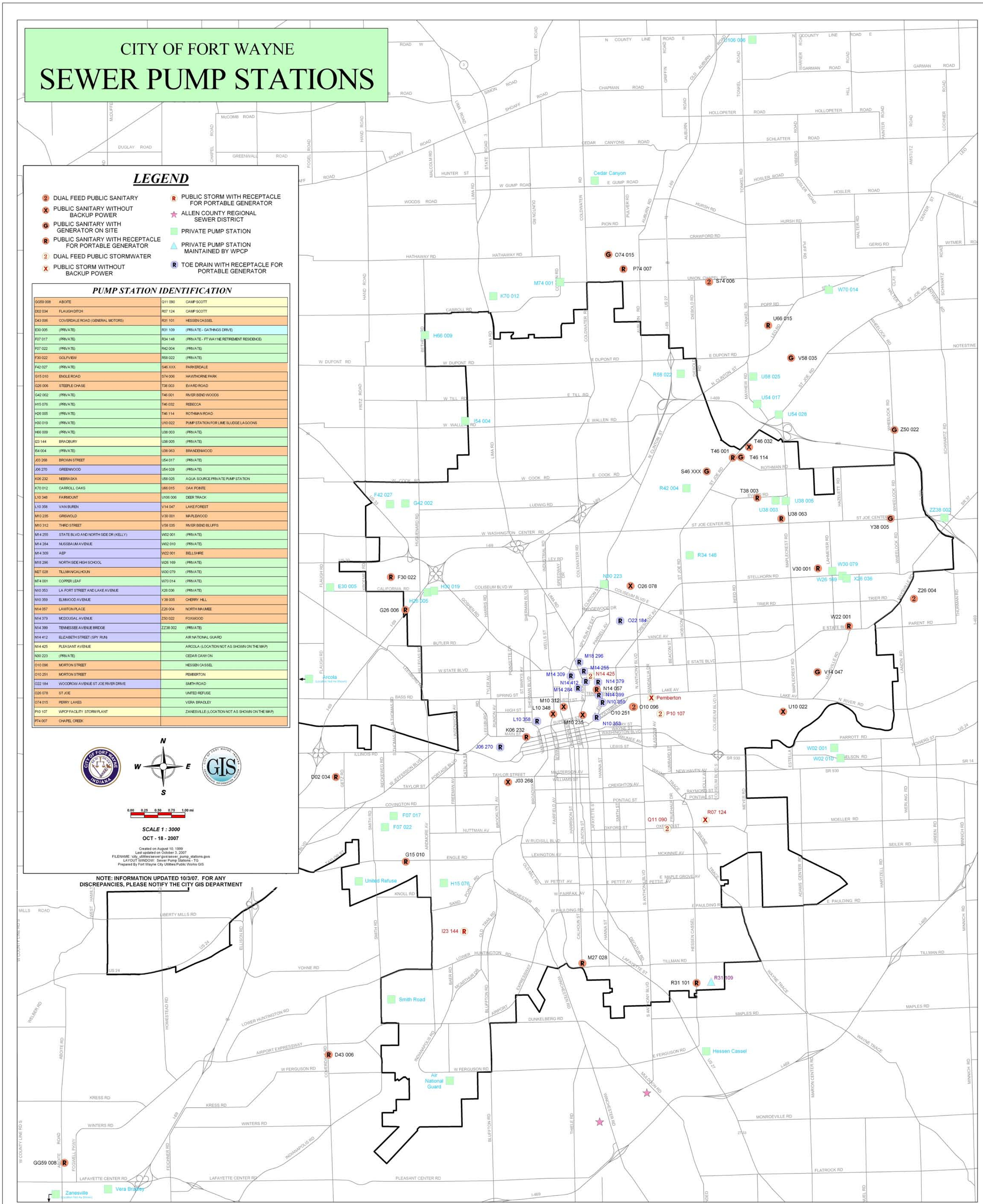
If that person refuses to accept that opening, then the person with the next highest test average will be offered the position. This procedure will be followed until the position or positions have been filled. During the probationary period all trainees will respond to an incident to only act as an assistant. You are not to enter the Hot Zone or don an entry suit.
(job description for team members is applicable to all trainee)

ALL TRAINING SHALL BE IN COMPLIANCE WITH NFPA 472: STANDARD FOR COMPENTENCE OF RESPONDERS TO HAZARDOUS MATERIALS INCIDENTS.

Instruction Outline

I. Basic Chemistry for Firefighters
II. IAFF Awareness, Operatioinal and Technician Program
III. Incident Analysis
IV. Incident Command
V. SOP and HMCG Procedures
VI. Pesticide Challenge
VII. Simulated Hands on Incidents
VIII. Final Exam

EXHIBIT F



PUMP STATION IDENTIFICATION

GG59 008	ABOITE	Q11 090	CAMP SCOTT
D02 034	FLAUGH DITCH	R07 124	CAMP SCOTT
D43 006	COVERDALE ROAD (GENERAL MOTORS)	R31 101	HESSEN CASSEL
E30 005	(PRIVATE)	R31 109	(PRIVATE - GATHINGS DRIVE)
F07 017	(PRIVATE)	R34 148	(PRIVATE - FT WAYNE RETIREMENT RESIDENCE)
F07 022	(PRIVATE)	R42 004	(PRIVATE)
F30 022	GOLFVIEW	R58 022	(PRIVATE)
F42 027	(PRIVATE)	S46 XXX	PARKERDALE
G15 010	ENGLE ROAD	S74 006	HAWTHORNE PARK
G26 006	STEEPLE CHASE	T38 003	EVARD ROAD
G42 002	(PRIVATE)	T46 001	RIVER BEND WOODS
H15 076	(PRIVATE)	T46 032	REBECCA
H26 005	(PRIVATE)	T46 114	ROTHMAN ROAD
H30 019	(PRIVATE)	U10 022	PUMP STATION FOR LIME SLUDGE LAGOONS
H66 009	(PRIVATE)	U38 003	(PRIVATE)
I23 144	BRADBURY	U38 005	(PRIVATE)
I54 004	(PRIVATE)	U38 063	BRANDENWOOD
J03 268	BROWN STREET	U54 017	(PRIVATE)
J06 270	GREENWOOD	U54 028	(PRIVATE)
K06 232	NEBRASKA	U58 025	AQUA SOURCE PRIVATE PUMP STATION
K70 012	CARROLL OAKS	U66 015	OAK POINTE
L10 348	FAIRMOUNT	U106 006	DEER TRACK
L10 358	VAN BUREN	V14 047	LAKE FOREST
M10 235	GRISWOLD	V30 001	MAPLEWOOD
M10 312	THIRD STREET	V58 035	RIVER BEND BLUFFS
M14 255	STATE BLVD AND NORTH SIDE DR (KELLY)	W02 001	(PRIVATE)
M14 284	NUSSBAUM AVENUE	W02 010	(PRIVATE)
M14 309	AEP	W22 001	BELLSHIRE
M18 296	NORTH SIDE HIGH SCHOOL	W26 169	(PRIVATE)
M27 028	TILLMAN/CALHOUN	W30 079	(PRIVATE)
M74 001	COPPER LEAF	W70 014	(PRIVATE)
N10 353	LA FORT STREET AND LAKE AVENUE	X26 036	(PRIVATE)
N10 359	ELMWOOD AVENUE	Y38 005	CHERRY HILL
N14 057	LAWTON PLACE	Z26 004	NORTH MAUMEE
N14 379	MCDOUGAL AVENUE	Z50 022	FOXWOOD
N14 399	TENNESSEE AVENUE BRIDGE	ZZ38 002	(PRIVATE)
N14 412	ELIZABETH STREET (SPY RUN)		AIR NATIONAL GUARD
N14 425	PLEASANT AVENUE		ARCOLA (LOCATION NOT AS SHOWN ON THE MAP)
N30 223	(PRIVATE)		CEDAR CANYON
O10 096	MORTON STREET		HESSEN CASSEL
O10 251	MORTON STREET		PEMBERTON
O22 184	WOODROW AVENUE ST JOE RIVER DRIVE		SMITH ROAD
O26 078	ST JOE		UNITED REFUSE
O74 015	PERRY LAKES		VERA BRADLEY
P10 107	WPCP FACILITY STORM PLANT		ZANESVILLE (LOCATION NOT AS SHOWN ON THE MAP)
P74 007	CHAPEL CREEK		

EXHIBIT G

MASTER VEHICLE & EQUIPMENT LIST BY DEPARTMENT - last update 9/12/05							
DEPT	VEH#	YEAR	VEH MAKE	VEH ID #	LICENSE	TIRE SIZE	REPLACE
SWM	44032	2004	Sterling Semi Tractor	2FWJAZCV74AM67357	65325	(F&R) 11.R22.5	2015
SWM	39077	1999	INT'L 2TN DUMP	IHTSLABM9XH665273	55270		2007
SWM	20112	2000	Chevy Pickup Truck	1GCEK19V5YZ315520	57443	P245/75R16	2008
SWM	25024	2005	GMC Sierra Hybrid	1GTEC19T45Z258136	27810	(F&R) P235/75R16	2012
SWM	27322	2007	Ford Escape Hybrid	1FMYU59H97KB06485		(F&R) P235/70R16	2014
SWM	33105	2003	4300 INT'L 2TN DUMP	1HTMNAAMX3H589237	63178	(F&R) 245/70R19.5	2010
SWM	34209	2004	4300 INT'L 2TN DUMP	1HTMNAAM94H656380	65318	245/70R 19.5	2011
SWM	56700	1996	Lg. Kobelco Excavator	YQU2558	NP		
SWM	43169	2003	Volvo Tandem Dump Truck	4V5KC9GF63N347919	63158	(F)315/80R22.5(R)11R22.5	2011
SWM	45186	2005	INT'L Vacuum Truck	1HTWYAHT05J159421	33432	(F)385/65R22.5(R)11R22.5	2012
SWM	45187	2005	INT'L Vacuum Truck	1HTWYAHT55J168700	33431	(F)385/65R22.5(R)11R22.5	2012
SWM	46084	2006	IH Tandem Dump Truck	1HTWYAHT16J260789	69092	(F)315/80R22.5(R)11R22.5	2013
SWM	47002	2007	IH 7600 Combo Truck	1HTWYAHT37J496300		(F)315/80R22.5(R)11R22.5	2014
SWM	53240	2003	Gradall Ditch Machine	225419	NP		2013
SWM	53239	2003	Vermeer Chipper	1VRN1312521002876		215/75R175	
SWM	54119	2004	JD Backhoe 410G	T0410GX933936		(F) 12.5/80-18 (R) 19.5L-24	2015
SWM	55101	1985	INGERSL AIR COMP	146845U85953	6096	F4.10/3.50-4(B)P215/75R15	2003
SWM	55701	2006	CAT Shid Loader	0287BCZSA02797	NP	Rubber Tracks	
SWM	61005	1971	DUETZ 6" PUMP	F3-6L912/W	NP	P215/75B15	2003
SWM	63616	2003	Lg. Target Concrete Saw	saw #373602-motor #00680186	NP		
SWM	65102	1985	6" CH&E PUMP	TO4219D111672	NP	(F)4.80-8(B)P195/75R15	2006
SWM	65103	1985	6" CH&E PUMP	TO4219D111671	NP	(F)4.80-8(B)P195/75R15	2006
SWM	65104	1985	6" CH&E PUMP	TO4219D113921	NP	(F)4.80-8(B)P195/75R15	2006
SWM	66101	1986	6" CH&E PUMP	TO4239D140668	NP	(F)4.80-8(B)P195/75R15	2006
SWM	66102	1986	6" CH&E PUMP	TO4239D145267	NP	(F)4.80-8(B)P195/75R15	2007
SWM	66103	1986	6" CH&E PUMP	TO4239D145266	NP	(F)4.80-8(B)P195/75R15	2007
SWM	62109	2002	Godwin Hydraulic Pump	2209222	NP	ST205/70D15	
SWM	74613	1994	Hudsn htd18c bh trl	10HHTD1C9R1000036	842	9.50-16.5LT	2014
SWM	47112	1997	INT'L TANDEM DMP	1HTSWAARXVH447791	492	11R22.5 front & rear	2008
SWM	71207	2001	Talbert Lowboy Trl	40FS0493811020602		255/CR22.5	
SWM	72614	2002	Eager Beaver Trl - 20 ton	112H8V3212L060539	63131	215/75R 17.5	2014
SWM	43169	2003	Volvo Tandem Dump	4V5KC9GF63N347919	temp	(F) 315/80R22.5(R) 11R22.5	2011
SWM	77702	2007	Towmaster Trailer	4KNUT20207L163320		215/75R 17.5	
SWM	78507	1998	CAM Utility Trailer	4YUUF0910WL001497	57426	205/75R15	
WPM	45555	2004	INT'L Combo truck	1HTWYAHT75J148268	27837	(F)425/65R22.5 (R)11R22.5	2012
WPM	47003	2007	INT"L Combo truck	1HTWAHT27J550895	74211	(F)315/80R22.5(R)11R22.5	2014
WPM	22017	2002	Ford F250 Pick Up	1FTNF20L32EC50042	60629		2010
WPM	23759	2003	Ford F250 Superduty	3FTNF20LX3MB36759		LT 235/85R16 M/S	2011
WPM	23760	2003	Ford F250 4x4	3FTNX21L53MB36762		LT 235/85R16 M/S	2011
WPM	36106	2006	INT'L 2TN Dump	1HTMNAAM06H319714	69250	(F&R) 245-70R 19.5	2014
WPM	36210	2006	INT'L 4700 2TN Dump	1HTMNAAM66H327249		(F&R) 245/70R 19.5	2014
WPM	37115	2006	INT'L 4300 2 Ton Dump	1HTMNAAM67H451281	54719	(f&r) 245/70R 19.5	2013
WPM	27525	1997	Ford F250 Pick Up	3FTHF25HOVMA39221	54647	LT 235/85R16 M/S	2006
WPM	25182	2005	Ford Ranger Super Cab	1FTZR45EX5PA42652	27561	(f&r) P255/70R16	2013
WPM	25183	2005	Ford Ranger Super Cab	1FTZR45E15PA42653	27560	(f&r) P255/70R16	2013
WPM	26013	2006	GMC Sierra Hybrid	1GTEC19T06Z297811	21173	(F&R) P235/75R16	2014
WPM	26318	2006	Ford Escape Hybrid	1FMYU96H76KC95874	69837	(f&r) P235/70R16	2014
WPM	26319	2006	Chevy Colorado 4x4	1GCDT136368296365	69905	P235/75R15	2014
WPM	29527	1999	Ford F250 4X4	1FTNF21L4XEA71952	55201	LT265 / 75R16	2008
WPM	27308	1997	Ford Rodder F350	1FDNF80C1VVA31776	57422	225/70R19.5 FRT &REAR	2010
WPM	55703	2005	Medium Size Excavator	7H04-03236	NP		2015
WPM	58701	1998	Mini-excavator	8004858	NP		
WPM	72614	2007	Komatsu mini-excavator	KMTPC029T01003195	NP		2017
WPM	30064	2000	MH Sealing Truck	3FCMF53S3YJA02636	57414	(f & r) 245/70R 19.5	2010
WPM	29065	1989	Hydro-seeder Truck	1GBKP32K6K3317176	53598	8-19.5	
WPM	22068	2002	TV Truck (white)	1FDWE35L12HA66170	60696	(f&r) LT225/75r16 -	2008
WPM	39111	1999	Sterling Flusher	2F2HRJAA1XAA32000	55855	11R-22.5	2007
WPM	40159	2000	Sterling Tri-axle	2FZXEPYB2YAG10146	54447	(F)425/65R22.5(R)11R22.5	2010
WPM	32081	2002	INT'L 4900 Flusher	1HTSDADRX2H408637	53642	255/70R22.5	2009
WPM	34018	2004	Sprinter TV Truck	WD2PD543145603017	65383	(f & r) 195/70R 15	2012
WPM	34208	2004	4300 INT'L 2TN DUMP	1HTMNAAM24H656379	65200	245/70R 19.5	2011
WPM	35166	2005	4700 INT'L Flusher	1HTWCAZR95J010457	27830	(f&r) 11R22.5	2012
WPM	37116	2006	INT'L 7400 Flusher	1HTWCAAR87J488187	71279	(F)295/75R22.5 (R)11R22.5	2013
WPM	27526	1997	Ford F250 Pick Up	1F1HF25H1VEC13819	53261	LT 235/85R16 M/S	2006
WPM	14047	2004	Ford Taurus	1FAFP55U24G110677	65389	(F&R) P215/60R16	2012
WPM	25021	2005	GMC Sierra Hybrid	1GTEC19T05Z267481	27825	(F&R) P235/75R16	2012
WPM	25023	2005	GMC Sierra Hybrid	1GTEC19T45Z280895	27823	(F&R) P235/75R16	2012
WPM	43168	2003	Volvo Tandem Dump	4V5KC9GF43N347918	63159	(F)315/80R22.5(R)11R22.5	2010
WPM	51117	2001	Ford N.H. Skid Loader	196024	NP	16.5	2013
WPM	55103	1985	Ingersoll Air Comp	146846U85953	5587	F4.10/3.50-4(B)P215/75R15	
WPM	50116	2000	410E Deere Backhoe	T0410EX884046	NP	(F) 12.5/80-18 (R) 21L.24	
WPM	57285	1997	Mauldin Roller	32			
WPM	60087	1989	Sereco Power Mach	LB-9-881729	NP	(F) hard rubber(B)7.00-15LT	
WPM	60088	1989	Sereco Power Mach	LB-9-881728	NP	(F) hard rubber(B)7.00-15LT	
WPM	64071	1984	Western mortar mixer	23362	NP	4.80-12	
WPM	64150	1984	Best cement mixer	4641118	NP	b78-13	
WPM	65108	2005	Godwin Hydraulic Pump	4313311	NP	LT235/85R16	
WPM	66104	1986	CH&E 6" pump	TO4239D140670	NP	(F)4.80-8 (B) P195/75R15	
WPM	63107	2003	ACME 6" Pump	30505			

DEPT	VEH#	YEAR	VEH MAKE	VEH ID #	LICENSE	TIRE SIZE	REPLACE
WPM	66105	1986	Hand Rodder Sreco	PDL1994	NP	Hard Rubber	
WPM	70610	1990	Interstate BH Trailer	1JKDTP292LA601828	53357	8-14.5 LT	
WPM	70611	1980	Reids Utility Trailer	702477	6456	8-14.5 LT	
WPM	71611	1991	Bemis Arrowboard	9107B201	NP	P185/80D13	
WPM	79610	1999	Tracom Arrowboard	645		205 \ 75 R14	
WPM	72717	1992	Shore Trailer	10HHD1206N1000019	298	8-14.5LT	
WPM	72718	1992	Shore Trailer	10HHD1202N1000020	299	8-14.5LT	
WPM	73100	1993	Brindle TV Trailer	1L90V1113PG085016	53607	p235/75r15	
WPM	74592	1954	Concrete saw trailer	no id	NP	6.50-16LT	
WPM	78719	2007	Felling concrete saw trailer	5FTPE122581029994		ST225/75R15	
WPM	79530	1989	S&S MFG Trailer	PH124F308K1J1000L	NP	p215/75b15	
WPM		1990	Backhoe att skid ldr	88M2CL1391			
WPM	WPM03	1995	Partner Abrasive Saw		Spare	Tool Room	
WPM	WPM04		Abrasive Saw	14" blade			
WPM	WPM07	1995	Honda Pan Tamper				
WPM	WPM08	1995	Honda Pan Tamper				
WPM	WPM09		Jumping Jack Tamper				
WPM	WPM14	1995	3" Pump				
WPM	WPM15		3" Pump				
WPM	WPM16	1995	3" Pump				
WPM	WPM18	1995	3" Pump				
WPM	WPM20	1995	3" Pump				
WPM	WPM21	1995	2" Pump				
WPM	WPM22	1995	2" Pump				
WPM	WPM23	1995	2" Pump				
WPM	WPM27	1995	2" Pump				
WPM	WPM28	1995	3" Pump				
WPM	WPM29		Dayton Generator				
WPM	WPM30		Dayton Generator				
WPM	WPM32		Hand Rod Machine				
WPM	WPM33		Air Blower	sets in mh frame			
WPM	WPM34		Air Blower	sets in mh frame			
WPM	WPM35		Mower	21" cut John Deere			
WPM	WPM36		Mower	21" cut Murry			
WPM	WPM38		Smoke Test Blower				
WPM	WPM41		Stihl Chain Saw	24" bar			
WPM	WPM42		Stihl Chain Saw	24" bar			
WPM	WPM43		Stihl Concrete Saw				
WPM	WPM45		Honda Air Compressor				
WPM	WPM46		Snow Blower				
WPM	WPM47	2001	Stanley Hydraulic Unit	99122511			
WPM	WPM48	2001	3" Gorman Rupp Pump	1207811			
WPM	WPM49	2001	Kohler Hydro-seeder	2811104731			
WPM	WPM50	2001	Ryobi Weed-Eater	101144309			
WPM	WPM51	1987	Cement Pump in MHST				
WPM	WPM053	2003	Target Abrasive Saw	1311494352			
WPM	WPM054	2003	Stanly hydr abrasive saw	1590			
WPM	WPM57	2004	Partner Abrasive Saw	04 0500089		Spare (toolroom)	
WPM	WPM58	2004	Partner Abrasive Saw	04 0500093			
WPM	WPM059	2004	Stihl Chain Saw - MS180	262-190-104			
WPM	WPM060	2004	Tamper for JD Backhoe	220083			
WPM	WPM061	2004	Handi-ram for JD Hoe				
WPM	WPM062	2004	Hydraulic Pump for JD	49334FXJ0418X8			
WPM	WPM063	2005	Stihl Chain Saw MS180	264392843			
WPM	WPM064	2005	Stihl Weed-eater	257067353			
WPM	WPM065	2004	Partner Concrete Saw	04-5200477	#112		
			Chicago Pneumatic drill	(CP 9 A) 04232X019N			
WPM	WPM66	2005	Stihl Chainsaw-MS290	264749546			
WPM	WPM67	2005	Stihl Leaf Blower-BR550	265203987			
WPM	WPM068	2005	Abrasive Saw	05-3700416	#124		
WPM	WPM069	2005	Abrasive Saw	968 34 14-00	#107		
WPM	WPM070	2000	Kent Handy Ram C.P.6				
WPM	WPM071	1990	New Holland B-109				
	WPM072		attachment to 50162				
WPM	WPM073	2006	Barrel Grinder CAT HM312	DJP00108			
	WPM074		Harley Rake			attachment to 51117	
WPM	WPM075	2006	Mower Deck CAT BR378	RDN00189			
		2006	Milwaukee 41/2" Grinder	856H80543 0598		Hand held (red in color)	
		2006	Milwaukee 71/4" Circular Saw	983C80609 0913		Red in color	
WPM	WPM076	2006	Boss Snow Plow	STB03167		attached to unit #29527	
WPM	WPM077	2006	Partner 750 Abrasive Saw	06-2500457	#169		
WPM	WPM078	2006	Partner 750 Abrasive Saw	06-4200617	#105		
		2007	Rugby 300 SG Lazer Level	300-61682		Purchased by Engineering	
		2007	Rugby 300 SG Lazer Level	300-61540		Purchased by Engineering	
		2007	Dewalt 18 volt cordless drill	126372	#124	keeping on truck #34209	
		2007	Dewalt 18 volt cordless drill	126377	#169	Keeping on truck #34208	
		2007	Dewalt 18 volt cordless drill	126363	#112	Keeping on truck #36210	
		2007	Dewalt 18 volt cordless drill	126358	#107	keeping on truck #37115	
		2007	Dewalt 18 volt cordless drill	126337	#105	keeping on truck #36106	
		2007	Dewalt 18 volt saws-all	352342	#120	keeping on truck #30064	
WPM	WPM079	2007	Troybuilt Pony Tiller	1D107K80049			
WPM	WPM080	2007	Troybuilt Pony Tiller	1L015K80004			

GLOSSARY

ACPWQ: Allen County Partnership for Water Quality – ACPWQ was created by the City and other local governmental entities to help educate the public and the media about water resource issues.

Board of Public Works – The Board of Public Works of the City of Fort Wayne, Indiana.

CCTV – Closed Circuit Television

CFR - Code of Federal Regulations

City - The City of Fort Wayne

CMMS - Computerized Maintenance Management System keeps inventory of equipment, access parts information, and schedule maintenance activities and maintain a history of maintenance performed.

Combined or Combination Sewer – A sewer that carries storm, surface and groundwater runoff as well as sewage.

CSO – Combined Sewer Overflow

GIS - Geographic Information System – GIS is a term used to describe the creation, manipulation, analysis, and storage of spatial data. This technology integrates common database operations such as query and statistical analysis with geographic data through visualization and maps. These attributes distinguish GIS from other information systems and make it valuable for exploring options, explaining results, and deciding strategies.

IDEM - Indiana Department of Environmental Management

IMS - Infrastructure Management System – Electronic database to track maintenance activities

Industrial Pre-Treatment Program - A City program that handles the process to reduce, eliminate, or alter the nature of wastewater pollutants from non-domestic sources (mostly industrial) before they are discharged into Publicly Owned Treatment Works (POTWs).

Infiltration - The penetration of water entering sewers or pipes through defective joints, connections, or manhole walls.

Inflow - Stormwater entering a sewer system from sources such as basement drains, manholes, and storm and driveway drains.

IWEA – Indiana Water Environment Association

LTCP - Long-Term Control Plan – A document developed by CSO communities to describe existing waterway conditions and various CSO abatement technologies that will be used to control overflows.

Manhole - A hole, usually with a cover, through which a person may enter a sewer, boiler, drain, or similar structure.

NPDES - National Pollutant Discharge Elimination System – A national program under Section 402 of the Clean Water Act (CWA) for regulation of discharges from point sources to waters of the United States. Discharges are illegal unless authorized by an NPDES permit.

O&M - Operations and Maintenance

OSHA – Occupational Safety and Health Administration

POTW - Publicly Owned Treatment Works

Private Sewer – Sewer owned and maintained by a private company, person, group or persons or other private entity.

Public Sewer – A sewer to the use of which all owners of abutting property have equal rights and is controlled and maintained by City Utilities.

Pump Station - A station positioned in the public sewer system at which wastewater is pumped to a higher level.

SAG – Sewer Advisory Group

Sanitary Sewer – A sewer that carries domestic and industrial sanitary sewage and to which storm, surface, groundwaters and unpolluted industrial wastewaters are not intentionally admitted.

Sanitary Sewer Discharge (SSD) – any discharge to waters of the State as defined by applicable state law, or to navigable waters of the United States as defined by Section 502(7) of the Clean Water Act, 33 U.S.C. § 1362(7), from Fort Wayne's Sanitary Sewer System.

SIU - Significant Industrial User – An indirect discharger that is the focus of control efforts under the national pretreatment program; includes all indirect dischargers subject to national categorical pretreatment standards, and all other indirect dischargers that contribute 25,000 gpd or more of process wastewater, or which make up five percent or more of the hydraulic or organic loading to the municipal treatment plant, subject to certain exceptions [40 CFR 122.23(b)(9)]

SOP - Standards of Operation

SSS – Separate Sanitary Sewer System

Storm Sewer – A sewer designated or intended to convey only stormwater, surface runoff, street wash waters and drainage and not intended for sanitary sewage and industrial wastes other than unpolluted cooling water.

SUO – Sewer Use Ordinance

U.S.EPA - United States Environmental Protection Agency

UTA - Utility Administration Group

Water Pollution Control Utility (Wastewater Utility) – All facilities and systems for collecting, transporting, pumping, treating, disposing of sewage and sludge, including the sewage treatment plant and the sanitary, storm and combination sewer collection systems whether or not in active use.

WEF – Water Environment Federation

WPCM - Water Pollution Control Maintenance

WPCP - Water Pollution Control Plant – Any equipment, device, unit, structure, etc., that is used to control, prevent, pretreat, or treat any discharge or threatened discharge of pollutants into any waters of the State of Indiana, including surface and subsurface waters and public or private sewerage systems.

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Appendix 3

Performance Criteria
(Table 4.2.4.1 of Long-Term Control Plan)

Table 4.2.4.1
CSO Control Measures, Design Criteria, Performance Criteria, and Critical Milestones

	CSO Control Measure[1]	Description[2]	CSOs Controlled (By Overflow Permit ID)	Design Criteria[2]	Performance Criteria	Critical Milestones[3]
1	Plant Primaries[4]	Upgrade WPCP primaries to achieve peak capacity of 85 mgd and firm capacity of 74 mgd[5].	57; Outfall 002/003	When combined with the rest of the WPCP improvements, provide peak primary treatment capacity of 85 mgd and firm capacity of 74 mgd.	When combined with the rest of the WPCP improvements, facility achieves peak capacity of 85 mgd while complying with effluent limits of current NPDES permit at Outfall 001.	To be completed and in full operation in 2008
2	Plant Phase III[4]	Upgrade remaining WPCP facilities to achieve peak capacity of 85 mgd and firm capacity of 74 mgd[5].	57; Outfall 002/003	When combined with the rest of the WPCP improvements, provide peak secondary treatment capacity of 85 mgd and firm capacity of 74 mgd.	When combined with the rest of the WPCP improvements, facility achieves peak capacity of 85 mgd while complying with effluent limits of current NPDES permit at Outfall 001.	Bid Year - 2014 Achievement of Full Operation - 2015
3	Early Floatables Control	Pilot testing of selected floatables control technologies to assess performance in Fort Wayne[6].	3 pilot locations	CSO-specific; provide instantaneous peak floatables control rate equal to highest annual flow rate in "typical year."	Capture most coarse solids and floatables; design target is to remove one-half-inch diameter and larger solids and floatables.	Commence study - Ongoing Complete study - 2008 Initiate pilot program and make fully operational - 2009 Monitor pilot installations - 2009-2010
4	CSSCIP - Basins with Planned Satellite Storage/Disinfection Technologies[4]	Partial separation projects identified as cost-effective components of the Combined Sewer System Capacity Improvements Program.	45, 61, 62, 64, 51, 52, 53, 54, 68	Storm drains designed as per Fort Wayne Stormwater Standards. Sanitary sewers designed as per Fort Wayne Sanitary Standards and Ten State Standards.	Partial separation of sewers to address basement flooding concerns and reduce local CSOs.	The CSSCIP Program was begun in 1999. The program schedule typically addresses two to three combined sewer subbasins per calendar year. CSSCIP work under this Control Measure will be scheduled in two phases: Phase 1 will address CSO Outfalls 45, 51, 52, 53, and 68, and be completed by 2010; Phase 2 will address CSO Outfalls 61, 62, 64, and 54, and be completed by 2013.
5	Pond Storage & Dewatering	Improvements to CSO Pond 1 to allow storage of combined sewer overflow with subsequent dewatering to WPCP.	When combined with the Parallel Interceptor and Morton Street solution, all CSOs tributary to the Parallel Interceptor, plus CSO 48 and 57, plus Outfalls 002/003	Provide storage capacity of approximately 95 MG.	Achieve 4 overflow events from Ponds[7]	Optimization of existing facilities to allow interim dewatering - 2008 Bid Year for Full Dewatering Capability - 2011 Achievement of Full Operation - 2013
6	CSSCIP - Basins Tributary to PI[4]	Partial separation projects identified as cost-effective components of the Combined Sewer System Capacity Improvements Program.	4, 5, 11, 12, 13, 17, 18, 19, 20, 21, 23, 24, 26, 27, 28, 29, 32, 33, 36, 39, 50, 55, 60 (Note: CSSCIP work associated with Outfalls 17, 26, 27, 28, 33, and 36 already completed as of 2007)	Storm drains designed as per Fort Wayne Stormwater Standards. Sanitary sewers designed as per Fort Wayne Sanitary Standards and Ten State Standards.	Partial separation of sewers to address basement flooding concerns and reduce local CSOs.	The CSSCIP Program began in 1999 and typically addresses two to three combined sewer subbasins per calendar year. Remaining CSSCIP work under this Control Measure will be initiated in 2012 and completed in 2018.
7	Satellite Storage at St. Joseph River CSOs	Satellite storage facilities	45, 51, 53, 68	Provide storage volume of: CSO 45: 0.04 MG CSO 51: 0.76 MG CSO 53: 0.65 MG CSO 68: 1.17 MG	Achieve 1 overflow event[7]	Bid Year (first facility) - 2016 Achievement of Full Operation (final facility) - 2019
8	Satellite Disinfection at St. Joseph River CSOs[8]	Satellite disinfection facility	52	Provide peak disinfection treatment rate of 5.0 MGD[12]	Achieve 1 overflow event[7]; provide treatment to meet NPDES effluent limits for Satellite Disinfection for all other discharge events.[13]	Bid Year - 2013 Achievement of Full Operation - 2014
9	Satellite Disinfection[8]	Satellite disinfection facilities	54, 61, 62	Provide peak disinfection treatment rate of: [12] CSO 54: 1.2 MGD CSO 61: 8.4 MGD CSO 62: 5.8 MGD	Achieve 1 overflow event[7]; provide treatment to meet NPDES effluent limits for Satellite Disinfection for all other discharge events.[13]	Bid Year (first facility) - 2018 Achievement of Full Operation (final facility) - 2021
10	Morton Street/O10101 Reroute	Re-route overflow pump station discharge to CSO Pond 1.	48	Provide peak pumping capacity equal to highest annual flow rate in "typical year."	Achieve 0 overflow events[7]	Bid Year - 2019 Achievement of Full Operation - 2019
11	Wayne Street Parallel Interceptor	Parallel interceptor to capture combined sewer overflows for conveyance to WPCP/CSO Ponds. Begins near CSO 13 (K06298) at western end and discharges into the treatment complex at/near the overflow to the CSO Ponds (Regulator Q06057).	11, 12, 13, 23, 24, 26, 27, 28, 29, 32, 33, 36, 39, 50, 55, 60	Provide approximate instantaneous peak flow rate of 376 MGD at downstream end[9].	Achieve 4 overflow events[7]	Bid Year - 2020 Achievement of Full Operation - 2022
12	St. Marys Parallel Interceptor	Parallel interceptor to capture combined sewer overflows for conveyance to WPCP/CSO Ponds. Begins near CSO 21 (K19044) at southern end and discharges into the Wayne Street Parallel Interceptor.	4, 5, 17, 18, 19, 20, 21	Provide approximate instantaneous peak flowrate of 176 MGD at downstream end[9].	Achieve 4 overflow events[7]	Bid Year - 2023 Achievement of Full Operation - 2025
13	Late Floatables Control	Overflow-specific solids and floatables controls[6].	All CSOs for which floatables not addressed through other facilities	CSO-specific; provide instantaneous peak floatables control rate equal to highest annual flow rate in "typical year."	Capture most coarse solids and floatables; design target is to remove one-half-inch diameter and larger solids and floatables[10].	Bid Year (first facility) - 2020 Achievement of Full Operation (final facility) - 2025
14	Satellite Storage	Satellite storage facility	64	Provide storage volume of 0.23 MG	Achieve 4 overflow events[7]	Bid Year - 2025 Achievement of Full Operation - 2025

Table 4.2.4.1
CSO Control Measures, Design Criteria, Performance Criteria, and Critical Milestones

	CSO Control Measure[1]	Description[2]	CSOs Controlled (By Overflow Permit ID)	Design Criteria[2]	Performance Criteria	Critical Milestones[3]
15	CSO Pond High Rate Treatment[11]	Enhanced High Rate Clarification facility, typically referred to by the trade names DensaDeg or ACTIFLO.	When combined with the Parallel Interceptor and Morton Street solution, all CSOs tributary to the Parallel Interceptor plus CSO 48.	TBD	Achieve 4 overflow events[7]	TBD

Footnotes:

(1) Upon full implementation, the CSO Control Measures listed in Table 4.2.4.1 are expected to result in 4 CSO events on the St. Marys and Maumee Rivers and 1 CSO event on the St. Joseph River in a "typical year," as evaluated in accordance with footnote 5 (note: Outfall 48 on the Maumee River will be controlled to 0 CSO events in a "typical year"). Either a revision to Indiana's current water quality standards or some other legal mechanism is necessary to authorize overflows due to storms exceeding those levels of control. In Chapter 5 of the LTCP, the City of Fort Wayne is requesting a revision to the applicable water quality criteria consistent with this level of control through the establishment of a CSO wet-weather limited use subcategory supported by a Use Attainability Analysis (UAA). The design and construction of CSO Control Measures 1, 2, 4, 6, and 10 are not dependent on the level of control ultimately determined, and therefore the City will implement CSO Control Measures 1, 2, 4, 6 and 10 according to the terms and schedules set forth in this Table.

(2) The Description and Design Criteria are based upon LTCP-level planning estimates and may be subject to revision during facility planning and design. One of the conditions of Description and Design Criteria, applicable to all of the facilities set forth in this Table 4.2.4.1, is that the specific facility will be designed in accordance with good engineering practice to ensure that corresponding facility-specific, river-specific, and system-wide Performance Criteria will be achieved.

(3) The term "Bid Year" means "Completion of the Bidding Process."

(4) The CSO Control Measure is not expected to achieve target activation levels on its own, but will work in conjunction with other CSO Control Measures at the specified CSO outfalls to achieve the performance goals.

(5) With all units in service, peak WPCP capacity of 85 mgd can be maintained for over 24 hours.

(6) Implementation of floatables control using industry-standard technologies (e.g., baffles, in-line netting, mechanical screens, passive screens, vortex separators) is contingent on IDEM interpretation of setback requirements. The City's proposed floatables control program assumes that these typical, industry-standard control technologies will continue to not be subject to setback requirements.

(7) CSO Control Measure will be designed to achieve Performance Criteria of 4 CSO events for the St. Marys and Maumee Rivers and 1 CSO event for the St. Joseph River in a "typical year." (Note: Outfall 48 on the Maumee River will be controlled to 0 CSO events in a "typical year"). "Typical year" performance, and achievement of Performance Criteria, is based on average annual statistics over a representative five-year period. The method to assess "typical year" performance over a typical 5-year period will be selected from the options presented in Section 4.6 of Appendix 4 (Post-Construction Monitoring).

(8) The preferred CSO Control Measure for these CSOs is Satellite Disinfection based on the technology screening and selection process conducted by the City. The City will proceed as described in Section 4.6 of Appendix 4 to conduct a Satellite Disinfection Pilot Study if it ultimately elects to construct one or more Satellite Disinfection facilities. Alternatively, the City may elect to construct Satellite Storage facilities that will achieve the same Level of Control. The City will construct Satellite Storage facilities in lieu of Satellite Disinfection facilities if it comes to acquire, by January 1, 2010, the wastewater collection and treatment systems currently owned or operated by Utility Center, Inc. (a/k/a AquaSource or Aqua Indiana, Inc.) and connected to the Main Aboite and Midwest wastewater treatment facilities (for which the State has issued NPDES Permit Nos. IN0035378 and IN0042391).

(9) The stated downstream end capacity is the largest capacity required by the referenced Parallel Interceptor. Capacity will decrease, and the parallel interceptor pipe diameter will decrease, in upstream sections due to lower peak flows. This is consistent with standard engineering practice for a pipe that accepts incremental flows from its upstream end to its downstream end. Capacity requirements at interim locations along the Parallel Interceptor are presented in Section 3.3.

(10) Design target of removing one-half-inch and larger solids and floatables will be confirmed or modified based on results of pilot floatables control program (CSO Control Measure 3).

(11) The completed LTCP analysis indicates that the Pond Storage & Dewatering (CSO Control Measure 3) will reduce Pond activations to 4 overflow events per "typical year." Therefore, the CSO Pond EHRC/HRT facility will be constructed only if required to achieve the agreed-upon performance criteria for the Maumee River, i.e. 4 overflow events per "typical year," following completion of CSO Control Measures 5, 11, and 12.

(12) Required disinfection protocol and associated effluent limits for flows up to and including the peak flowrate shall be defined as noted in Section 4.6 of Appendix 4.

(13) If Satellite Disinfection technology is utilized, NPDES effluent limits shall be as noted in Section 4.6 of Appendix 4.

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<u>Appendix 4</u>

Post-Construction Monitoring Program
(Section 4.6 of Long-Term Control Plan)

4.6 Post-Construction Monitoring Program

4.6.1 Introduction

The City's CSO Long-Term Control Plan will implement a series of aggressive controls to dramatically reduce the amount of combined sewage discharged to the St. Joseph, St. Marys, and Maumee Rivers. While CSOs are only one of many pollutant sources impacting the rivers, it is expected that CSO control will result in a net benefit to the rivers and improve water quality. The purpose of the Post-Construction Monitoring Program is to assess performance of the City's CSO Control Measures and to add to the City's ongoing investigation of overall stream conditions, including tracking changes in water quality over time.

This section describes the key elements of the proposed program for post-construction monitoring activities. The Post-Construction Monitoring Program has been developed to assess the performance and observable water quality impact of CSO control measures as they are implemented, while integrating with the City's ongoing water quality monitoring program (a part of which operates under a cooperative agreement with IDEM). From a regulatory perspective, the Post-Construction Monitoring Program will document the effectiveness of the City's overall CSO control program in achieving performance requirements. The elements of the program are as follows:

- A monitoring schedule, identified sampling locations, and associated monitoring procedures to collect data associated with the Performance Criteria (presented in Table 4.2.4.1) and *E. coli* levels in CSO-impacted receiving streams.
- Analysis of collected data to determine whether CSO control measures are meeting the Performance Criteria presented in Table 4.2.4.1.
- Analysis of the collected data to assess long-term trends in instream *E. coli* levels, and documentation of any environmental benefits that occur as the LTCP is implemented.
- Evaluation and analysis of the data for reporting status and progress to regulatory agencies and the public.

The City's Post-Construction Monitoring Program will be implemented on a river-watershed basis, beginning on the St. Joseph River, followed by the Maumee River, followed by the St. Mary's River. This progression is guided by the implementation schedule for CSO controls, and allows for assessment of environmental benefit on a waterbody basis. The monitoring program will assess the control program's effectiveness at meeting river-specific Performance Criteria – 1 overflow event[1] on the

[1] An "*overflow event*" is as defined in the Presumption Approach of the CSO Control Policy – "*an overflow event is one or more overflows from a CSS as the result of a precipitation event.*" For the purposes of the City's selected CSO Control Measures, the definition is applied on a river system basis, i.e. independently to the St. Joseph River and the St. Marys/Maumee river system, rather than a full combined sewer system (CSS) basis. Furthermore, discrete overflow events are defined as being separated by a 6-hour or longer inter-event duration, consistent with the methodology and analysis presented in the City's LTCP.

St. Joseph River in a typical year and 4 overflow events on the St. Marys/Maumee River system in a typical year. The frequency of CSO overflow events will vary year-to-year because of variation in annual rainfall. For example, where the level of control is 4 overflow events per typical year, actual overflow frequency is expected to range from 0 to 10 overflow events per year (it should be noted that it is not possible to put a firm upper bound on this range due to rainfall variability).

The City views the Post-Construction Monitoring Program as a key mechanism for supporting dialogue with the regulatory agencies and the public. Fort Wayne City Utilities will compile monitoring results, submit milestone reports to regulatory agencies, and use the information to report progress to the public.

4.6.1.1 Regulatory Requirements

U.S. EPA requires CSO communities to conduct a post-construction monitoring program during and after LTCP implementation "to help determine the effectiveness of the overall program in meeting [Clean Water Act] requirements and achieving local water quality goals."[2] This program will collect data that measures the effectiveness of CSO controls and their impact on water quality, and intends to utilize existing monitoring stations used in previous studies of the waterways and sewer system in order to compare results to conditions before controls were put in place. The program will include a map of monitoring stations, a record of sampling frequency at each station, a list of data to be collected, and a quality assurance/quality control (QA/QC) plan.

In U.S. EPA's December 2001 Report to Congress: Implementation and Enforcement of the Combined Sewer Overflow Control Policy, the agency noted the difficulty of establishing a monitoring and tracking program for CSO control programs. "Monitoring programs need to be targeted and implemented in a consistent manner from year to year to be able to establish pre-control baseline conditions and to identify meaningful trends over time as CSO controls are implemented," the report said. "In practice, it is often difficult, and in some instances impossible, to link environmental conditions or results to a single source of pollution, such as CSOs. In most instances, water quality is impacted by multiple sources, and trends over time reflect the change in loadings on a watershed scale from a variety of environmental programs." The report also noted that weather conditions and rainfall totals vary significantly from storm to storm and year to year, making comparisons difficult.

4.6.1.2 Purpose & Scope

This Post-Construction Monitoring Program will collect the necessary data to assess the impact of the City of Fort Wayne's CSO LTCP. CSO controls are expected to provide two positive impacts:

- First, control CSOs to the Performance Criteria provided in Table 4.2.4.1. The monitoring program will collect the requisite end-of-pipe data to assess performance of the controls.

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[2] *Combined Sewer Overflows, Guidance for Long-Term Control Plan* (EPA 832-B-95-002, August 1995) p. 4-15.

- Second, improve water quality on local rivers. As noted in U.S. EPA's Report to Congress, "…it is often difficult, and in some instances impossible, to link environmental conditions or results to a single source of pollution, such as CSOs." However, the monitoring program will collect the requisite instream data to assess the trends over time as CSO controls are implemented. In order to compare post-construction water quality trends to current conditions and historic data, the proposed monitoring program makes use of all of the City's current water quality monitoring stations.

In addition to collecting data to assess CSO control performance and instream water quality trends, the Post-Construction Monitoring Program will develop documentation to support regulatory reporting requirements and communicate with the public.

The waterbodies included in this plan are the St. Joseph River, the Maumee River, and the St. Marys River. The City's monitoring program is a part of the following overall scope of work:

- Document Current Baseline Conditions: During development of the LTCP, the City conducted a significant amount of characterization work. The results of the characterization and documentation of current baseline conditions are presented in Chapter 2.
- Identify Parameters of Concern: During the system characterization effort and through subsequent discussions with U.S. EPA and IDEM, the City identified *E. coli* bacteria as the parameter of concern in local waterbodies. This decision process is described in more detail in Chapter 2. Therefore, the City will use *E. coli* (or other applicable pathogen or pathogen indicator as described below in Section 4.6.2.2) to measure the effect of its long-term CSO control measures on receiving streams.
- Prepare and execute Post-Construction Monitoring: The City's monitoring program is the focus of this section 4.6, with individual elements and approach described in detail in Sections 4.6.2 through 4.6.6.
- Report Results to State and Federal Agencies: The results and observations from the post-construction monitoring will be provided to U.S. EPA and IDEM through a series of milestone reports and a final report. A milestone report will be prepared for each of the three river watersheds, when all the CSO controls in a particular river watershed are operational. The reports will provide documentation of facility performance relative to the Performance Criteria in Table 4.2.4.1, along with a presentation of observed water quality trends. Section 4.6.7 presents the City's plan for reporting progress to the regulatory agencies.
- Provide Public Information on Water Quality: Fort Wayne City Utilities will continue distributing information on the CSO LTCP, including water quality issues, to the public through the program described in Chapter 7 of the Combined Sewer System Operational Plan (CSSOP).

4.6.2 Program Elements

The City of Fort Wayne will implement the CSO Long-Term Control Plan as a series of CSO Control Measures according to the schedule provided in Table 4.2.4.1. The CSO Control Measures have been grouped for implementation purposes according to priority and required engineering sequencing. Milestones in the implementation process can be defined in terms of river watersheds, where the St. Joseph River controls will be fully implemented by 2019, the Maumee River controls by 2022, and the St. Marys River controls by 2025. At each implementation milestone, the City will proceed with the data evaluation and progress reporting to assess compliance with the Performance Criteria in Table 4.2.4.1 and document improvements in instream water quality conditions. Note that the while the Maumee River post-construction monitoring will begin in 2022, the full impact of CSO Control Measures on Maumee River water quality will be realized in 2025 once the controls in the upstream St. Marys River watershed are fully implemented.

4.6.2.1 Performance Criteria

The Performance Criteria for the City's CSO Control Measures are expressed as number of activations in a typical year. The required Performance Criteria - 1 overflow event on the St. Joseph River in a typical year, 4 overflow events on the Maumee River in a typical year, and 4 overflow events on the St. Marys River in a typical year - are provided in Table 4.2.4.1. As explained in Section 4.6.1 above, the actual frequency of CSO overflow events will vary year-to-year because of variation in annual rainfall. The City will assess the average performance of CSO control measures by river watershed following the Achievement of Full Operation of the full set of controls for each river watershed. The assessment of performance, and the resulting determination of compliance with the Performance Criteria during a typical year, will be performed with a combination of outfall monitoring and collection system modeling and documented in Table 4.6.2.1. A full explanation of the performance assessment is provided in Section 4.6.4.

4.6.2.2 Water Quality Measures

The Water Quality Measures are data-based indicators of instream water quality, in particular the long-term trends in expected improvements due to implementation of the City's CSO Control Measures. A strong baseline of existing water quality conditions in the rivers has already been established through the City's ongoing water quality monitoring program. The water quality component of the Post-Construction Monitoring Program will continue to collect instream samples during and after implementation of the CSO Control measures in order to document changes in water quality conditions.

The Water Quality Measure incorporated in the City's Post-Construction Monitoring Plan is *E. coli* bacteria (or other pathogen indicator, to the extent applicable water quality standards have been revised to include a different applicable pathogen indicator). Bacteria has been established as the parameter of concern with respect to CSO control, based on the City's completed system characterization efforts and discussion with U.S. EPA and IDEM.

The City will collect data to measure and evaluate improvements to instream *E. coli* bacteria counts that can be attributed, at least in part, to CSO control measures. It is unlikely that CSO controls alone will result in attainment of Indiana's *E. coli* standards for primary contact recreation due to numerous *E. coli* sources in the environment. Because the e. coli counts in water bodies may be subject to contribution from various sources, for the purpose of determining compliance with this decree, an in-stream water quality value will not be imposed. Rather, the City will analyze trends in both dry-weather and wet-weather *E. coli* levels and compare them to historic monitoring data and modeling predictions to determine improvement in water quality and to ensure that residual CSO discharges do not interfere with applicable recreational uses (to be determined through the City's Use Attainability Analysis). A different pathogen indicator other than *E. coli* may be requested by IDEM in accordance with this paragraph to the extent the applicable water quality standards are revised to include a different pathogen indicator.

4.6.3 Post-Construction Monitoring and Data Collection

This section details the field program that the City will implement to support the overall Post-Construction Monitoring Program. The field program combines CSO outfall flow monitoring, a pilot CSO disinfection study, river water quality sampling, WPCP effluent sampling, and rainfall monitoring to collect the data necessary for characterizing the benefits of implemented CSO Control Measures.

4.6.3.1 Monitoring Schedule

By definition, the post-construction monitoring schedule is dictated by the construction schedule for the City's LTCP. As shown in Table 4.6.2.1, post-construction monitoring will begin after completion of all LTCP projects in the St. Joseph River watershed. Post-construction monitoring will continue through implementation of the other groups of watershed controls (on the Maumee River and St. Marys River), and provide the data for the Final Post-Construction Monitoring Report (scheduled for submission within five years following Achievement of Full Operation of all LTCP projects). After review of the Final Post-Construction Monitoring Report by U.S. EPA and IDEM, the City will modify the Post-Construction Monitoring Program as appropriate to satisfy ongoing reporting requirements.

While post-construction monitoring cannot begin until associated construction phases are completed, the City intends to continue its current monitoring programs until the St. Joseph watershed controls are implemented. As explained below, the current CSO outfall flow monitoring locations and river water quality sampling locations will also serve as the post-construction monitoring locations. Therefore, these current programs will provide an ongoing understanding of CSO performance and instream water quality conditions prior to post-construction monitoring. This data will provide the necessary baseline from which to assess the impact and benefit of implemented CSO Control Measures.

4.6.3.2 Monitoring Stations

The City's current monitoring programs have been designed to fully characterize the existing system in terms of CSO discharges and receiving water quality trends. The following stations are included in these current programs:

- *Stream monitoring.* The USGS maintains five gauging stations in and around Fort Wayne, one each on the St. Joseph River and St. Marys River, and three on the Maumee River.
- *CSO outfall flow monitoring.* Of the City's 44 permitted CSO discharge points:
    - 33 locations are monitored with continuous depth/velocity meter configurations
    - 5 locations are monitored via pump runtime meters at overflow pump stations.
    - 3 locations (007, 012, 027) are emergency gravity discharges at overflow pump stations. These emergency overflows are not monitored, as they activate only when the associated pump stations fail.
    - 2 locations (003 and 081) are visually inspected to determine activation. Visual inspections occur daily on weekdays, and during runoff events on weekends and holidays.
    - 1 location (014) has very low flows and typically activates less than once per year.
- *River water quality sampling.* The City collects water quality samples at the following six locations in cooperation with IDEM:
    - Mayhew Road Bridge – St. Joseph
    - Tennessee Avenue Bridge – St. Joseph
    - Ferguson Road Bridge – St. Marys
    - Spy Run Bridge – St. Marys
    - Anthony Boulevard Bridge – Maumee
    - Landin Road Bridge – Maumee

  Monthly sampling is conducted with IDEM on a year-round basis. The City augments the monthly program with weekly sampling from April 1 to October 31.
- *WPCP effluent monitoring.* Per NPDES permit requirements, the City collects effluent samples at Outfall 001.
- *Rainfall monitoring.* The City maintains a network of 10 rain gauges, distributed over the service area to adequately capture typical rainfall patterns and distributions.

Given that the above monitoring locations were designed to properly characterize the existing system and receiving water conditions, often in concert with U.S. EPA and/or IDEM, the City has identified them as the proper monitoring locations for the Post-Construction Monitoring Program. CSO discharge locations will not change (other than through elimination), and river flow patterns will remain the same, following implementation of the CSO Control Measures. Therefore, these monitoring locations are appropriate for the purposes of the Post-Construction Monitoring Program – to assess compliance with CSO Performance Criteria, and document improvements to water quality over time. Additional details on these programs and locations are provided below in Sections 4.6.3.3 through 4.6.3.7.

The City's current (and post-construction) monitoring station locations, along with the reasons for selection, monitoring equipment types, monitoring frequencies, and monitoring parameters are presented in Table 4.6.3.1. The locations of these stations are displayed on Figure 4.6.3.1. The City's distributed rain gauge network is also shown on Figure 4.6.3.1.

The City may, after consultation and agreement with U.S. EPA and IDEM, add, modify, remove, or relocate monitoring stations, as necessary, during or after implementation of CSO Control Measures to address any changes that may be necessary as a result of facility planning, design, and construction.

4.6.3.3 Stream Monitoring

The USGS maintains five real-time stream gauging stations in and around Fort Wayne, with one each on the St. Joseph River and St. Marys River, and three on the Maumee River, as shown on Figure 4.6.3.1. Four of these stations monitor stage in the streams, which the USGS then uses to estimate flow. The fifth station monitors stage only. The City has used and intends to continue using this USGS data to provide long-term stream monitoring as part of their wet-weather program. As with all USGS gauging stations, standard equipment, procedures, and protocols will be used for data collection, and USGS personnel are responsible for maintenance, calibration, and data processing at these locations.

4.6.3.4 CSO Outfall Monitoring

4.6.3.4.1 Outfall Monitoring for Activations

The primary purpose of CSO outfall monitoring in the Post-Construction Monitoring Program is to determine if CSO Control Measures are complying with the Performance Criteria in Table 4.2.4.1.

The City is currently monitoring 33 CSO outfalls with continuously recording flow meters (depth/velocity meters), allowing estimates of overflow onset, duration, and volume. An additional 5 locations are monitored via pump runtime data at overflow pump stations, again allowing estimates of overflow onset, duration, and volume. The remaining 6 permitted outfalls are either emergency overflows (3 locations), visually inspected overflows using blocking to estimate activations (2 locations), or very low activity/volume overflows (1 location).

The City will continue monitoring these CSO outfalls until the initiation of post-construction monitoring (at the completion of the St. Joseph River watershed CSO Measures). The City may, after consultation and agreement with U.S. EPA and IDEM, change the monitoring equipment and protocols at selected locations during this time. For example, at locations where the depth/velocity meters are consistently problematic, or show that a CSO activates very infrequently and at low volume, the City may change to a simpler activation only monitoring scheme.

As part of initiating the post-construction monitoring, the locations and/or equipment associated with some monitoring sites may change to accommodate post-construction configurations. These changes will be discussed with U.S. EPA and IDEM prior to implementation.

4.6.3.4.2 Outfall Monitoring for Assessing Satellite Disinfection Performance

The City is proposing to construct four satellite disinfection facilities as a CSO Control Measure for Outfalls 52, 54, 61 and 62. However, the City will construct satellite storage facilities in lieu of satellite disinfection facilities if it comes to acquire, by January 1, 2010, the wastewater collection and treatment systems currently owned or operated by Utility Center, Inc. (a/k/a AquaSource or Aqua Indiana, Inc.) and connected to the Main Aboite and Midwest wastewater treatment facilities (for which the State has issued NPDES Permit Nos. IN0035378 and IN0042391). If the City does not acquire the aforementioned wastewater treatment and collection systems currently owned and operated by Utility Center, Inc. within the specified timeframe, it is not required to, but may nonetheless elect to, construct one or more satellite storage facilities in lieu of satellite disinfection facilities as the CSO Control Measure for Outfalls 52, 54, 61 and/or 62. The effectiveness and required performance standards for any such satellite disinfection facilities in terms of pathogen control are dependent on a wide range of factors, and defining the performance of installed facilities is of high interest to the City and EPA/IDEM. If the City utilizes satellite disinfection instead of the other viable satellite control option, satellite storage, at these locations, the following conditions will apply to use of satellite disinfection. .

A pilot disinfection facility shall be constructed at Outfall 52 per the schedule specified in Table 4.2.4.1. After achievement of full operation, this facility shall be studied to determine the effectiveness of disinfection of the flows entering the facility. The testing duration and protocol shall be per the City of Fort Wayne CSO Satellite Disinfection Pilot Study (Attachment 1). The effectiveness of disinfection will be measured using the testing protocol, in order to document the ability of the facility to attain the following performance measures at a minimum:

- Skimming or screening (or equivalent) of the detained flows to remove solids and floatables and proper disposal of all material in accordance with all applicable solid waste disposal laws and regulations
- Detention of flows for settling, combined with other solids removal mechanisms associated with solids and floatable control, to achieve the Total Suspended Solids (TSS) removal necessary for effective disinfection. Minimum detention period is 30 minutes.
- Disinfection of all detained flows to *E. coli* effluent limitation contained in the current NPDES permit.

- Dechlorination, if necessary, of all detained flows to the effluent limitation for Total Residual Chlorine (TRC) contained in the current NPDES permit.

If the results of the study indicate that the disinfection facility constructed at Outfall 52 does not provide effective disinfection, the City will follow the provisions outlined in the sections of the Consent Decree entitled, "*Extension of Deadlines to Achieve Performance Criteria*" and/or the "*Modification of Performance Criteria*" to identify the appropriate controls required to meet the activation performance criteria for Outfall 52, 54, 61 and 62. Conversely, if the study results indicate that the pilot satellite disinfection facility does provide effective disinfection, the City will proceed to construct the remaining satellite disinfection facilities in accordance with Tables 4.2.3.1 and 4.2.4.1 unless the City decides to install satellite storage facilities at the specified locations.

4.6.3.5 Water Quality Monitoring

The City currently collects water quality samples at six locations as part of a cooperative river water quality sampling program with IDEM. Samples are collected once per month on a year-round basis in support of the IDEM program; the City increases the frequency to weekly sampling during the period April 1 to October 31. All samples are analyzed for the following parameters:

- Field measurements are taken for pH, Dissolved Oxygen, and temperature.
- *E. coli*
- Ammonia-Nitrogen
- Total Phosphorus
- Total Suspended Solids

In addition, the monthly samples collected under the cooperative program with IDEM are analyzed for a range of metals including cadmium, copper, lead, and zinc.

This program will continue up until and after initiation of the Post-Construction Monitoring Plan (scheduled to start after completion of the St. Joseph CSO watershed controls). In this way, the City will have a strong baseline dataset to determine changes in water quality over time.

Sampling and analysis for *E. coli* bacteria (or other pathogens) is required under this Post-Construction Monitoring Plan, since it has been identified as the water quality measure for the Plan as explained in Section 4.6.2.2. The City will also continue, at its discretion, sampling and analysis for the other parameters listed above.

4.6.3.6 WPCP Effluent Monitoring

The City will continue monitoring the WPCP effluent as required by current and future NPDES permits.

4.6.3.7 Rainfall Monitoring

The City has a network of 10 rain gauges to measure rainfall across the service area. This network has been in place since 1983, and is currently maintained by the City's dedicated

CSO crew. The distribution of gauges in the network has been configured to properly represent temporal and spatial rainfall patterns in the Fort Wayne area.

The City intends to maintain the current rain gauge network (or equivalent) up until and after initiation of the Post-Construction Monitoring Program. The collected rainfall data will support the wet-weather analyses and modeling described below in Section 4.6.4.

4.6.4 Data Retrieval, Management and Analysis

Two kinds of data will be collected, managed, and analyzed as part of the City's Post-Construction Monitoring Program – continuous flow data collected at CSO outfalls and discrete water quality data collected at river monitoring sites. Both of these data types are currently being collected as part of the City's ongoing monitoring program; as a result, the new data collected as part of the Post-Construction Monitoring Program will be integrated into existing data validation, archiving, retrieval, and management tools. The City will continue taking all necessary measures to ensure that monitoring objectives are attained.

This section first describes each of the data types, then presents the City's plan for using and analyzing the outfall flow data and collection system modeling tools to assess compliance with the Performance Criteria in Table 4.2.4.1.

The City has been collecting system-wide CSO outfall flow data since 2004 using flow meters and data management software provided by ADS Environmental Services (ADS). The City will have ongoing access to ADS's flow data management software (or equivalent) for the duration of the Post-Construction Monitoring Program. This software, known as Intelliserve, provides full functionality for archiving, retrieving, managing, and analyzing flow data. In addition, the City uses their telemetry system to collect necessary data at the five CSO locations monitored with pump runtime meters.

The City has been collecting water quality data on the St. Joseph, Maumee, and St. Marys Rivers under various programs since the 1990s. The current sampling program collects monthly samples on a year-round basis and weekly samples from April 1 through October 31 at six sites. Field measurements are taken for pH, Dissolved Oxygen, and temperature. Sample volumes are also transported to the WPCP laboratory and analyzed for *E. coli*, Ammonia-Nitrogen, Total Phosphorus, and Total Suspended Solids.

Consistent with the current monitoring programs, all personnel involved in the Post-Construction Monitoring Plan will be experienced and familiar with the requirements of the data collection program. Given the duration of the City's LTCP program and post-construction monitoring period, it is likely that data management and analysis techniques will evolve and improve within the wet-weather industry over the duration of the implementation period. If this occurs, any recommended changes to the City's approach will be discussed with U.S. EPA and IDEM to ensure consensus prior to implementation.

A primary purpose of the Post-Construction Monitoring Program is to assess compliance with the Performance Criteria set forth in Table 4.2.4.1. In order to assess the

Performance Criteria in terms of CSO activations, the City is proposing a model-based approach similar to the method recently approved for the City of Indianapolis, Indiana. In addition, given the importance of the assessment process, and recognizing that methods to assess average performance of CSO control measures per the CSO Policy are in their infancy, the City is allowing for the possibility that an improved alternative, or modified, approach may be identified in the future.

4.6.4.1 Model-Based Approach to Assessing Compliance

The City of Fort Wayne began its collection system modeling program in the late 1990s, and developed a fully dynamic, planning-level collection system model to support development of the Long-Term Control Plan. As explained in Chapter 2, the City's model was reviewed and approved for LTCP development purposes by U.S. EPA and IDEM in 2005.

Under the model-based approach, the City would update and utilize their collection system model to determine whether operational CSO Control Measures have achieved compliance with the Performance Criteria set forth in Table 4.2.4.1. At least two (2) years prior to the initiation of post construction monitoring on the first river-watershed, Fort Wayne shall propose to EPA and IDEM, in writing, the five years it has selected as a five year period for a typical year. The City would take the following steps under this approach, with each step guided by modeling industry standards and sound engineering judgment:

1. Collect CSO outfall data for a 12-month post-construction monitoring period in each watershed in accordance with Section 4.6.3.4.
2. Perform quality assurance and quality control of the data collected in Step 1.
3. Utilize the model (incorporating the improved collection system) in its previously-calibrated state and the rainfall data collected during the monitoring period, to run a continuous simulation of CSO discharges for the 12-month post-construction monitoring period.
4. Compare the continuous simulation outputs to the CSO monitoring data for the 12-month post-construction monitoring period to determine whether re-calibration of the collection system model is needed. Model re-calibration will not be needed if the model achieves at least the same degree of calibration as was achieved for pre-CSO Long-Term Control conditions during the LTCP development process, and there is a high degree of agreement between the model output and CSO monitoring data for activation frequency for the 12-month post-construction monitoring period. Otherwise, model re-calibration will be needed in accordance with Steps 5-7.
5. If re-calibration is needed, select two or more appropriate rainfall events from the 12-month post-construction monitoring period for model recalibration. The City will apply the standard of practice used in the collection system modeling industry in selecting the best candidate events for model calibration.
6. Develop an initial data set for use with the model and perform successive applications of the model with appropriate parameter adjustment until there is a

high degree of agreement between the model output and the CSO monitoring data for the selected recalibration events. In making such adjustments, the City will consider the inherent variability in both the collection system model and in flow monitoring data, and will exercise sound engineering judgment and best industry practices so as to not compromise the overall representativeness of the model.

7. Once the model has been re-calibrated in accordance with Step 6, the City will verify the re-calibrated model by again utilizing the model and the rainfall data collected during the 12-month post-construction monitoring period, to run another continuous simulation for the 12-month post-construction monitoring period. The City will again compare the continuous simulation outputs to the CSO monitoring data for the 12-month post-construction monitoring period as described in Step 4, to determine whether additional re-calibration of the collection system model is needed. Re-calibration will be determined to be adequate if the model achieves at least the same degree of calibration, as was achieved for pre-CSO Long-Term Control conditions during the LTCP development process, and there is a high degree of agreement between the model output and CSO monitoring data for activation frequency for the 12-month post-construction monitoring period. Otherwise, further re-calibration will be needed in accordance with these Steps 5-7 until the model achieves at least the same degree of calibration as was achieved for pre-CSO Long-Term Control conditions during the LTCP development process, and there is a high degree of agreement between the model output and CSO monitoring data for activation frequency for the 12-month post-construction monitoring period.
8. Once the City has satisfactorily re-calibrated the model in accordance with Steps 5 through 7 (or shown that recalibration is not necessary in accordance with Step 4), the City will then utilize the original model (if recalibration was determined not to be necessary in accordance with Steps 4-7) or the recalibrated model to run a continuous simulation for a representative five-year period agreed to with IDEM and U.S. EPA. The model results for this five-year simulation will be used to determine whether the City has achieved the Performance Criteria set forth in Table 4.2.4.1.
9. The City shall be deemed to have achieved the Performance Criteria if the five-year simulation shows that there were a total of 24 or fewer CSO events into the Maumee River and St. Marys River watershed for the five-year period, and a total of 6 or fewer CSO events into the St. Joseph River watershed for the five-year period, following construction of the necessary Control Measures in Table 4.2.4.1.
10. The overflow frequency performance criterion is based upon a "typical year," calculated using the 5-year continuous simulation of the collection system model, as described above. If the modeled average annual overflow frequency is less than or equal to 1.2 for the St. Joseph River and 4.8 for the Maumee and St. Marys Rivers, the system is deemed to be in compliance with the performance criteria of 1 and 4 overflow events per year. This "rounding" is appropriate due to the inherent variability in model predictions. If the modeled overflow frequency exceeds 1.2 for the St. Joseph River and/or 4.8 for the Maumee and St. Marys Rivers, then the City will prepare a Milestone Report of this negative result under

Paragraph 4.6.6.1. The City may include an analysis of the following in the Milestone Report: (1) the volume, frequency, and factors causing the additional overflow frequency, (2) any impact on water quality, including designated uses, from the additional overflow frequency, (3) control options, if any, to reduce the frequency towards 4/1 (as appropriate), (4) associated costs for any additional control options, (5) any expected benefits from such control options and (6) a recommendation as to whether the City should proceed under Section XXI.D, XXI.E or another provision of the Consent Decree.

It is important to note that percent capture has not been identified as a formal Performance Criterion for the City's LTCP. Based on discussions with U.S. EPA and IDEM during development of the final recommended plan, average annual overflow frequency was identified as the controlling Performance Criterion and is identified as such in Table 4.2.4.1. However, the City recognizes that percent capture can sometimes be useful in assessing performance of a combined sewer system, and will continue to develop estimates of percent capture based on the 5-year simulations described above. These estimates will be included in documentation of system performance included in the Milestone Reports described in Section 4.6.6.1.

The City also plans to use their collections system model to support the process of refining the planning-level LTCP concepts into specific CSO control projects. This will require selected improvements to the level of detail and calibration of the model on an as-needed basis over the next 18 years. This process of refining the model to meet specific project needs has always been anticipated, and is consistent with the modeling approach followed by the City since the 1990s. The model is a valuable and dynamic tool that the City will use as appropriate to further system understanding from a design, operation, and maintenance perspective as they pursue their goal of improving water quality on local rivers.

4.6.4.2 Alternate Compliance Assessment Approach

The City may propose an alternate compliance assessment approach other than that described in Section 4.6.4.1. Such an alternate compliance assessment approach may be implemented by the City, in lieu of that described in Section 4.6.4.1, if approved by U.S. EPA and IDEM and subject to other approvals, if any, required by Section XXI of the City's Consent Decree. In order to provide sufficient time for agency review and approval to allow timely implementation, any proposal by the City for use of an alternative compliance assessment approach should be submitted to U.S. EPA and IDEM no later than December 31, 2015.

4.6.5 Quality Control

The City has Standard Operating Procedures (SOPs) in place for both of the core activities in the Post-Construction Monitoring Program, CSO outfall flow monitoring and river water quality sampling. Both of these programs have been ongoing in their current form since at least 2004, allowing for 3 years of field experience and identification of potential difficulties. The SOPs for these two programs are included in the Combined Sewer System Operational Plan.

All activities under the Post-Construction Monitoring Program will be implemented with appropriate quality control standards, including potential updates to the standards in response to industry trends. While the detailed procedures associated with many activities have in-place SOPs (as explained above), a general summary of the quality control procedures follows.

- Streamflow data is collected by the USGS under their typical quality control procedures. The City makes use of this streamflow data as part of their wet-weather program.
- CSO outfall flow monitoring is conducted by a dedicated CSO crew, following SOPs for maintenance, equipment replacement, data downloads, and associated field activities. Flow data is reviewed for validity and representativeness by the Program Manager of Wet-Weather Operations.
- The proposed City of Fort Wayne CSO Satellite Disinfection Pilot Study will be performed per the quality control requirements outlined in Attachment 1.
- River water quality sampling is performed by trained Industrial Pretreatment staff. Standard sampling procedures and documentation are a required part of the program, including use of chain-of-custody forms, appropriate sample preservation techniques, etc.
- Laboratory analysis of water quality samples is performed by the City's certified WPCP laboratory. The City's laboratory follows all standard and required protocols and documentation needs.
- Rainfall data is downloaded and archived by the dedicated CSO crew responsible for the CSO outfall monitoring program. Rain gauge field work and downloading activities are included in the flow monitoring program SOP.

4.6.6 Data Evaluation & Progress Reporting

As part of the City's agreement with U.S. EPA and IDEM, regular reporting of activities and progress is required for the duration of the LTCP implementation process. Biannual reports are required under the Consent Decree, and these will include updates on the Post-Construction Monitoring Program as appropriate. In addition to the reporting required under the Consent Decree, the City will provide the Milestone Reports and Final Report described below to U.S. EPA and IDEM specifically for the Post-Construction Monitoring Program.

A second purpose for the progress reporting is to keep Fort Wayne's public ratepayers aware of the City's progress. A key goal of the City's overall wet-weather control philosophy is to ensure that public monies are spent in an effective and prudent manner. As part of pursuing that goal, the City is committed to keeping the public informed on where, how, and to what benefit their money is being spent.

As explained previously in this plan, and recognized by U.S. EPA in their December 2001 Report to Congress, "it is often difficult, and in some instances impossible, to link environmental conditions or results to a single source of pollution, such as CSOs. In most instances, water quality is impacted by multiple sources, and trends over time reflect the change in loadings on a watershed scale from a variety of environmental programs." Therefore, it is unlikely that the reports described below will be able to definitively link any measurable water quality indicator to in-place CSO controls. However, the City's reporting will document progress towards complying with the Performance Criteria in Table 4.2.4.1, along with progress towards the common goal of improving instream water quality.

A summary of the schedule for the Milestone Reports and Final Report is presented in Table 4.6.6.1. As can be seen, the Milestone Reports provide an explicit mechanism for demonstrating compliance with the Performance Criteria set forth in Table 4.2.4.1 by 2027, or two years after Achievement of Full Operation for all CSO Control Measures. If compliance is demonstrated in 2027, the City will have satisfied the Performance Criteria for CSO Control Measures required under the Consent Decree. If compliance is not demonstrated in 2027, the final Milestone Report will include an analysis of the following: (1) the volume, frequency, and factors causing the additional overflow frequency, (2) any impact on water quality, including designated uses, from the additional overflow frequency, (3) control options, if any, to reduce the frequency towards 4/1 (as appropriate), (4) associated costs for any additional control options, (5) any expected benefits from such control options and (6) a recommendation as to whether the City should proceed under Section XXI.D, XXI.E or another provision of the Consent Decree.

4.6.6.1 Milestone Reports

After Achievement of Full Operation of all LTCP projects in a specified river watershed (St. Joseph River, Maumee River, or St. Marys River), the City will prepare and submit a Milestone Report to the U.S. EPA and IDEM. The Milestone Report for each watershed will be submitted within two years following Achievement of Full Operation of the applicable CSO project(s), and include data related to the following information:

- Description of river and CSO controls being implemented
- CSO monitoring and rainfall monitoring results
- River water quality sampling results
- Evaluation of the effectiveness of CSO Control Measures, including results of analyses performed to assess whether the implemented controls are complying with the Performance Criteria in Table 4.2.4.1.
- A discussion of any significant variances from the Performance Criteria, including impacting factors and associated water quality impacts (if observed)
- Re-evaluation and proposed corrective action (if necessary)
- Status of upcoming CSO Control Measures in other watersheds (reporting on status of construction schedules, etc.)

The final Milestone Report, prepared in 2027 after Achievement of Full Operation of the St. Marys River CSO controls, will include an assessment of the combined St. Marys River and Maumee River controls. While the performance of the Maumee River CSO controls in terms of activations can be assessed in 2024, the full impact of CSO Control Measures on the Maumee River cannot be assessed until implementation of the upstream St. Marys River controls.

4.6.6.2 Final Report

While the Milestone Reports are targeted at the regulatory agencies for the purpose of demonstrating compliance with the Performance Criteria set forth in Table 4.2.4.1, the Final Report is targeted at a broader audience, including Fort Wayne's ratepayers. As explained previously, the City is committed to keeping the public informed on where, how, and to what benefit their money is being spent. Therefore, the Final Report will be based on up to three years of monitoring following Achievement of Full Operation in order to further assess longer-term trends in expected instream water quality improvements.

The City shall develop and submit the Final Post-Construction Monitoring Report to U.S. EPA and IDEM within three years following Achievement of Full Operation of all LTCP projects. The Final Report will consolidate the information described above with respect to each watershed, plus any additional relevant information collected since submittal of the associated Milestone Report. The purpose of the Final Post-Construction Monitoring Report shall be to provide additional documentation on the performance of the fully implemented CSO Control Measures on a system-wide basis (based on an additional CSO activation data), and provide a further assessment of the longer-term trends in expected instream water quality improvements due to implementation of the City's CSO Control Measures.

4.6.6.3 Progress Report to Public

As noted above, a key goal of the City's overall wet-weather control philosophy is to ensure that public monies are spent in an effective and prudent manner. The City takes this obligation very seriously, given that City ratepayers are funding the CSO Control Measures required under the LTCP. Therefore, progress reporting to the public is analogous to informing an owner on the status of his or her investment.

The City has an active public information program related to wet-weather control (as described in Chapter 7 of the CSSOP), and will continue disseminating information on the status of LTCP implementation through this program. Public outreach will be ongoing during LTCP implementation, starting in 2008. The Milestone Reports described above will also provide information for focused public education periods, during which ratepayers will be shown costs to date and any observed trends in improved water quality.

4.6.7 Summary

The City's Post-Construction Monitoring Program is designed to assess the impact of the CSO Long-Term Control Plan. Given the City's investment of hundreds of millions of dollars in wet-weather control, it is critical to have a mechanism to measure benefit. The Post-Construction Monitoring Program will determine, document, and disseminate the effectiveness of the CSO control program in achieving performance requirements and improving water quality.

The Program includes the following steps:

- Implementation of a defined monitoring program designed to measure reductions in overflow activations and changes in instream water quality.
- Analysis and assessment of flow monitoring data and/or model simulation results to determine whether implemented CSO Control Measures are meeting the Performance Criteria in Table 4.2.4.1.
- Analysis and assessment of water quality data to establish trends in improving instream water quality.
- Preparation of Milestone Reports and a Final Report to document the success of the LTCP implementation, or identify any weak links in the implemented CSO control system and present any necessary corrective action.
- Dissemination of information on LTCP implementation to the Fort Wayne public, including important measures of cost and benefit.

The City's Post-Construction Monitoring Program addresses U.S. EPA and IDEM requirements, as outlined in the CSO Policy, for monitoring the performance of CSO control measures.

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ATTACHMENT 1

CITY OF FORT WAYNE
CSO SATELLITE DISINFECTION PILOT STUDY

1 Introduction

As part of its CSO LTCP implementation process, Fort Wayne shall carry out a study to provide information regarding the effectiveness of the CSO disinfection technology proposed by Fort Wayne for four of its CSOs. Fort Wayne shall carry out this study at the proposed satellite disinfection facility to be constructed at CSO 052 located on the lower St. Joseph River. This study shall be carried out over the course of 18 months, following the attainment of full operation of the referenced satellite CSO disinfection facility. The results of such sampling shall not be used to determine compliance with water quality standards unless the State has by that time adopted standards for these specific pathogens.

2 Sampling

Sampling will be carried out for a total of 5 overflow events for all parameters except for *Cryptosporidium* and *Giardia* which shall be carried out for a total of 3 overflow events. Samples shall be collected just prior to entrance of the wastewater into the treatment unit ("influent"), and after the wastewater has been treated ("effluent"), before it enters the receiving water. All effluent samples shall be collected in duplicate, so as to accommodate the pretreatment procedure described below. All bacteria and viral samples shall be de-chlorinated upon collection, and all samples shall be collected, preserved and handled in accordance with 40 CFR Part 136, and other applicable USEPA guidance.

Grab sample collection during each event will span the time during which the subject control facility is active, beginning as soon as possible after the overflow begins. Samples will then be collected every two hours during the overflow, up to a maximum of five samples per event.

Collected samples will be prepared and analyzed for both conventional pollutants and specific pathogens as described below and as identified in Table 1.

2.1 Sampling Plan/QA/QC Procedures

Fort Wayne will develop appropriate, 40 CFR Part 136-compliant sample collection, storage, preservation, and handling procedures through consultation with the laboratories selected to conduct the analyses. These procedures will be incorporated into a Sampling Plan which will be submitted to EPA for approval one year prior to the date the basin will become operational. The sampling plan will also include the QA/QC procedures developed to insure the quality of the data to be generated. Fort Wayne's QA/QC plan shall be consistent with USEPA's current QAPP guidance document ("Guidance for Quality Assurance Project plans; EPA QA/G-5," December 2002).

3 Parameters and Analytical Procedures

The parameters and methods in Table 1 will be used during this study.

Table 1: Parameters and Analytical Methods

Parameter	Method
Adenoviruses, types 40 and 41	Integrated cell culture (ICC) - real time PCR (EPA 815-B-04-001 - Quality Assurance/ Quality Control Guidance for Laboratories Performing PCR Analyses on Environmental Samples, October 2004)
Shigella	SM 9260 D
Enterococcus	EPA Method 1600: Membrane filter (EPA-821-R-02-022)
Salmonella	SM 9260 C
E. coli	*Escherichia coli* Detection - Membrane Filter Technique (EPA Method 1105)
Bacteroides fragilis bacteriophage	ISO 10705-4
flow volume (or rate)	Continuous measurement
water temperature and air temperature	Field measurement
pH	Field measurement
dissolved oxygen (DO)	Field measurement
turbidity	SM 2130 B
total suspended solids (TSS)	SM 2540 D
Cryptosporidium and *Giardia*	*Cryptosporidium* and *Giardia* in Water by Filtration/IMS/FA (EPA Method 1623)

One split of each effluent sample shall be pre-treated using either mechanical agitation or sonification to break up suspended solids particles and release entrapped organisms that might otherwise fail to enumerate during the above-listed analyses. As part of its sampling program, Fort Wayne shall carry out initial testing of raw CSO discharge to identify a mixing or sonification procedure that provides sufficient energy to liberate entrapped organisms, but which does not provide sufficient energy to result in organism deactivation. In carrying this initial effluent testing, Fort Wayne shall utilize a series of split samples, and shall submit one set of splits to a range of energy levels. Fort Wayne shall then analyze both sets of split effluent samples for *E. Coli*, and shall note which energy level maximizes the increase in bacteria counts compared to the splits not receiving pretreatment. The resulting procedure shall identify both energy level and time of blending or sonification, and shall employ aseptic methods and conditions.

The City may propose alternate sample preparation or analytical procedures prior to preparing its sampling plan. The City will advise EPA of the alternative procedure(s) it wishes to use, and provide information regarding the nature of these procedures and the reason why alternative procedures are being requested, in order for EPA to determine if the alternative procedure will provide sufficient information to meet the needs of this study.

4 Reporting

The analytical results obtained for each sampling event shall be transmitted to EPA within 60 days of the completion of each sampling event. The report will contain:

- Date and time of sample collection.
- Status of the treatment unit, to include detailed flow information (i.e. event hydrograph) and a description of any operational issues that occurred during the event
- Detailed (15 minute) rainfall data for the event
- Antecedent rainfall - The amount of rainfall in the sewer basin on the two days prior to the overflow event will also be reported.
- Analytical results - Including copies of the actual laboratory reports.
- QA/QC results - Including copies of the laboratory QA/QC results; any discrepancies will be identified and explained by the City.
- Copies of completed chain of custody pages.

At the completion of the sampling period, the City of Fort Wayne shall submit a report that will include all of the above sampling, summarize the results of such sampling including sampling results for the non-pretreated split samples and the pre-treated split samples. Fort Wayne shall compare such samples to NPDES permit limits and, based on those results, recommend measures to be taken by the City to achieve effective disinfection as necessary to comply with defined, numeric water quality standards.

CHI2\2238394.2

Long Term Control Plan

Table 4.6.2.1
Post-Construction Monitoring for CSO Control Measures by River Watershed

Watershed		CSO Control Measure[1]	CSOs Controlled (By Overflow Permit ID)	Monitoring Data[2]		Typical Year Performance[3]		Overflow Frequency Performance Criteria Achieved (Yes/No)[4]	Comments
				CSO Volume (MG)	Overflow Frequency By Watershed	CSO Volume (MG)	Overflow Frequency By Watershed[3]		
St. Joseph River	7	Satellite Storage at St. Joseph River CSOs	45, 51, 53, 68						
	8	Satellite Disinfection at St. Joseph River CSOs [4]	52						
Maumee River	5	Pond Storage & Dewatering	67, plus Outfalls 002/003						
	10	Morton Street/O10101 Reroute	48						
	11	Wayne Street Parallel Interceptor	11, 12, 13, 23, 24, 26, 27, 28, 29, 32, 33, 36, 39, 50, 55, 60						
	14	Satellite Storage	64						
	9	Satellite Disinfection[4]	61, 62						
St. Marys River	12	St. Marys Parallel Interceptor	4, 5, 17, 18, 19, 20, 21						
	6	Satellite Disinfection[4]	54						

Footnotes:

(1) CSO Control Measures are listed in LTCP Table 4.2.4.1 along with Achievement of Full Operation (AFO) dates. Note that additional CSO Control Measures, not specific to a particular river watershed, will also be implemented (as outlined in Table 4.2.4.1).

(2) The monitoring period duration, and method to assess Typical Year Performance, will be selected from the options presented in Section 4.6.4.

(3) Typical Year Performance Criteria of 1 overflow event (for the St. Joseph River) or 4 overflow events (for the Maumee and St. Marys Rivers) is based on average annual statistics over a representative five-year period. The method to assess "typical year" performance over a typical 5-year period will be selected from the options presented in Section 4.6.4.

(4) Milestone reports on the achievement of performance criteria will be prepared for each watershed, as described in Section 4.6.6.

(5) The preferred CSO Control Measure for these CSOs is Satellite Disinfection based on the technology screening and selection process conducted by the City. The City will proceed as described in Section 4.8 to conduct a Satellite Disinfection Pilot Study if it ultimately elects to construct one or more Satellite Disinfection facilities. Alternatively, the City may elect to construct Satellite Storage facilities.

Table 4.6.3.1
CSO and Stream Monitoring

Site ID	Location	Receiving Stream	Rationale	Real-time Discharge	Intermittent Water Quality	Monitoring Frequency	Monitoring Protocols
1	Mayhew Road Bridge	St. Joseph	Located upstream of the City service area, representing St. Joseph River water quality without any effects of Fort Wayne urban sources. This location provides an indicator of water quality conditions and loads entering City waterways from upstream watersheds.		X	Monthly on a year-round basis; weekly from April 1 to October 31	pH, Dissolved Oxygen, temperature, E. coli, Ammonia-Nitrogen, Total Phosphorus, Total Suspended Solids. In addition, monthly sample only - Cadmium, Copper, Lead & Zinc.
2	Tennessee Avenue Bridge	St. Joseph	Located downstream of St. Joseph River CSOs and prior to confluence with the Maumee River, representing the cumulative impact of CSO and other urban sources. This location will be used to track the impact of St. Joseph River CSO controls.		X	Monthly on a year-round basis; weekly from April 1 to October 31	pH, Dissolved Oxygen, temperature, E. coli, Ammonia-Nitrogen, Total Phosphorus, Total Suspended Solids. In addition, monthly sample only - Cadmium, Copper, Lead & Zinc.
3	Ferguson Road Bridge	St. Marys	Located upstream of the City service area, representing St. Marys River water quality without any effects of Fort Wayne urban sources. This location provides an indicator of water quality conditions and loads entering City waterways from upstream watersheds.		X	Monthly on a year-round basis; weekly from April 1 to October 31	pH, Dissolved Oxygen, temperature, E. coli, Ammonia-Nitrogen, Total Phosphorus, Total Suspended Solids. In addition, monthly sample only - Cadmium, Copper, Lead & Zinc.
4	Spy Run Bridge	St. Marys	Located downstream of St. Marys River CSOs and prior to confluence with the Maumee River, representing the cumulative impact of CSO and other urban sources. This location will be used to track the impact of St. Marys River CSO controls.		X	Monthly on a year-round basis; weekly from April 1 to October 31	pH, Dissolved Oxygen, temperature, E. coli, Ammonia-Nitrogen, Total Phosphorus, Total Suspended Solids. In addition, monthly sample only - Cadmium, Copper, Lead & Zinc.
5	Anthony Boulevard Bridge	Maumee	Located downstream of St. Joseph River and St. Marys River CSOs, and upstream of the WPCP and Pond discharges. This location will be used to track the impact of all upstream CSOs (under current and improved conditions) independent of WPCP and CSO Pond improvements.		X	Monthly on a year-round basis; weekly from April 1 to October 31	pH, Dissolved Oxygen, temperature, E. coli, Ammonia-Nitrogen, Total Phosphorus, Total Suspended Solids. In addition, monthly sample only - Cadmium, Copper, Lead & Zinc.
6	Landin Road Bridge	Maumee	Located downstream of Fort Wayne to evaluate the cumulative impact of all CSO Control Measures in the City.		X	Monthly on a year-round basis; weekly from April 1 to October 31	pH, Dissolved Oxygen, temperature, E. coli, Ammonia-Nitrogen, Total Phosphorus, Total Suspended Solids. In addition, monthly sample only - Cadmium, Copper, Lead & Zinc.
USGS-1	Anthony Boulevard Bridge	Maumee	USGS Gauging Station #04182900			Continuous	Water stage
USGS-2	Coliseum Boulevard Bridge	Maumee	USGS Gauging Station #04182950	X		Continuous	River flow, water stage
USGS-3	Landin Road Bridge	Maumee	USGS Gauging Station #04183000	X		Continuous	River flow, water stage
USGS-4	Latitude 41°10'38" Longitude 85°03'21"	St. Joseph	USGS Gauging Station #04180500	X		Continuous	River flow, water stage
USGS-5	Anthony Extended Bridge	St. Marys	USGS Gauging Station #04182000	X		Continuous	River flow, water stage
Outfall 003	CSO Pond 1	Maumee	Currently a permitted discharge, but not active; potential future discharge point	X		Continuous	Post-construction monitoring will be via new equipment installed as part of LTCP improvements.
Outfall 002	CSO Pond 2	Maumee	Monitoring required per NPDES permit	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
Outfall 001	WPCP Discharge	Maumee	Monitoring required per NPDES permit	X	X	Daily/Continuous	Per NPDES Permit
CSO 004	Rolling Mills regulator	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 005	Foster Park at swing bridge	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)

Table 4.6.3.1
CSO and Stream Monitoring

Site ID	Location	Receiving Stream	Rationale	Real-time Discharge	Intermittent Water Quality	Monitoring Frequency	Monitoring Protocols
CSO 011	Nebraska Pump Station	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Pump run time meters used to estimate flow (onset, duration, and volume of overflow)
CSO 013	Wayne and Nelson	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity of influent (onset, duration of overflow) plus weir equation
CSO 017	Wildwood and Wildmere	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 018	Broadway and Rudisill	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 019	Broadway and Rudisill	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 020	Herman Road	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 021	Century Court	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 023	Jackson and Superior	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 024	Ewing and Superior (east manhole)	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 025	Ewing and Superior (west manhole)	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 026	Third Street Pump Station	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 028	Glasgow Pump Station	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Pump run time meters used to estimate flow (onset, duration, and volume of overflow)
CSO 029	Barr and Superior/Clinton and Superior	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 032	Superior and Wayne	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 033	Third Street Pump Station	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Pump run time meters used to estimate flow (onset, duration, and volume of overflow)
CSO 036	Westbrook	Spy Run (into St. Marys)	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 039	Wayne and Hanna	Maumee	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 044	Spy Run extended and Dalgreen	St. Joseph	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 045	250 feet east of Spy Run extended and Dalgreen	St. Joseph	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 048	Morton Street Pump Station	Maumee	Monitored CSO for City monthly reporting requirements	X		Continuous	Pump run time meters used to estimate flow (onset, duration, and volume of overflow)
CSO 050	Coombs @ CAJ Foods	Maumee	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 051	3420 Woodrow Avenue	St. Joseph	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 052	Crescent and Springfield/Concordia H.S. parking lot	St. Joseph	Monitored CSO for City monthly reporting requirements	X	X[1]	Continuous	Flow, level, velocity (onset, duration, and volume of overflow). Effluent parameters per NPDES Permit.[2]
CSO 053	1124 St. Joseph River Drive	St. Joseph	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)

Table 4.8.3.1
CSO and Stream Monitoring

Site ID	Location	Receiving Stream	Rationale	Real-time Discharge	Intermittent Water Quality	Monitoring Frequency	Monitoring Protocols
CSO 054	Smith and Belmont	Natural Drain No. 4 (into St. Marys)	Monitored CSO for City monthly reporting requirements	X	X[1]	Continuous	Flow, level, velocity (onset, duration, and volume of overflow). Effluent parameters per NPDES Permit.[2]
CSO 055	Anthony and Wayne	Maumee	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 056	Brown Street Pump Station	St. Marys	Monitored CSO for City monthly reporting requirements	X		Continuous	Pump run time meters used to estimate flow (onset, duration, and volume of overflow)
CSO 057	Wayne and Glascow/WPCP in front of headworks	Maumee	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 058	East of WPCP	Maumee	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 060	Formerly Ferrell Gas (east of Omin Source offices)	Un-named ditch (to Maumee)	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 061	Coliseum and State	Baldwin Ditch (to Maumee)	Monitored CSO for City monthly reporting requirements	X	X[1]	Continuous	Flow, level, velocity (onset, duration, and volume of overflow). Effluent parameters per NPDES Permit.[2]
CSO 062	State and Laverne	Baldwin Ditch (to Maumee)	Monitored CSO for City monthly reporting requirements	X	X[1]	Continuous	Flow, level, velocity (onset, duration, and volume of overflow). Effluent parameters per NPDES Permit.[2]
CSO 064	Pontiac	Un-named ditch (to Maumee)	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 068	Glazier and North Side Drive	St. Joseph	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity (onset, duration, and volume of overflow)
CSO 080	Alley beside 2316 Kensington/alley beside 1815 E. State Boulevard	Baldwin Ditch (to Maumee)	Monitored CSO for City monthly reporting requirements	X		Continuous	Flow, level, velocity of influent (onset, duration of overflow) plus weir equation

(1) Intermittent Water Quality monitoring required only if Satellite Disinfection technology constructed.

(2) If Satellite Disinfection technology is utilized, NPDES effluent limits shall be as noted in Section 4.6.

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Consent Decree
<u>Appendix 5</u>

Sanitary Sewer Discharges to Be Eliminated

SANITARY SEWER DISCHARGES TO BE ELIMINATED

Rothman SSD System

The Rothman SSD System consists of structures T46 089 (outfall 072 of the Current Permit), T46 004 (outfall 073 of the Current Permit), T34 035 (outfall 074 of the Current Permit), T34 028 (outfall 075 of the Current Permit), and T34 024 (outfall 076 of the Current Permit). The Achievement of Full Operation of improvements necessary to eliminate SSDs from these structures shall occur on or before December 31, 2011.

Warfield SSD System

The Warfield SSD System consists of structures N23 121 (outfall 070 of the Current Permit) and N23 122 (outfall 071 of the Current Permit). The Achievement of Full Operation of improvements necessary to eliminate SSDs from these structures shall occur on or before December 31, 2011.

North Maumee SSD System

The North Maumee SSD System consists of structures V10 001 (outfall ___ of the Current Permit) and V06 001 (outfall ___ of the Current Permit). The Achievement of Full Operation of improvements necessary to eliminate SSDs from these structures shall occur on or before December 31, 2020.

[Outfall numbers for the North Maumee SSD system are to be assigned via the proposed modified NPDES permit that IDEM issued for public notice and comment on November 23, 2007.]

United States and State of Indiana v. City of Fort Wayne, Indiana

Consent Decree

<u>Appendix 6</u>

Federal Supplemental Environmental Project Plan

CITY OF FORT WAYNE, INDIANA

FORT WAYNE CITY UTILITIES

Supplemental Environmental Project

Septic System Elimination Program

TO:

The United States Environment Protection Agency

December 2007

The City of Fort Wayne (City) provides municipal sewage treatment and/or conveyance services to nearly 85% of the developed area in the Fort Wayne Metropolitan area. This represents approximately 80,000 sanitary sewer customers. The City system includes the operation of sewage treatment plant with a current peak capacity of 60 MGD and over 1,100 miles of sanitary sewer piping. The central area of the City is served by a combined sewer system.

The City's Long-Term Control Plan (LTCP) contemplates watershed-based solutions to control combined sewer overflows (CSOs). These solutions will be implemented over the next 18 years as described in the LTCP. In effort to continue improving water quality and enhance public health and the environment, the City has identified septic systems as a non-CSO related pollution source that has the potential to impair the City's CSO receiving streams. The Supplemental Environmental Project (SEP) described below is intended to help address this non-CSO related pollution source.

SEPTIC SYSTEM ELIMINATION PROGRAM

Project Overview and Purpose

The City proposes to undertake efforts focused on the elimination of failed or failing septic systems located throughout its service area with a focus on those located within developed/urban areas. This SEP will include a 4-year $400,000 investment that will eliminate 133 existing septic systems in high priority areas within said 4 years. The City is not required by any law or ordinance to complete the work described in this SEP.

There are currently approximately 1,600 septic systems within the City's sanitary sewer service area. Of these approximately 1,600, approximately 500 are located within the serviceable area of Fort Wayne's City limits. Septic systems have a limited life and generally afford unpredictable performance over time. Failing septic systems often lead to human exposure to bacteria, including E. coli, which ultimately appears in neighborhood streams and ditches and even in yard areas when systems 'boil' up out of the ground. Having these conditions within densely developed areas creates a greater risk of human exposure. To better mitigate these risks to area waters and residents, the City has developed this proposed SEP which will serve to help eliminate septic systems within City limits.

The City has identified and evaluated approximately 130 areas inside and/or near the City service area where clusters of homes are served by private on-site waste treatment or septic systems. The attached Exhibit identifies these potential septic relief areas. The clusters may contain as few as three or four or as many as 100 or more individual septic systems. Fort Wayne has evaluated cluster areas of septic systems for serviceability, constructability and environmental impact.

In septic system neighborhoods, most home's sewage exits from a tank system on the private property via a gravity discharge pipe. These pipes may discharge into a common pipe (often referred to as a septic drain line or field tile) that conveys the sewage to the nearest open ditch, stream, river or other waterway. These septic system drain lines can convey septic waste thousands of feet underground through piping before the effluent is ultimately discharged into an open waterway. While some discharging septic systems that have been properly maintained may discharge effluent that meets water quality standards, many systems discharge high levels of bacteria that can eventually make its way to an area ditch, drain, stream or river. The proximity of septic systems to local waterways can be observed on the attached Exhibit.

Research performed by Purdue University estimates that one-quarter of the septic systems in the State have failed or are failing. They have also estimated that every failing system can discharge more than 76,650 gallons of untreated wastewater to groundwaters and surface waters per year. That means that the estimated 500 failing septic systems in Fort Wayne and the City's serviceable area are introducing approximately 38,000,000 gallons of raw or only partially treated sewage into the environment annually.

Untreated wastewater contains excessive nutrients (nitrogen and phosphorus) that can harm native plant and fish populations and it can choke off the oxygen supply in surface waters and eventually lead to gradual environmental degradation. Untreated or partially treated wastewater can also lead to microbial populations in these surface waters exceeding regulatory full-body contact standards.

Fort Wayne's Septic System Elimination Program will eliminate this risk within the areas of septic system removal and reduce impacts to local groundwater and surface waters by transporting this wastewater to the City's Water Pollution Control Plant for treatment. It is estimated that this program will account for the elimination of approximately 26% of the septic systems located within the service area of the City.

City staff will oversee the implementation of the Septic System Elimination Program through its Capital Improvement Program. This will include planning, designing, bidding and managing the construction of the projects. The program will also entail working with the various neighborhoods and property owners within these areas by holding pubic information meetings and sending out mailings. A cost-share program, as noted below, will be adopted and administered by the City that provides for a sanitary sewer utility subsidy for each affected property.

Project areas will be selected based on various criteria including: failure rate of existing septic systems and associated impacts (as provided by the local Board of Health), impact on the City's drinking water source (St. Joseph River), constructability and degree of property owner interest and involvement in the project

Project Scope, Schedule and Cost

The total engineering and construction (capital) costs for the elimination of 133 septic systems is estimated to be approximately $1,899,000. The City will adopt a cost share program that provides a sanitary sewer utility subsidy for each benefited property. This City subsidy will be applied toward engineering and construction-related costs for the various projects and is estimated to be $400,000 (at a minimum). This contribution of $400,000 represents approximately 21% of the estimated cost of the engineering & construction (capital) portions of the program. The remaining approximately $1,499,000 of capital costs is anticipated to be paid by the benefited property owners. Additionally, the City will offer and administer a robust finance program for property owners that will include multi-year financing options to assist individual property owners in paying for their share of the cost of the sanitary sewer extension project. City administrative costs for overall program management and the financing program implementation are not included in the $400,000 program costs, all of which represents capital costs (no one-time non-depreciable expenditures or annual recurring costs are included within the estimated $400,000 contribution).

Consistency with U.S. EPA SEP Policy

According to the U.S. EPA SEP policy (May 1, 1998):

> *To further EPA's goals to protect and enhance public health and the environment, in certain instances environmentally beneficial projects, or Supplemental Environmental Project (SEPs), may be part of the settlement.*

The proposed SEP described above is consistent with the U.S. EPA's Policy. Notably:

- This SEP proposes work that will be environmentally beneficial to Fort Wayne's receiving waters and protective of public health.
- The City agrees to undertake this project in settlement of an enforcement action.
- The City is not otherwise legally required to perform this project.

Progress Reports

The City will submit to U.S. EPA progress reports upon implementation of the SEP project along with each milestone report required under the Consent Decree. Each progress report will provide the status of the Septic System Elimination Program, and will provide information about any elements of the program that were completed during the reporting period.

Modification/Substitution of Projects

The City may modify the project or may substitute a similar project for the Septic System Elimination Program identified above with the advance written approval of U.S. EPA provided that the alternative SEP represent costs at least equal to those described herein for the Septic System Elimination Program.

Substantial Compliance

The City will be in compliance with the requirement to implement this SEP provided it eliminated 133 septic systems by December 31, 2011 and documents the same in the required SEP Completion Report.

SEP Completion Report

Within 120 days after completion of the SEP, the City shall submit to U.S. EPA a final SEP Completion Report documenting the City's elimination of 133 septic systems. Upon U.S. EPA's written acceptance of that completion report, the City shall be deemed to have satisfactorily completed this SEP.

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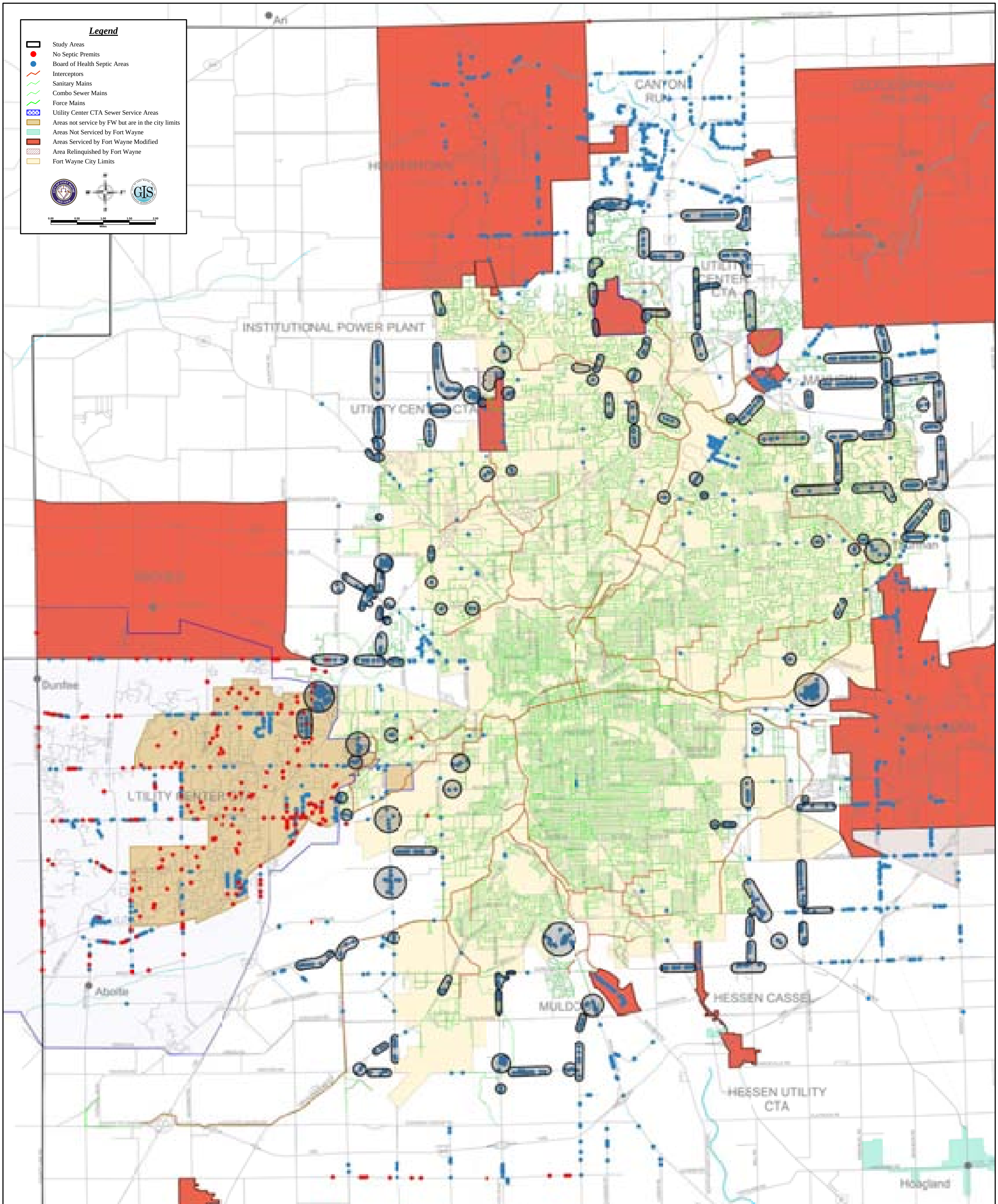
Legend
Study Areas
No Septic Premits
Board of Health Septic Areas
Interceptors
Sanitary Mains
Combo Sewer Mains
Force Mains
Utility Center CTA Sewer Service Areas
Areas not service by FW but are in the city limits
Areas Not Serviced by Fort Wayne
Areas Serviced by Fort Wayne Modified
Area Relinquished by Fort Wayne
Fort Wayne City Limits
0.00
0.50
1.00
1.50
2.00
Miles
CANTON RUN
INSTITUTIONAL POWER PLANT
UTILITY CENTER CTA
HESSEN CASSEL
HESSEN UTILITY CTA
Dunfee
Aboite
Hoagland

United States and State of Indiana v. City of Fort Wayne, Indiana

Consent Decree
<u>Appendix 7</u>

State Supplemental Environmental Project Plans

CITY OF FORT WAYNE, INDIANA

FORT WAYNE CITY UTILITIES

Supplemental Environmental Projects

Septic System Elimination Program
And
RAIN GARDEN DEMONSTRATION AND INCENTIVE PROGRAM

TO:

The Indiana Department of Environmental Management

December 2007

The City of Fort Wayne (City) provides municipal sewage treatment and/or conveyance services to nearly 85% of the developed area in the Fort Wayne Metropolitan area. This represents approximately 80,000 sanitary sewer customers. The City system includes the operation of a sewage treatment plant with a current peak capacity of 60 MGD and over 1,100 miles of sanitary sewer piping. The central area of the City is served by a combined sewer system.

The City's Long-Term Control Plan (LTCP) contemplates watershed-based solutions to control combined sewer overflows (CSOs). These solutions will be implemented over the next 18 years as described in the LTCP. In an effort to continue improving water quality and to enhance public health and the environment, the City has identified non-CSO related pollution sources that have the potential to impair the City's CSO receiving streams. The two independent State Supplemental Environmental Projects (SEPs) described below are intended to help address two of those non-CSO related pollution sources.

STATE SEPTIC SYSTEM ELIMINATION PROGRAM SEP

Project Overview and Purpose

For the first of its two independent State SEPs, the City proposes to undertake efforts focused on the elimination of failed or failing septic systems located throughout its service area with a focus on those located within developed/urban areas. This SEP will include a four-year $126,000 investment in sanitary sewer line extensions that will eliminate 42 existing septic systems in high priority areas within said four years. The City is not being required by any regulatory agency, ordinance of any agency, or as a result of any existing litigation or settlement to eliminate septic systems via public sewer extensions.

There are currently approximately 1,600 septic systems within the City's sanitary sewer service area. Of these approximately 1,600, approximately 500 are located within the serviceable area of Fort Wayne's City limits. Septic systems have a limited life and generally afford unpredictable performance over time. Failing septic systems often lead to human exposure to bacteria, including E. coli, which ultimately appears in neighborhood streams and ditches and even in yard areas when systems 'boil' up out of the ground. Having these conditions within densely developed areas creates a greater risk of human exposure. To better mitigate these risks to area waters and residents, the City has developed this proposed SEP which will serve to eliminate septic systems within and near the City limits.

The City has identified and evaluated approximately 130 areas inside and/or near the City service area where clusters of homes are served by private on-site waste treatment or "septic" systems. The attached Exhibit identifies these potential septic relief areas. The clusters may contain as few as three or four or as many as 100 or more individual septic systems. Fort Wayne has evaluated these cluster areas of septic systems for serviceability, constructability and environmental impact.

In septic system neighborhoods, most home's sewage exits from a tank system on the private property via a gravity discharge pipe. These pipes may discharge into a common pipe (often referred to as a septic drain line or field tile) that conveys the sewage to the nearest sewer (if one exists) or to the nearest open ditch, stream, river or other waterway. In un-sewered areas, these septic system drain lines can convey septic waste thousands of feet underground through piping before the effluent is ultimately discharged into an open waterway. While some discharging septic systems that have been properly maintained may discharge effluent that meets water quality standards, many systems discharge high levels of bacteria that can eventually make its way to an area ditch, drain, stream or river. The proximity of septic systems to local waterways can be observed on the attached Exhibit.

Research performed by Purdue University estimates that one-quarter of the septic systems in the State have failed or are failing. They have also estimated that every failing system can discharge more than 76,650 gallons of untreated wastewater to the groundwaters and surface waters per year. That means that the estimated 500 failing septic systems in the Fort Wayne area are introducing approximately 38,000,000 gallons of raw or only partially treated sewage into the environment annually.

Untreated wastewater contains excessive nutrients (nitrogen and phosphorus) that can harm native plant and fish populations and it can choke off the oxygen supply in surface waters and eventually lead to gradual environmental degradation. Untreated or partially treated wastewater can also lead to microbial populations in these surface waters exceeding regulatory full-body contact standards.

Fort Wayne's State Septic System Elimination Program will eliminate this risk within the areas of septic system removal and reduce impacts to local groundwater and surface waters by transporting this wastewater to the City's Water Pollution Control Plant for treatment. It is estimated that this program will account for the elimination of approximately 8% of the septic systems located within the City and its service area of the City.

City staff will oversee the implementation of the Septic System Elimination Program through its Capital Improvement Program. This will include planning, designing, bidding and managing the construction of the projects. The program will also entail working with the various neighborhoods and property owners within the identified areas by holding pubic information meetings and sending out mailings. A cost-share program, as noted below, will be adopted and administered by the City that will provide a sanitary sewer utility subsidy for each affected property.

Project areas will be selected based on various criteria including: failure rate of existing septic systems and associated impacts (as provided by the local Board of Health), impact on the City's drinking water source (St. Joseph River), constructability and degree of property owner interest and involvement in the project

Project Scope, Schedule and Cost

The total engineering and construction cost for the elimination of 42 septic systems is estimated to be approximately $599 thousand. The City will adopt a cost share program that provides a sanitary sewer utility subsidy for each benefited property. This City subsidy will be applied toward engineering and construction-related costs for the various projects and is estimated to be $126,000 (at a minimum). This contribution of $126,000 represents approximately 21% of the estimated cost of the engineering & construction portions of the program. The remaining approximately $473 thousand is anticipated to be paid by the benefited property owners. Additionally, the City will offer and administer a robust finance program for property owners that will include multi-year financing options to assist individual property owners in paying for their share of the cost of the sanitary sewer extension project. City administrative costs for overall program management and the financing program implementation are not included in the $126,000 program costs, all of which represents capital costs (no one-time non-depreciable expenditures or annual recurring costs are included within the estimated $126,000 contribution).

Consistency with SEP Policy

The proposed SEP described above is consistent with the IDEM's Supplemental Environmental Project Policy. Notably:

- This SEP proposes work that will be environmentally beneficial to Fort Wayne's receiving waters and protective of public health.
- The City agrees to undertake this project in settlement of an enforcement action.
- The City is not otherwise legally required to perform this project.

Progress Reports

The City will submit to IDEM progress reports upon implementation of the SEP project along with each milestone report required under the Consent Decree. Each progress report will provide the status of the State Septic System Elimination Program, and will provide information about any elements of the program that were completed during the reporting period.

Modification/Substitution of Projects

The City may modify the project or may substitute a similar project for the State Septic System Elimination Program identified above with the advance written approval of IDEM provided that the alternative SEP represent costs at least equal to those described herein for the State Septic System Elimination Program.

Substantial Compliance

The City will be in compliance with the requirement to implement this SEP provided it spends $126 thousand toward septic tank elimination by December 31, 2011 and documents such expenditures in the required SEP Completion Report.

SEP Completion Report

Within 120 days after completion of the SEP and/or the expenditure of at least $126 thousand toward the same, the City shall submit to IDEM a final SEP Completion Report documenting the

City's expenditures on toward this SEP and its completion. Upon IDEM's written acceptance of that completion report, the City shall be deemed to have satisfactorily completed this SEP.

RAIN GARDEN DEMONSTRATION AND INCENTIVE PROGRAM SEP

In addition to the State Septic System Elimination Program SEP described above, the City proposes to perform a SEP focused on reducing water pollution through the creation of demonstration rain gardens in learning environments and other public locations and developing incentives for the creation and maintenance of residential rain gardens. Much of this SEP project would be carried out within Fort Wayne's combined sewer area, although some rain gardens would be installed in suburban areas served by separate storm sewers.

Project Overview and Purpose

The City is proposing a rain garden program that would first establish demonstration rain gardens at a number of public locations, including public parks and schools, in the Fort Wayne area. The demonstration gardens would be designed and plants would be paid for by the City, and would be created through a cooperative effort involving Fort Wayne City Utilities, the Purdue University Cooperative Extension Agency's Master Gardener program, Indiana University-Purdue University Fort Wayne, area school corporations, the Fort Wayne Parks and Recreation Department, teachers and students. As they are being established and maintained, the gardens at schools would be used as part of an environmental curriculum developed within the SEP. A second part of the rain garden program would provide financial incentives for residential property owners who would agree to establish and maintain rain gardens on their own properties.

Rain gardens have the potential to decrease stormwater runoff and thus peak stream flows and the amount of stormwater going into combined sewers in some areas. The EPA website states that green infrastructure, including rain gardens, can protect surface waters and drinking water supplies. It goes on to site levels of pollutant removal levels for metals, phosphorus and nitrate that bioretention can be expected to accomplish (see attached).

The Center for Neighborhood Technology in 2007 published "Green Infrastructure Performance: Results of Monitoring Best Management Practices." The paper cites a paired watershed study done in Burnsville, MN that showed installation of rain gardens within a watershed reduced runoff volumes by 89 to 92 percent when compared with a watershed where no rain gardens were installed.

Research literature shows that rain gardens are particularly effective at reducing solids and nutrients in Stormwater runoff from residential yards and parking lots. A study at the H.B. Fuller lot in St. Paul, MN cited in a presentation by EPA Region 5 found that a wetland area built into a parking lot to capture runoff reduced stormwater runoff volume by 73%, particulate matter export by 94% and phosphorus loading by 70%. (Van der Kloot, 2006). Research done by the Center for Watershed Protection found that "bioretention facilities" installed in parking lots reduced total phosphorus measured in runoff by 65%, total nitrogen by 49%, and metals by 95 – 97% (Quigley and Lawrence, 2001).

A study conducted in Haddam, CT involving replicate rain gardens assessed whether the creation of a saturated zone in a rain garden improved retention of pollutants. The study found that concentrations of nitrite+ nitrate-N, ammonia-N, and total-N (TN) in roof runoff were significantly reduced by the rain gardens. Rain garden mulch was found to be a sink for metals, nitrogen and phosphorus. (Dietz and Clausen, 2006)

Based on this cursory review of research literature, and based on the fact that rain garden incentive programs are specifically cited in the document "Project Ideas for Potential Supplemental Environmental Projects" updated in July of 2006 and provided to EPA administrators and staff, Fort Wayne proposes the use of rain gardens for the reduction of storm water and storm water pollutants discharged to sewer systems. Further, based on the idea that concentrations of nutrients and metals in water bodies can pose a human health threat, use of a technology that reduces these pollutants should reduce human health threats. Fort Wayne would expect stormwater volume and pollutant reductions in localized areas to be similar to those found in the studies cited above.

Project Scope, Schedule and Cost

The rain garden demonstration and incentive program would begin with the establishment of criteria to be used to select public sites for demonstration rain gardens. Fort Wayne would establish demonstration gardens in the three major CSO-impacted watersheds. The City would work with the Fort Wayne Parks and Recreation Department, public and private school corporations, the Indiana University-Purdue University campus and the Purdue Cooperative Extension Service to identify appropriate locations for rain gardens where they can have the greatest impact on stormwater quantity and quality management. These public agencies would be asked to designate areas on property owned by them where the City could install a demonstration rain garden. Fort Wayne does not propose to purchase any property as part of this program. The City of Fort Wayne would completely fund the installation of 20 demonstration rain gardens of approximately 2,000 square feet each. Approximately 40% of the demonstration gardens will be located within the City's combined sewer area. The estimated cost for a 2,000 square foot rain garden is $12,000 based on a single quote acquired from a Fort Wayne based environmental design and restoration company and includes the cost of design and plants. Labor costs are not included as labor is expected to be done by volunteers. Thus, the total investment by the City in demonstration gardens would be $240,000.

The City would also fund the development of an education module to be used exclusively by students in the schools where rain gardens are located. The curriculum would be customized for elementary, middle and high school students. The curriculum is not targeted at the general public and would not be distributed beyond the schools where rain gardens have been installed as a result of this rain garden demonstration program. Because the curriculum material is not intended for general public educational awareness, this proposal should be consistent with Section D, Part 9(a) of the "EPA Supplemental Environmental Projects Policy."

A consultant will be hired to develop a curriculum that will correlate with Indiana science standards but will also include modules that can be used to teach math, language arts and other subjects. The curriculum will be geared to the age of the students attending the schools where gardens are installed. The curricular material will include general information about what a rain garden is and how it works, sizing, simple soil type and infiltration evaluation, basic hydrology, plant selection (based on weather zone), native plants and plant history of the area, awareness of invasive species, principles of landscape architecture and visual design principles.

The estimated cost for curriculum development is $50,000. This estimate for the development and printing of an education module is based on the cost approved by the Indiana Department of Environmental Management for a watershed curriculum for use in schools being developed by the St. Joseph River Watershed Initiative.

Once the gardens are installed, students and teachers in the specific schools where the gardens are located will be asked to maintain the gardens. This may include pulling weeds, adding plants, moving mulch, minimal watering, trimming, and preparing the gardens for winter. The school curriculum will incorporate information about how plants use nutrients, plant seeding and reproduction and the risks and management of invasive species.

The materials developed as part of the school curriculum will be provided only to the participating school corporations and their teachers. While volunteers from the City and from the Master Gardener's program may be recruited to assist with "teaching" the curriculum or maintaining the garden, the purpose of using volunteers is only to help educate students in classrooms in schools where rain gardens are located. Volunteers will not be trained as a means to do general public educational awareness, but to educate students. The rain gardens would be installed and education module available for use by December 31, 2014.

The City will promote the installation of rain gardens on private residential property by offering an incentive of $100 each to homeowners who install rain gardens. Homeowners would be required to construct a rain garden in accordance with general guidelines and standards established by the City and would be asked to maintain the gardens following construction. Once the garden is installed at the property owner's expense, the property owner could apply to the City to receive the $100 incentive as a reimbursement. The property owner could apply the reimbursement from the City to offset some of the plant or installation costs for the rain garden. Fort Wayne has set a goal of facilitating the creation of 1,000 rain gardens by the end of 2014.

The City will create a "how to" manual that would be provided to home owners. It would include the City's guidelines for sizing the garden, making soil amendments, plant selection and maintenance. Development and printing of the how-to manual will cost an estimated $30,000. Graphic design and printing costs for the "how to" manual are based on costs for similar publications produced by the City of Fort Wayne. The salary cost includes labor and burden for one employee who would research and write the manual. In developing the manual, the City will consult the Indiana Storm Water Quality Manual (www.idem.in.gov/stormwater).

The City's total investment in rain garden demonstration and incentive program through this SEP will be $420,000. Program cost details and funding sources are shown in the table below:

	Demonstration Rain Gardens 20 @ 2,000 sq. ft.	Educational curriculum and material for school	Residential rain garden incentives for 1,000	Develop and print 1,000 copies of rain garden "How	Total cash or in kind

	each @ $12,000	students	gardens at @$100 each	To" manual 40 hrs staff time at $40 per hour, $5,000 to graphic designer for layout, $23,400 for printing 1,000 @ approx $20 per book plus set up	
City of Fort Wayne	$240,000 cash to contractor	$ 50,000 cash to contractor	$100,000 cash payments to property owners	$1,600 salary $ 28,400 cash payment to contractor = $30,000	$420,000 cash
Fort Wayne Community and other area public and private school systems In-kind support	10 garden spaces @ 2,000 sq. ft. each @ land price of $1.00 per sq. ft. = $20,000	Advising on curriculum requirements and appropriateness of material for various age groups 40 hours at $40 per hour = $1,600	$0	$0	$ 21,600 in-kind
Purdue Cooperative Extension Service Master Gardener Program In-kind support	$0	Review of material for appropriateness for area soils and weather conditions, advising on maintenance, classroom presentations 100 hours @ $25 per hour = $2,500	$0	Review of material for appropriateness for area soils and weather conditions, constructability and functionality based on sizing and preparation suggested in manual 60 hours @ $25 per hour	$ 4,000 in-kind

				= $1,500	
Indiana University/ Purdue University Fort Wayne In-kind support	10,000 sq. ft of rain garden space @ land value of $1.00 per sq. ft = $10,000	$0	$0	$0	$ 10,000 in-kind
Fort Wayne Department of Parks and Recreation In-kind support	10,000 sq. ft. of rain garden space @ land value of $1.00 per sq. ft. = $10,000	$0	$0	$0	$ 10,000 in-kind
Total cash investment	$240,000	$50,000	$100,000	$ 30,000	$420,000
Total anticipated in-kind (non-monetary) support	$ 40,000	$ 4,100	$0	$ 1,500	$ 45,600

Consistency with SEP Policy

Fort Wayne's proposed Rain Garden Demonstration and Incentive Program is consistent with IDEM's Supplemental Environmental Project Policy. IDEM's Supplemental Environmental Project Policy (April 1999) seeks to encourage and obtain environmental and public health protection and improvements that would not occur without the incentives provided by the Policy. IDEM encourages the use of SEPs that are consistent with its Policy because these voluntary supplemental environmental projects offer significant additional environmental or public health protection, beyond what is required in settlement of an enforcement action.

City's proposed SEP is consistent with IDEM's Supplemental Environmental Project Policy in that:

- There is a direct relationship between the underlying consent decree concerns (river and stream water quality) and the human and environmental benefits that will result from the SEP. The installation of a total of 120 rain gardens can reduce the rate of stormwater runoff from public and residential properties, thereby reducing the flow of stormwater and the pollutants it carries. In combined sewer areas, the use of rain gardens can reduce the amount of stormwater going into combined sewers.
- This SEP reduces risks to public health and the environment.
- The City, while not legally obligated to implement this project, will promote pollution prevention and environmental justice by creating this SEP.

Rain gardens developed under this program are intended to be for demonstration purposes only and for the enjoyment of those who may come into contact with them.

There will be no financial arrangement between the City of Fort Wayne and Purdue University for such a garden is one is developed on the campus or on the property of the Purdue Cooperative Extension Service. The City is not proposing to pay the University for the right to locate a rain garden on any property owned by the University. Any support that the University and its staff may provide will be voluntary and in-kind. If required by the University, (or any school corporation where a demonstration rain garden is proposed) and City may enter into an intergovernmental agreement that would allow the City to install a rain garden on property designated by the University (or other partner agency). It is the City's hope that such an agreement will not be needed and that volunteers from the University will want to build and plant the rain garden based on a design provided and paid for by the City.

Rain garden incentive programs are specifically cited in the U.S. EPA memorandum titled "Project Ideas for Potential Supplemental Environmental Projects" from Assistant Administrator Granta Y. Nakayama dated July 20, 2006.

Progress Reports

The City will submit to IDEM progress reports upon implementation of the SEP project along with each milestone report required under the Consent Decree. Each progress report will provide the status of the Rain Garden Demonstration and Incentive Program components identified above, and will provide information about any elements within those projects that were completed during the reporting period.

Modification/Substitution of Projects

The City may modify the project or may substitute a similar project for the Rain Garden Demonstration and Incentive Program identified above with the advance written approval of

IDEM provided that the alternative SEP represent costs at least equal to those described herein for the Rain Garden Demonstration and Incentive Program.

Substantial Compliance

The City will be in compliance with the SEP requirements provided it spends a total of $420,000 toward the installation of demonstration rain gardens and rain garden incentives by December 31, 2014 and documents the expenditures in the required SEP completion report.

SEP Completion Report

Within 120 days after either 1) completion of the Rain Garden Demonstration and Incentive Program, or 2) the expenditure of at least $420,000 toward accepted alternative projects the City shall submit to IDEM a final SEP Completion Report documenting the expenditures and the projects that have been completed.

RESOURCES AND REFERENCES

Dietz, Michael E. and Clausen, John C. "Saturation to Improve Pollutant Retention in a Rain Garden," *Environ. Sci. Technol.*, 40 (4), 1335 – 1340, 2006

Green Infrastructure Performance: Results of Monitoring Best Management Practices. 2007. Center for Neighborhood Technology, Chicago, IL.

Quigley, Martin F. and Lawrence, Timothy. *Multi-Functional Landscaping: Putting Your Parking Lot Design Requirements to Work for Water Quality*. 2001. Ohio State University, Columbus, OH.

Van der Kloot, Jim. "Green Brownfields Retrofit," *Collaborative Cleanups II*, Bretton Woods, NH, May 4-5, 2006.

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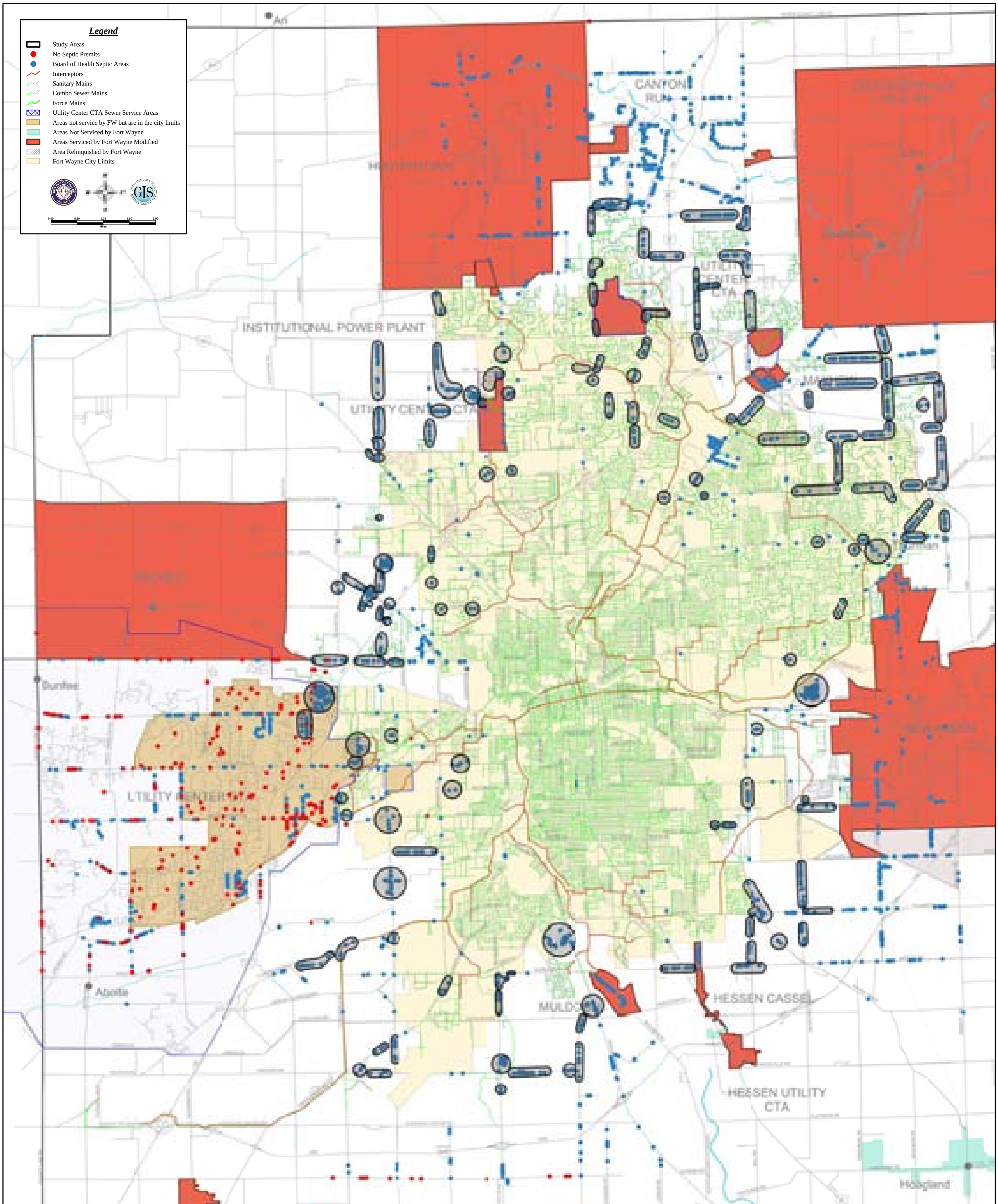
Legend
Study Areas
No Septic Premits
Board of Health Septic Areas
Interceptors
Sanitary Mains
Combo Sewer Mains
Force Mains
Utility Center CTA Sewer Service Areas
Areas not service by FW but are in the city limits
Areas Not Serviced by Fort Wayne
Areas Serviced by Fort Wayne Modified
Area Relinquished by Fort Wayne
Fort Wayne City Limits
0.00 0.50 1.00 1.50 2.00
Miles
CANTON RUN
UTILITY CENTER CTA
INSTITUTIONAL POWER PLANT
UTILITY CENTER CTA
UTILITY CENTER
HESSEN CASSEL
HESSEN UTILITY CTA
Dunfee
Aboite
Hoagland