

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO  
WESTERN DIVISION

UNITED STATES OF AMERICA, )  
)  
and )  
)  
THE STATE OF OHIO, )  
)  
Plaintiffs, )  
)  
v. )  
)  
THE CITY OF TOLEDO, OHIO, )  
A Municipal Corporation, )  
)  
Defendant. )  
\_\_\_\_\_ )

Civil Action No. 3:91:CV7646  
Judge James G. Carr

CLERK OF DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
TOLEDO

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CONSENT DECREE

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WHEREAS:

Plaintiff, United States of America ("United States"), on behalf of the United States Environmental Protection Agency ("U.S. EPA"), filed a complaint in this civil action on October 29, 1991, and amended its complaint on Dec. 17, 1992, against Defendant, the City of Toledo, Ohio ("Toledo" or "Defendant").

The State of Ohio ("Ohio") was originally named as a defendant pursuant to Section 309(e) of the Clean Water Act (also referred to herein as the "Act"), 33 U.S.C. § 1319(e); Ohio moved, and this Court granted Ohio's motion, to be realigned as a party plaintiff in this Action. Ohio then filed a complaint and, subsequently, an amended complaint against Toledo.

Toledo is a municipal corporation organized and existing under the laws of the State of Ohio. Toledo owns and operates the Bayview Wastewater Treatment Plant ("WWTP") located in Lucas County, at 3900 N. Summit Street, Toledo, Ohio; the treatment plant discharges

pollutants into the Maumee River, which flows into Lake Erie.

The United States brings its claims pursuant to Section 309 of the Act, 33 U.S.C. § 1319. In its amended complaint, the United States seeks the imposition of civil penalties and injunctive relief for violations of Section 301(a) of the Act, 33 U.S.C. § 1311(a), and terms and conditions of National Pollutant Discharge Elimination System ("NPDES") permits issued by Ohio as Permit Nos. 2PF00000\*FD, as modified and renewed, including Permit Nos. 2PF00000\*GD and 2PF00000\*HD, and Toledo's Current Permit, as defined below. Toledo's current permit as of the date of the lodging of this Consent Decree is 2PF00000\*JD. The application number for these permits, and thus the U.S. EPA number for these permits, is OH0027740. Ohio brings its claims pursuant to Section 505(a) of the Act, 33 U.S.C. § 1365(a) and pursuant to Chapter 6111 of the Ohio Revised Code. In its amended complaint, Ohio seeks the imposition of civil penalties and injunctive relief pursuant to Section 301(a) of the Act, 33 U.S.C. § 1311(a), Chapter 6111 of the Ohio Revised Code, and terms and conditions of Toledo's NPDES permits, as described above in this Paragraph. Toledo's payment of these civil penalties and acceptance of the terms of this Decree resolve the allegations in the amended complaints of the United States and Ohio and other matters addressed herein.

Defendant, without making any admission of fact or law or evidence of same, or of any violation of any law or regulation, and Plaintiffs agree by entering this Decree that settlement of these matters, without further protracted litigation is fair, reasonable, and in the public interest.

NOW, THEREFORE, it is hereby ORDERED, ADJUDGED, and DECREED as follows:

#### I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action and over the parties

consenting thereto pursuant to 28 U.S.C. §§ 1345, 1355 and 1367, and Sections 309(b) and 505(a) of the Act, 33 U.S.C. §§ 1319(b) and 1365(a). The amended complaints of the United States and the State of Ohio state claims upon which relief can be granted under Section 309 of the Act, 33 U.S.C. § 1319. Venue is proper pursuant to Section 309(b) of the Act, 33 U.S.C. §§ 1319(b) and 1365(c), 28 U.S.C. §§ 1391(b) and (c) and 1395(b).

## II. APPLICABILITY

2. The provisions of this Consent Decree shall apply to and be binding upon the parties to this action, their officers, directors, agents, employees, successors, and assigns and any person having notice of this Consent Decree who is, or will be, acting in concert or participation with Toledo. Toledo shall provide a copy of this Consent Decree to any successor in interest at least thirty (30) days prior to transfer of that interest, and simultaneously shall verify in writing to U.S. EPA that such notice has been given. Any sale or transfer of Toledo's interests in or operating role with respect to the Bayview WWTP shall not in any manner relieve Toledo of its responsibilities for meeting the terms and conditions of this Consent Decree. In any action to enforce this Consent Decree, Toledo shall not raise as a defense the failure by any of its officers, directors, agents, employees, successors, assigns, or contractors to take actions necessary to comply with the Decree.

## III. OBJECTIVES

3. It is the express purpose of the parties in entering this Consent Decree to further the objectives of the Act, as enunciated at Section 101 of the Act, 33 U.S.C. § 1251, and the objectives of Chapter 6111 of the Ohio Revised Code. All plans, reports, construction, remedial maintenance, and other obligations in this Consent Decree or resulting from the activities

required by this Consent Decree shall have the objective of causing Toledo to come into and remain in full compliance with the terms and conditions of Toledo's Current Permit, to meet the objectives of U.S. EPA's April 19, 1994 "Combined Sewer Overflow (CSO) Policy," and to eliminate sanitary sewer discharges, as these terms are defined in Paragraph 4 of this Consent Decree. The remedies, timetables and studies required under this Consent Decree are the feasible alternatives to address those matters alleged as violations in the amended complaints.

#### IV. DEFINITIONS

4. Unless otherwise defined herein, terms used in this Decree shall have the meaning given to those terms in the Act, 33 U.S.C. § 1251 et seq., the regulations promulgated thereunder at 40 C.F.R. § 122, Chapter 6111 of the Ohio Revised Code, the regulations promulgated under that Chapter, and in Toledo's NPDES Permit, No. 2PF00000\*JD.

(a) "Bayview WWTP" means the Bayview Wastewater Treatment Plant.

(b) "Combined Sewer Overflow" or "CSO" shall mean any discharge from any outfall identified in Toledo's Current Permit, as defined below except for outfalls 001 and 002.

(c) "Combined Sewer Overflow Outfall" or "CSO Outfall" shall mean the outfall from which CSOs are discharged.

(d) "Combined Sewer System" or "CSS" shall mean the portion of Toledo's Sewer System designed to convey municipal sewage (domestic, commercial and industrial wastewaters) and stormwater runoff through a single-pipe system to the Bayview WWTP or to a combined sewer overflow structure.

(e) "Defendant" shall mean the City of Toledo, Ohio.

(f) "Design" shall include detailed plans and specifications.

(g) "Infiltration" means the water entering a sewer system and service connections from the ground, through means including, but not limited to, defective pipes and sewer walls, pipe and sewer joints, connections, and manhole walls.

(h) "Inflow" means the water discharged into a sewer system, including service connections, from sources including, but not limited to, roof leaders, cellars, yard and area drains, foundation drains, cooling water discharges, drains from springs and swampy areas, manhole covers, cross connections from storm sewers and combined sewers, catch basins, storm waters, surface run-off, street wash waters, and drainage.

(i) "Infiltration/Inflow" and "I/I" mean infiltration and/or inflow.

(j) "MGD" or "mgd" means million gallons per day.

(k) "Monthly Operating Report" or "MOR" is defined as the discharge monitoring report which Toledo submits to the Ohio Environmental Protection Agency on a monthly basis pursuant to Section III.4 of Toledo's NPDES Permit No. 2PF00000\*JD, and any similar provision in Toledo's Current Permit.

(l) "Ohio EPA" means the State of Ohio Environmental Protection Agency.

(m) "Outfall 001" and "outfall 002" refer to the outfalls identified as outfalls 001 and 002 in Toledo's National Pollutant Discharge Elimination System Permit No. 2PF00000\*JD, effective November 1, 1994.

(n) "Plaintiffs" mean the United States of America, on behalf of U.S. EPA, and the State of Ohio.

(o) "Sanitary Sewer Discharge," and "SSD" shall mean any discharge to waters of the State or United States from Toledo's Sanitary Sewer System through a point source not

specified in any NPDES permit. SSDs include discharges from portable overflows.

(p) "Sanitary Sewer System" or "SSS" shall mean all portions of Toledo's Sewer System that are not a part of the Toledo's Combined Sewer System.

(q) "Sewer System" shall mean the wastewater collection and transmission system owned or operated by Toledo designed to collect and convey municipal sewage (domestic, commercial and industrial) to Toledo's Wastewater Treatment Plants or to a combined sewer overflow structure. "Sewer System" includes both the "Combined Sewer System" and the "Sanitary Sewer System."

(r) "Ten-year storm event" shall mean a rain event in which the total amount of rainfall during a one-hour period during the event exceeds the amount specified in the "Rainfall Frequency Atlas of the Midwest" (Midwest Climate Center, National Weather Service, 1992) for the ten-year return frequency, one-hour duration storm event for Toledo.

(s) "Toledo's Current Permit" means Toledo's National Pollutant Discharge Elimination System Permit No. 2PF00000\*JD, effective November 1, 1994, and any such permit which succeeds Permit No. 2PF00000\*JD issued to Toledo, and which is in effect at a particular time in question.

#### V. COMPLIANCE PROGRAM AND SCHEDULES

5. Toledo is ordered and enjoined to achieve and maintain compliance with Toledo's Current Permit and the provisions of the Act, 33 U.S.C. § 1281 et seq. and Ohio Revised Code Chapter 6111 in accordance with the compliance program and schedules set forth below.

##### A. Compliance with NPDES Permit

6. Toledo shall at all times comply with all effluent limitations applicable to Outfall 001

in Toledo's Current Permit and with the requirement set forth in Toledo's Current Permit that any discharges from Combined Sewer Overflows may occur only during wet weather periods when the flow in the sewer system exceeds the capacity of the sewer system.

B. Phase I Design and Construction of Improvements at the Bayview WWTP and to Portions of the Combined Sewer System

7. Toledo shall submit for approval by U.S. EPA and Ohio EPA the design of various Bayview WWTP improvements according to the following schedule:

(a) Within twelve months after the entry of this Consent Decree, Toledo shall submit the design for improvements to its large pump stations, including structural and mechanical renovations to the East Side Pump Station and Bay View Pump Stations; and structural, mechanical and electrical renovations to the Windermere Pump Station, including new bar screens and variable frequency drives for two raw sewage pumps;

(b) Within fifteen months after the entry of this Consent Decree, Toledo shall submit the design for backup power for the secondary system; including the addition of multiple diesel or gas fired electric generators with sufficient capacity to run the electric blowers and the activated sludge process;

(c) Within twenty-seven months after the entry of this Consent Decree, Toledo shall submit the design for replacement of the diesel drive blowers in the Mechanical Equipment Building with electric motor driven blowers. This will include structural, electrical and mechanical renovations to the Mechanical Equipment Building, blower controls and computer control through the plant's control system;

(d) Within twenty-four months after the entry of this Consent Decree, Toledo

shall submit the design for an equalization basin, to be used to capture and store peak wastewater flows and to return the stored wastewater to the Bayview WWTP for treatment, with a capacity of no less than sixty million gallons;

(e) Within fifteen months after the entry of this Consent Decree, Toledo shall submit the design for an additional secondary clarifier with the same capacity as Toledo's existing tank number 12; and

(f) Within twenty-one months after entry of this Consent Decree (consisting of twelve months of pilot testing and nine months of design), Toledo shall submit the design for ballasted flocculation facilities with a firm design capacity of 185 million gallons per day (128,500 gallons per minute), a hydraulic loading rate of no more than 60 gallons per minute per square foot (at the firm design flow of 128,500 gallons per minute); and appropriate chemical feed and chemical storage systems, solids handling facilities (under no circumstances may the solids stream from the facilities be directed back into the liquid stream at the Bayview WWTP), and automatic, computerized equipment for system control.

8. Toledo shall construct, complete and place into operation the following improvements to the Bayview WWTP in accordance with the following schedule:

(a) Within twenty-seven months after approval of the design by U.S. EPA and Ohio EPA, improvements to the three large pump stations in accordance with the design approved by U.S. EPA and Ohio EPA pursuant to Paragraph 7(a);

(b) Within twenty-four months after approval of the design by U.S. EPA and Ohio EPA, a backup power source for the secondary system in accordance with the design approved by U.S. EPA and Ohio EPA pursuant to Paragraph 7(b);

(c) Within twenty-four months after approval of the design by U.S. EPA and Ohio EPA, replacement of the blowers in accordance with the design approved by U.S. EPA and Ohio EPA pursuant to Paragraph 7(c);

(d) Within thirty months after approval of the design by U.S. EPA and Ohio EPA, an equalization basin in accordance with the design approved by U.S. EPA and Ohio EPA pursuant to Paragraph 7(d);

(e) Within twenty-four months after approval of the design by U.S. EPA and Ohio EPA, an additional secondary clarifier in accordance with the design approved by U.S. EPA and Ohio EPA pursuant to Paragraph 7(e);

(f) Within eighteen months after approval of the design by U.S. EPA and Ohio EPA, ballasted flocculation facilities in accordance with the design approved by U.S. EPA and Ohio EPA pursuant to Paragraph 7(f);

(g) By October 10, 2001, modifications to the plant's skimming tanks in accordance with Ohio EPA Permit to Install No. 03-12308;

(h) Within thirty-six months of the entry of this Consent Decree, secondary renovations, including the renovation of the existing eleven final tanks, replacement of electrical and control equipment for final tanks seven through eleven, construction of a new secondary control house, replacement of valve actuators on all aeration tanks, concrete repairs to all aeration tanks and final tanks, new channel air diffusers, piping and flow meters, and modification to secondary lighting; and

(i) improvements to the Woodsdale, LaGrange, Parkside, Maumee and Columbus CSO systems consisting of sewer separation and/or inflow/infiltration removals that will

eliminate or reduce wet weather flow to the Bayview WWTP from these combined sewer areas.

9. Within twelve months of the entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a work plan for conducting a two year study ("Ballasted Flocculation Study") of the effectiveness of the ballasted flocculation facilities constructed pursuant to Paragraph 8(f). The study shall commence immediately after construction of the ballasted flocculation facilities and shall include, but not be limited to, an analysis of: (a) the effectiveness of those facilities at removing suspended solids, carbonaceous biochemical oxygen demand (or biochemical oxygen demand), total Kjeldahl nitrogen (TKN) and ammonia; (b) any difficulties encountered in or limitations involved with using those facilities over a range of flow conditions, chemical feed rates and other operational control parameters; and (c) measures that Toledo has taken to optimize use of those facilities.

10. Upon approval by U.S. EPA and Ohio EPA of the work plan submitted in accordance with Paragraph 9, Toledo shall commence the study in accordance with the approved work plan and schedule set forth in the approved work plan.

11. Within sixty (60) days after completion of the Ballasted Flocculation Study, Toledo shall submit a written report to U.S. EPA and Ohio EPA, for approval, which contains the results of the study.

12. Toledo currently anticipates that it will spend approximately \$157,000,000 to complete the Bayview WWTP improvements required by this Section V.B and that, as a result of these improvements, Toledo intends to provide full biological treatment to approximately 99.5% of all flows received at the Bayview WWTP in a typical year and that the remaining 0.5% of flows at the Bayview WWTP will receive treatment from Toledo's ballasted flocculation

facilities and disinfection (as required by Toledo's Current Permit) and dechlorination (if applicable) prior to discharge.

C. Long Term Control Plan

Toledo shall develop a Long Term Control Plan for insuring that Toledo's CSOs comply with the requirements of Toledo's Current Permit, the Clean Water Act and the objectives of U.S. EPA's April 19, 1994 "Combined Sewer Overflow (CSO) Policy." To develop the Long Term Control Plan, Toledo shall develop and implement the following in accordance with this Section V.C: a public and regulatory agency participation plan; a flow characterization study; a water quality study; a hydraulic model; and a water quality model.

13. Prior to completion of the work required by this Section V.B, Toledo is prohibited from discharging flows from the Bayview WWTP as follows:

(a) flows from the 001 outfall that have not been treated by the WWTP's secondary aeration basins and secondary clarifiers during any twenty-four hour period when the effluent flow rate from outfall 001 has not exceeded 170 million gallons per day for at least one entire hour during the twenty-four hour period; and

(b) flows from the 002 outfall during any twenty-four hour period when the effluent flow rate from outfall 001 has not exceeded 170 million gallons per day for at least one entire hour during that 24-hour period.

14. Upon completion of the work required by this Section V.B, Toledo is prohibited from discharging flows from the Bayview WWTP as follows:

(a) flows from the 001 outfall that have not been treated by the WWTP's secondary aeration basins and secondary clarifiers during any twenty-four hour period when the

effluent flow rate from outfall 001 has not exceeded 195 million gallons per day for at least one entire hour during the twenty-four hour period; and

(b) flows from the 002 outfall during any twenty-four hour period when the effluent flow rate from outfall 001 has not exceeded 400 million gallons per day for at least one entire hour during that 24-hour period.

15. Following completion of construction of the ballasted flocculation facilities as required by Paragraph 8(f), Toledo's wastewater as measured at sampling locations 001 or 602 (as defined in Paragraphs 58(a) and (b) of this Consent Decree) shall not contain suspended solids or CBOD<sub>5</sub> levels in excess of the effluent limitations specified for those parameters in Table 1 in this Consent Decree, and the critical pH levels, as measured at sampling locations 001 or 602 shall not be greater than the maximum levels and/or are less than the minimum levels set forth in Table 1.

16. Public and Regulatory Agency Participation Plan

Within thirty (30) days after entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a plan for insuring that there is ample public participation, and ample participation by U.S. EPA and Ohio EPA, throughout all stages of Toledo's development of its Long Term Control Plan. The plan shall include, at a minimum, a description of the measures that Toledo will take to make the information it develops in the course of the planning process available to the public for review and to solicit public opinion on Toledo's development of the Long Term Control Plan, a schedule for holding transcribed public hearings at meaningful times during the planning process to provide the public with that information and to solicit information from the public regarding the components of the Long Term Control Plan. The plan

shall describe how Toledo will take public opinion and information provided by the public into account as Toledo develops its Long Term Control Plan. The plan shall also set forth measures that Toledo will take to insure that U.S. EPA and Ohio EPA are kept informed of Toledo's progress in developing its Long Term Control Plan. These measures shall include scheduling periodic meetings with U.S. EPA and Ohio EPA at meaningful times during the planning process.

17. Upon approval by U.S. EPA and Ohio EPA of the plan submitted in accordance with Paragraph 16, Toledo shall implement the plan.

18. Flow Characterization Study

Within thirty (30) days after entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a work plan for conducting a study (the "Flow Characterization Study") to characterize flows in Toledo's Combined Sewer System and at the Bayview WWTP to facilitate the calibration and validation of the Hydraulic Model (required pursuant to Paragraphs 26-27) and the Water Quality Model (required pursuant to Paragraphs 28-29), and to be used in developing the Long Term Control Plan (required pursuant to Paragraphs 30-34). The Flow Characterization Study shall involve verifying existing and/or collecting additional physical attribute data about Toledo's Combined Sewer System; monitoring CSO and WWTP flows and flows within Toledo's Sewer System; and monitoring groundwater and rainfall at locations throughout the Sewer System and at the WWTP. The study should incorporate existing monitoring data. The work plan shall include a schedule for performing and completing the study within one year after approval of such work plan. At a minimum, the study shall include (and so the work plan shall describe how Toledo's study will accomplish) the

following:

(a) CSO flow and pollutant monitoring consistent with the CSO flow and pollutant monitoring described in the "Requirements Imposed Pursuant to Section 308(a) of the Clean Water Act" issued by U.S. EPA on September 30, 1999.

(Attachment 1);

(b) Additional monitoring necessary to assure that, in conjunction with existing monitoring information and the monitoring information generated in accordance with subparagraph 18(a), Toledo has adequate data to facilitate the calibration and validation of the Hydraulic Model (required pursuant to Paragraphs 26-27) and the Water Quality Model (required pursuant to Paragraphs 28-29), and to be used in developing the Long Term Control Plan (required pursuant to Paragraphs 30-34). This additional monitoring data shall include flow monitoring, using permanent or temporary flow monitoring equipment: (i) at additional CSO outfalls; (ii) within the interceptors in Toledo's Combined Sewer System; (iii) at the WWTP; and (iv) other key portions of the Combined and Separate Sewer Systems that hydraulically influence CSO outfalls.

(c) rainfall monitoring in locations sufficient to provide coverage throughout Toledo's service area and in a manner that provides sufficient data to accurately determine localized rain patterns.

(d) development of digitized map(s) which: (i) illustrate the configuration and location of all major trunk sewers, force mains, interceptors, pump stations, siphons and other major appurtenances (and, to the extent practical, include the size of the sewers so mapped) and (ii) indicate the locations of all prior and proposed monitoring.

(e) development of schematic(s) which illustrate the hydraulic relationship between all of the major components of the Sewer System mentioned above in subparagraph (d);

(f) a summary of existing CSO, river level, flow, WWTP, rainfall and groundwater level monitoring data and a description of all additional monitoring that must be carried out in order to assure that sufficient data exists to adequately support development of the Hydraulic Model (required pursuant to Paragraphs 26-27), the Water Quality Model (required pursuant to Paragraphs 28-29), and the Long Term Control Plan (required pursuant to Paragraphs 30-34); and a description of the steps Toledo will take to obtain that additional data;

(g) a description of the data management system that will organize, analyze, and report all existing data to be utilized and all of the data that Toledo will be collecting in accordance with the Flow Characterization Study;

(h) a description of the quality assurance and quality control program Toledo will follow to ensure the accuracy and reliability of data collected in accordance with this Flow Characterization Study;

(i) a description of the amount and type of rainfall, flow, groundwater and hydraulic grade line data that Toledo will collect, including dry and wet weather monitoring, and minimum criteria (e.g., rainfall amounts and intensities) for wet weather events;

(j) an evaluation of the adequacy, completeness and accuracy of available Sewer System and WWTP attribute data (e.g., pipe diameters, pipe segment lengths, invert elevations, pipe interior roughness coefficients) to support development of the Hydraulic Model (required pursuant to Paragraphs 26-27), the Water Quality Model (required pursuant to Paragraphs 28-29), and the Long Term Control Plan (required pursuant to Paragraphs 30-34), and a description

of the steps Toledo will take to obtain any necessary additional data and/or to verify the accuracy of existing data; and

(k) a schedule for the expeditious installation of CSO, WWTP, flow, groundwater level, and rainfall monitoring equipment; a schedule for the expeditious completion of all monitoring activities; a schedule for the expeditious completion of all physical attribute data collection activities; and a schedule for the expeditious completion and submission of the Flow Characterization Report, pursuant to the requirements of Paragraph 20.

19. Upon approval by U.S. EPA and Ohio EPA of the work plan submitted in accordance with Paragraph 18, Toledo shall commence the Flow Characterization Study in accordance with the approved work plan and schedule set forth in the approved work plan.

20. Within thirty (30) days after completion of the Flow Characterization Study, Toledo shall submit a written report (the "Flow Characterization Report") to U.S. EPA and Ohio EPA, for approval, which (a) demonstrates that Toledo performed the Flow Characterization Study in accordance with the approved work plan and schedule set forth in the approved work plan, (b) provides the results of the Flow Characterization Study including, but not limited to, (i) the digitized map(s) and schematics described above in Paragraphs 18(d) and (e); (ii) a detailed description of all CSO, WWTP, flow, groundwater level and rainfall monitoring carried out; and (iii) a summary of existing data that Toledo will use to support development of the Hydraulic Model (required pursuant to Paragraphs 26-27), the Water Quality Model (required pursuant to Paragraphs 28-29) and the Long Term Control Plan (required pursuant to Paragraphs 30-34); and the data collected in the Flow Characterization Study.

21. Upon receipt of U.S. EPA's/Ohio EPA's final approval of the Flow Characterization

Report, Toledo shall utilize the collected data to complete the development of the Hydraulic Model (required pursuant to Paragraphs 26-27), the Water Quality Model (required pursuant to Paragraphs 28-29), and the Long Term Control Plan (required pursuant to Paragraphs 30-34).

22. Water Quality Study

Within thirty (30) days after entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a work plan for conducting a study ("Water Quality Study") to characterize the water quality of the receiving streams into which Toledo's CSOs discharge. The Water Quality Study is to be used to facilitate the calibration and validation of the Water Quality Model (required pursuant to Paragraphs 28-29) and to be used in developing the Long Term Control Plan (required pursuant to Paragraphs 30-34). The Water Quality Study shall incorporate the results of water quality monitoring and modeling efforts previously carried out by Toledo. The work plan shall include a schedule for performing and completing the Water Quality Study within one year after approval of such work plan. At a minimum, the Water Quality Study shall include (and so the work plan shall describe how Toledo's study will accomplish) the following:

(a) Water quality monitoring consistent with the water quality monitoring described in the "Requirements Imposed Pursuant to Section 308(a) of the Clean Water Act" issued by U.S. EPA on September 30, 1999. (Attachment 1);

(b) Water quality monitoring and sediment oxygen demand characterization necessary to determine the impact that CSO discharges are having on dissolved oxygen levels throughout the Ottawa River and the Swan Creek. The monitoring shall include monitoring to determine dissolved oxygen levels immediately upstream and in appropriate locations

downstream of CSOs that discharge into the Ottawa River and the Swan Creek, both during wet and dry weather; and monitoring necessary to characterize sediment oxygen demand in appropriate locations in the Ottawa River and the Swan Creek;

(c) A summary of existing water quality monitoring data and modeling efforts and a description of how the existing data and additional monitoring to be carried out shall together adequately support development of the Water Quality Model (required pursuant to Paragraphs 28-29) and the Long Term Control Plan (required pursuant to Paragraphs 30-34);

(d) a description of the data management system that will organize, analyze, and report all of the data that Toledo will be utilizing as part of this Water Quality Study;

(e) a description of the quality assurance and quality control program Toledo will follow to ensure the accuracy and reliability of data collected in accordance with this Water Quality Study; and

(f) a schedule for the expeditious completion of all monitoring activities; and a schedule for the expeditious completion and submission of the Water Quality Study Report, pursuant to the requirements of Paragraph 24.

23. Upon approval by U.S. EPA and Ohio EPA of the work plan submitted in accordance with Paragraph 22, Toledo shall commence the Water Quality Study in accordance with the approved work plan and schedule set forth in the approved work plan.

24. Within thirty (30) days after completion of the Water Quality Study, Toledo shall submit a written Water Quality Study Report to U.S. EPA and Ohio EPA, for approval, which (a) demonstrates that Toledo performed the Water Quality Study in accordance with the approved work plan and schedule set forth in the approved plan, (b) provides the results of the Water

Quality Study including, but not limited to: (i) a detailed description of all monitoring carried out; (ii) a summary of existing data that Toledo will use to support development of the Water Quality Model (required pursuant to Paragraphs 28-29) and the Long Term Control Plan (required pursuant to Paragraphs 30-34); and (iii) a summary of the data collected in the Water Quality Study.

25. Upon receipt of U.S. EPA's/Ohio EPA's final approval of the Water Quality Study Report, Toledo shall utilize the collected data to complete the development of the Water Quality Model (required pursuant to Paragraphs 28-29) and the Long Term Control Plan (required pursuant to Paragraphs 30-34).

26. Hydraulic Model

Within thirty (30) days after entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a work plan for developing a hydraulic model of Toledo's Combined Sewer System ("Hydraulic Model") to be used, in conjunction with the Water Quality Model (required pursuant to Paragraphs 28-29) for use in developing the Long Term Control Plan (required pursuant to Paragraphs 30-34). The Hydraulic Model shall also be used in the development and implementation of operation and maintenance procedures and to establish priorities for, and evaluate the impacts of, proposed system modifications and upgrades. At a minimum, the Hydraulic Model shall be capable of (i) predicting stormwater flows generated by various wet weather events in combined areas; (ii) predicting the hydraulic grade lines, volume and flow rates of wastewater in force mains and gravity sewer lines; (iii) predicting the hydraulic pressure and flow of wastewater at any point in force mains throughout the Combined Sewer System; (iv) predicting the flow capacity of each pump station (Toledo may elect to perform

manual calculations in lieu of utilizing the Model to evaluate pump station capacity); (v) predicting the flow capacity of gravity sewer lines; (vi) predicting the peak flows during wet weather and dry weather conditions for pump stations and gravity sewer lines; (vii) predicting the likelihood, location, duration and volume of discharge from each CSO for a variety of storm events (of varying durations and return frequencies); and (viii) developing wet weather hydrographs for the separate sewer areas that are tributary to the Combined Sewer System. These storms shall include, but not be limited to, the most critical storm(s) having a ten year return frequency, and duration of between 1 hour and 24 hours. The hydrographs shall be developed for various storm recurrence intervals and shall be combined with baseline wastewater flow and routed through gravity sewer lines, pump stations, force mains, regulators and interceptors by the Model. The Model shall include methods for estimating wastewater flow, groundwater infiltration, and rain induced infiltration and inflow ("I/I"). The hydrographs shall be developed using historical flow and rainfall data and data collected by Toledo during the Flow Characterization Study (required pursuant to Paragraphs 18-20). The work plan for developing the Hydraulic Model shall include:

- (a) a description of the Hydraulic Model;
- (b) specific attributes, characteristics, and limitations of the Hydraulic Model;
- (c) identification of all input parameters, constants, assumed values, and expected outputs;
- (d) a digitized map(s) that identifies and characterizes the portions (including the specific gravity sewer lines) of the Sewer System that shall be included in the Hydraulic Model;
- (e) identification of input data to be used;

- (f) configuration of the Hydraulic Model;
- (g) procedures and protocols for performance of sensitivity analyses (i.e., how the Hydraulic Model responds to changes in input parameters and variables);
- (h) procedures for calibrating the Hydraulic Model to account for values representative of the Sewer System and WWTP using actual system and WWTP data (e.g., flow data);
- (i) procedures to verify the Hydraulic Model's performance using actual system and WWTP data (e.g., flow data);
- (j) procedures for modeling wet weather flows from separate sewer areas;
- (k) how representative values of the Hydraulic Model's constant values shall be determined by tests conducted in Toledo's Sewer System and WWTP; and
- (l) an expeditious schedule for the development and utilization of the Hydraulic Model.

27. Upon approval by U.S. EPA and Ohio EPA of the work plan submitted in accordance with Paragraph 26, Toledo shall develop and utilize the Hydraulic Model in accordance with the schedule included in the approved work plan.

28. Water Quality Model

Within thirty (30) days after entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a work plan for developing a water quality model (the "Water Quality Model") to be used, in conjunction with the Hydraulic Model (required pursuant to Paragraphs 26-27) in developing the Long Term Control Plan (required pursuant to Paragraphs 30-34). At a minimum, the Water Quality Model shall be capable of (a) accurately modeling

water quality in the Ottawa River, Swan Creek, and the Maumee River under existing and future predicted conditions, during an appropriate range of both dry and wet weather conditions, and across an appropriate range of river flows; (b) assessing the impacts on water quality (both absolute and relative to other sources) of CSOs under the aforementioned ranges of conditions; and (c) assessing the changes in CSO impact which will be expected to occur following implementation of the various CSO control measures that Toledo evaluates in developing its Long Term Control Plan (required pursuant to Paragraphs 30-34). The work plan for developing the Water Quality Model shall include:

- (a) a description of the Water Quality Model;
- (b) specific attributes, characteristics, and limitations of the Water Quality Model;
- (c) identification of all input parameters, constants, assumed values, and expected outputs;
- (d) identification of input data to be used;
- (e) configuration of the Water Quality Model;
- (f) procedures and protocols for performance of sensitivity analyses (i.e., how the Water Quality Model responds to changes in input parameters and variables);
- (g) procedures for calibrating the Water Quality Model to account for values representative of the receiving streams using actual water quality monitoring data;
- (h) procedures to verify the Water Quality Model's performance using actual water quality monitoring data; and
- (i) an expeditious schedule for the development and implementation of the Water

Quality Model.

29. Upon approval by U.S. EPA and Ohio EPA of the work plan submitted in accordance with Paragraph 28, Toledo shall implement the Water Quality Model in accordance with the schedule included in the approved work plan.

30. Long Term Control Plan

Within thirty (30) days after entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a work plan for developing a long term control plan (the "Long Term Control Plan") for insuring that Toledo's CSOs comply with the requirements of Toledo's Current Permit, the Clean Water Act and the objectives of U.S. EPA's April 19, 1994 "Combined Sewer Overflow (CSO) Policy." The work plan shall include a schedule for completing development of the Long Term Control Plan within thirty months after approval by U.S. EPA and Ohio EPA of the work plan. At a minimum, the Long Term Control Plan shall include (and so the work plan shall describe how Toledo's development of the Long Term Control Plan will accomplish) the following:

(a) an assessment of the costs, effectiveness (in terms of pollutant loading reductions, regardless of water quality impacts) and water quality benefits of a wide range of alternatives for eliminating or reducing and treating CSOs. Toledo shall use the results of the Flow Characterization Study (performed in accordance with the requirements of Paragraphs 18-20), the results of the Water Quality Study (performed in accordance with the requirements of Paragraphs 22-24), the Hydraulic Model (developed pursuant to the requirements of Paragraphs 26-27) and the Water Quality Model (developed pursuant to the requirements of Paragraphs 28-29) in performing this assessment. The alternatives that shall be considered include taking no-

action (other than the improvements required by Section V.B); complete sewer separation; separation of specific portions of the combined system; various sizes of storage basins or tunnels at locations throughout the collection system; construction of additional facilities (such as high rate treatment or ballasted flocculation facilities) for providing primary treatment or advanced primary treatment to CSOs; construction of additional facilities for providing disinfection and dechlorination of CSOs; construction of facilities for removing floatables from CSOs; construction of relief sewers; relocation of CSOs; implementation of pretreatment measures to reduce flows and or pollutants discharged into the collection system from industrial users; and construction and/or implementation of combinations of these alternatives. The United States Environmental Protection Agency's "Combined Sewer Overflows Guidance for Long-Term Control Plan," ("Guidance for LTCP") provides Guidance on performing alternatives analyses.

This assessment shall include:

(i) An evaluation of a range of "sizes" of each alternative that will reduce the number of untreated CSOs down to a range of numbers of overflows per CSO outfall (such as 0, 1-3, 4-7 and 8-12).

(ii) An evaluation of the "Project Costs," as that term is described on pages 3-49 through 3-51 of the United States Environmental Protection Agency's "Combined Sewer Overflows Guidance for Long-Term Control Plan," ("Guidance for LTCP") for each alternative, or mix of alternatives, that Toledo has evaluated. The determination of Project Costs shall include: (a) the total "project costs" for each alternative or mix of alternatives, and a break down of the "capital costs," "annual O & M costs," and "life cycle costs" which went into calculating the total "project costs" for each alternative or mix of alternatives; and (b) the

“project costs” for each separate component of each alternative or mix of alternatives, and a break down of the “capital costs,” “annual O & M costs,” and “life cycle costs” which went into calculating the “project costs” for each separate component of each alternative or mix of alternatives. The terms “capital costs,” “annual O & M costs,” and “life cycle costs” are described on pages 3-49 through 3-51 of the Guidance for LTCP.

(iii) An evaluation of Toledo’s financial capability to fund all improvements that have been considered. This evaluation shall include an evaluation of:

- i. Median household income/total project cost per household;
- ii. Per capita debt as a percent of full market property value;
- iii. Property tax revenues as a percent of full market property value;
- iv. Property tax collection rate;
- v. Unemployment;
- vi. Bond rating;
- vii. Grant and loan availability;
- viii. Current and projected residential, commercial and industrial user fees;
- ix. Other viable funding mechanisms and sources of financing;  
and
- x. Other factors which Toledo believes are important for this financial evaluation.

(iv) An analysis of the water quality impacts of each alternative or mix of

alternatives that are being considered. This analysis, which shall utilize the results of the Water Quality Study (performed in accordance with the requirements of Paragraphs 22-24) and the Water Quality Model (developed in accordance with the requirements of Paragraphs 28-29), shall include an analysis of the reductions in BOD<sub>5</sub>, suspended solids, fecal coliform, any pollutant parameters that the Water Quality Characterization determined are exceeding or approaching the State of Ohio's water quality criteria for those parameters in the Maumee River, Ottawa River or Swan Creek, and effluent toxicity that will result from implementation of each alternative; as well as an analysis of the impacts to the pollutant and dissolved oxygen levels in the receiving streams that will result from each alternative or mix of alternatives.

(v) An analysis of the impact that each alternative or mix of alternatives will have on the peak instantaneous and sustained flows to the Bayview WWTP for a variety of storm events of varying durations and return frequencies, including, but not limited to, the most critical storm having a ten-year return frequency and duration of between one and twenty-four hours.

(vi) "Knee of the curve" cost-performance analyses of the range of options that are being considered that will allow for the comparison of the costs per unit of measure (in mass) of pollutants removed from the discharge for each of the alternatives that are being considered.

(b) Identification and selection of additional remedial measures (the "Long Term Control Plan") that are necessary to insure that Toledo's CSOs comply with the requirements of Toledo's Current Permit, including, but not limited to, any specific or general water quality or technology based effluent limitations applicable to Toledo's CSOs, the Clean Water Act and the

CSO Policy.

31. Upon approval by U.S. EPA and Ohio EPA of the work plan submitted in accordance with Paragraph 30, Toledo shall commence development of the Long Term Control Plan in accordance with the schedule and terms set forth in the approved work plan. Development of the Long Term Control Plan shall be consistent with the terms of this Consent Decree, the CSO Policy and the Clean Water Act.

32. Within thirty (30) days after completion of development of the Long Term Control Plan, Toledo shall submit a written report (the "Long Term Control Plan Report") to U.S. EPA and Ohio EPA, for approval, which incorporates the Long Term Control Plan and explains what steps Toledo took to comply with its Public and Regulatory Agency Participation Plan (required pursuant to Paragraphs 16-17), including how (if at all) Toledo took information provided by the public into account in developing its Long Term Control Plan; and which demonstrates that Toledo developed its Long Term Control Plan in accordance with the work plan and schedule set forth in the approved work plan and provides the results of the work Toledo performed in developing the Long Term Control Plan including, but not limited to:

(a) All of the information described in Paragraph 30 pertaining to Toledo's assessment of the costs, effectiveness, and water quality benefits of alternatives for eliminating or reducing and treating CSOs;

(b) Identification and selection of additional remedial measures that are necessary to insure that Toledo's CSOs comply with the requirements of Toledo's Current Permit, including, but not limited to, any specific or general water quality or technology based effluent limitations and conditions applicable to Toledo's CSOs, the Clean Water Act and the CSO

Policy; and

(c) As expeditious a schedule as possible for design, construction and implementation of all measures described in Paragraph 32(b). If it is not possible for Toledo to design and construct all measures simultaneously, Toledo shall develop a phased schedule based on the relative importance of each measure, with highest priority being given to eliminating discharges to sensitive areas and then to those projects which most reduce the discharge of pollutants. The schedule shall specify critical construction milestones for each specific measure, including, at a minimum, deadlines for: (i) submission of applications for all permits required by law, such as State of Ohio permits to install; (ii) commencement of construction; (iii) completion of construction; (iv) commencement of operation; and (v) achievement of full operation. The schedule also shall include a deadline for the completion of all construction and full implementation of all measures under the Long Term Control Plan, which must be as early as possible but in no event later than August 31, 2016.

33. Upon approval by U.S. EPA and Ohio EPA of the report submitted in accordance with Paragraph 32, the Long Term Control Plan shall be incorporated into this Consent Decree and Toledo shall implement the Long Term Control Plan in accordance with the schedule included in the approved Long Term Control Plan.

34. Upon completion of all construction and full implementation of all measures under the Long Term Control Plan, Toledo's CSOs shall comply with the requirements of Toledo's Current Permit, including, but not limited to, any specific or general water quality or technology based effluent limitations applicable to Toledo's CSOs, the Clean Water Act and the CSO Policy.

35. Toledo currently anticipates that it will spend \$236,000,000 to complete the CSO improvements required by Sections V.B and V.C.

D. Elimination of SSDs

36. Toledo shall take the following measures, which are generally consistent with the Ohio EPA's Director's Final Findings and Orders (the "SSD DFFO") issued to Toledo on June 23, 1999, to eliminate all SSDs by November 1, 2006:

(a) In accordance with the SSD DFFO, Toledo has completed intensive sewer cleaning to eliminate root intrusions and grease accumulations, correct deficiencies of the 116<sup>th</sup> Street interceptor sewer which runs from Summit Street west to 290<sup>th</sup> Street, constructed a relief pump station at Manhattan Boulevard, eliminated thirty-two cross-connections between its storm and sanitary sewer systems, and eliminated the cross-connection between the Lakeside Avenue sanitary sewer and the Maumee Bay;

(b) By April 1, 2002, Toledo shall submit to U.S. EPA and Ohio EPA, for approval, a plan for construction of Phase 2 improvements in the Point Place area. The plan shall include an analysis of Toledo's pilot rehabilitation project as described in the SSD DFFO and the improvements described above in Paragraph 36(a); a detailed description of the remediation alternatives that Toledo considered in developing its Phase 2 plan as described in the SSD DFFO, including information regarding the costs and effectiveness of each alternative that was considered; a detailed explanation of why Toledo chose the alternatives that it chose; and a schedule for construction of the all Phase 2 improvements necessary to eliminate SSDs from the Point Place area. The schedule shall include (i) submission to Ohio EPA and U.S. EPA of a

complete Permit to Install application package and detailed plans for necessary Phase 2 improvements by June 1, 2003, (ii) awarding of contracts for construction of Phase 2 improvements by November 1, 2003, and (iii) completion of construction of all improvements necessary to eliminate all SSDs in the Point Place area by November 1, 2006. Upon approval by U.S. EPA and Ohio EPA, Toledo shall implement the plan in accordance with the schedule in the approved plan.

(c) In accordance with the SSD DFFO, Toledo submitted to Ohio EPA a report of the results of its flow monitoring study of the sanitary sewer system contributing to surcharging in the River Road and Midland Avenue area. The report includes a map indicating flow monitoring locations, a full description of the project, presentation of the results of the monitoring, structural and hydraulic problems observed during the flow monitoring activities, a table ranking each sub-basin according to its severity of rainfall induced inflow and infiltration, and a plan for performing a Sanitary Sewer Evaluation Study ("SSES") in those sub-basins in which an SSES is warranted based upon the results of Toledo's flow monitoring study. The SSES includes smoke testing, dye testing, televising, and other investigative techniques as needed to determine causes and potential remedies for the sewer surcharging in the River Road and Midland Avenue area. The plan for performing the SSES described in this Paragraph 36(c) includes a detailed description of the steps that Toledo will take to perform the SSES and a schedule for performing the SSES, which includes (i) awarding contracts for the SSES by January 1, 2001, (ii) completing the SSES by November 1, 2001, and (iii) submission of a final SSES Report to U.S. EPA and Ohio EPA, for approval, by January 1, 2002. Toledo shall implement the plan in accordance with the schedule in the plan for performing the SSES

described in this Paragraph 36(c).

(d) The SSES report required in Paragraph 36(c), above, shall include a detailed description of the results of the SSES; a detailed description of all remediation alternatives that Toledo considered in determining additional remedial measures needed to eliminate SSDs in the River Road and Midland Avenue area, including information regarding the costs and effectiveness of each alternative that was considered; a detailed explanation of why Toledo chose the alternatives that it chose; and a schedule for construction of the Phase 3 and Phase 4 improvements as described in the SSD DFFO necessary to eliminate SSDs from the River Road and Midland Avenue area. The schedule shall include (i) submission to U.S. EPA and Ohio EPA of a complete Permit to Install application package and detailed plans for necessary Phase 3 improvements by September 1, 2002; (ii) awarding of contracts for construction of Phase 3 improvements by February 1, 2003; (iii) completion of construction of all Phase 3 improvements by June 1, 2004; (iv) submission to U.S. EPA and Ohio EPA of a complete Permit to Install application package and detailed plans for necessary Phase 4 improvements by June 1, 2005; (v) awarding of contracts for construction of Phase 4 improvements by November 1, 2005; and completion of construction of all improvements necessary to eliminate all SSDs in the River Road and Midland Avenue area by November 1, 2006. Upon approval by U.S. EPA and Ohio EPA, Toledo shall implement the plan in accordance with the schedule in the approved plan. Toledo currently anticipates that it will spend between \$40,000,000 and \$80,000,000 to complete the SSD improvements required by this Section V.D.

37. Toledo shall eliminate all points where Toledo knows SSDs may occur by November 1, 2006. Following that date, Toledo shall have no SSDs. However, in the event that Toledo

discovers a new SSD, or determines that conditions in areas where SSDs are known to exist are more extensive than originally anticipated, U.S. EPA and Ohio EPA may, upon request of the City, approve a plan and schedule proposed by the City to remedy those conditions and may agree in writing to extend the deadlines for elimination of SSDs set forth in this Paragraph or Paragraph 36.

38. Any SSD that occurs prior to November 1, 2006, shall be considered to be a violation of this Consent Decree if Toledo is out of compliance with its Sewer System Management, Operation and Maintenance Plan.

E. Separate Sewer System Monitoring And Reporting

39. Within 120 days after entry of this Consent Decree, Toledo shall submit a Separate Sewer System Monitoring and Reporting Plan to U.S. EPA and Ohio EPA, for approval, which will assure that Toledo provides timely and complete notice to Ohio EPA, and other appropriate Federal, State, and local agencies as required below, of all relevant information regarding all SSDs:

(a) Timely notice of SSDs includes at least the following:

(i) Telephonic or electronic reporting of all SSDs to Ohio EPA within twenty-four (24) hours from the time Toledo becomes aware of such SSD;

(ii) Complete written notice (as described in Paragraph 39(b), below) to Ohio EPA within five (5) days of the time Toledo becomes aware of the SSD;

(iii) If Toledo requires more than twenty-four (24) hours to stop a particular SSD discharge event, submission of a separate written status report to Ohio EPA every five (5) days until the SSD discharge has ceased; and

(b) Complete written notice to Ohio EPA as required by Paragraph 39(a)(ii), above, shall include at least the following:

- (i) the cause of the SSD (known or suspected causes);
- (ii) estimated volume (if determinable);
- (iii) description of the source (e.g., manhole, pump station);
- (iv) location, by street address or any other appropriate method;
- (v) date and duration of event;
- (vi) ultimate destination of the flow (e.g., name of surface water body, land use location, name of surface water body via municipal separate storm sewer system [reference location by basin and street address and/or cross streets]);
- (vii) corrective actions or plans to eliminate future discharges from the same location;
- (viii) name and title of person reporting the discharge; and
- (ix) weather conditions.

(c) Toledo shall provide Ohio EPA and the Lucas County Health Department with written monthly summaries of the information collected pursuant to this Paragraph 39 within 30 days of the close of the month for which the report is due.

(d) Toledo shall provide Ohio EPA with quarterly written summaries of all information in Toledo's possession pertaining to any wastewater backups into buildings that occurred during the calendar quarter for which the summaries are prepared.

40. Toledo shall implement the plan submitted in accordance with Paragraph 39 upon U.S. EPA and Ohio EPA's approval of that plan.

F. SSD Response Plan

41. Within 120 days after entry of this Consent Decree, Toledo shall submit an SSD Response Plan to U.S. EPA and Ohio EPA, for approval, which will assure that Toledo takes appropriate measures to minimize, to the extent practical, the environmental impacts and potential human health risks of SSDs. The SSD Response Plan shall include the following:

- (a) procedures to provide timely and appropriate public notice, including notification through the local news media where appropriate;
- (b) procedures to determine the need to limit public access to areas impacted by SSDs and procedures for determining when it is appropriate to no longer limit public access to such areas following halting of the SSD and implementation of appropriate response measures;
- (c) procedures to limit, as appropriate, public access to and contact with areas affected by an SSD. The geographic extent and duration of a public access limitation shall be determined in consultation and cooperation with the County Health Department, where appropriate;
- (d) procedures to remediate, where appropriate, as expeditiously as possible, unsanitary conditions near or from the SSD after discharge from that SSD;
- (e) procedures to ensure the rapid dispatch of personnel and equipment to correct or repair the condition causing or contributing to any SSD;
- (f) procedures to ensure the preparedness, including responsiveness training, of Toledo's employees and contractors necessary for the effective implementation of the contingency plan in the event of any SSD. The program should include coordination with other agencies as appropriate;

(g) procedures to minimize the volume of untreated wastewater discharged during an SSD, including revisions to Toledo's pretreatment program; and

(h) procedures to insure that adequate staff and equipment resources committed and available to respond to SSDs.

42. Toledo shall implement the plan submitted in accordance with Paragraph 41 upon U.S. EPA and Ohio EPA's approval of that plan.

G. Industrial Wastewater Release Minimization Plan

43. Within 180 days after entry of this Consent Decree, Toledo shall submit an Industrial Wastewater Release Minimization Plan to U.S. EPA and Ohio EPA, for approval, which will demonstrate how Toledo shall make all practicable efforts to minimize the discharge of industrial pollutants through CSOs and SSDs. These steps should include, among others, imposition of Industrial User permit requirements and cooperative efforts with industries to minimize their discharges of pollutants during CSO and SSD events, as well as other measures described in U.S. EPA's 1995 document entitled *Combined Sewer Overflows—Guidance for Nine Minimum Controls* (U.S. EPA, 1995b) (EPA 832-B-95-003).

44. Toledo shall implement the plan submitted in accordance with Paragraph 43 upon U.S. EPA and Ohio EPA's approval of that plan.

H. Sewer System Management, Operation and Maintenance Plan

45. Within 180 days after entry of this Consent Decree, Toledo shall submit a Management, Operation and Maintenance ("MOM") Plan to U.S. EPA and Ohio EPA, for approval, which will demonstrate how Toledo will provide proper management, operation and maintenance of the gravity sewer lines, force mains, pump/ejector stations, and other equipment

associated with its Sewer System; minimize Sewer System failures (such as wastewater backups into buildings) and discharges from the Sewer System; maximize flow to the Bayview WWTP; and provide maximum possible treatment to all CSOs. The Plan shall include, but not be limited to, the following:

- (a) physical inspection and testing procedures (CCTV, visual, smoke, dyed water, and others);
- (b) preventative and routine maintenance schedules and procedures and operating procedures and schedules;
- (c) corrective maintenance;
- (d) schedules for the maintenance of right-of ways (e.g., on-street and off-street) and easements;
- (e) current staffing, organization, and resource commitments;
- (f) an inventory management system that includes:
  - (i) lists of critical equipment and critical spare parts;
  - (ii) an inventory of the critical spare parts and critical equipment stored at Toledo's facilities and other locations to assure that they may be secured to allow repairs in a minimal amount of time to maintain proper operation of Toledo's Sewer System; and
  - (iii) procedures for maintaining and updating the routine/critical spare parts and equipment inventories;
- (g) an information system that Toledo shall use to track implementation of the MOM Program and to calculate management, operation, and maintenance performance indicators such as:

- (i) the annual linear footage of gravity sewer inspections;
  - (ii) the annual linear footage of gravity sewers mechanically cleaned;
  - (iii) the number of manholes visually inspected annually; and
  - (iv) the number of SSDs per mile of gravity sewer;
- (h) a tracking system for all maintenance activities, including pump station equipment histories;
- (i) procedures for generation of maintenance work orders; and
  - (j) reports listing equipment problems and work orders generated during the prior month;

46. The Plan also shall contain procedures to assure that preventative maintenance activities are scheduled appropriately, and shall include, but not be limited to, the following:

(a) periodic service and calibration of all instrumentation such as flow meters, liquid level sensors, alarm systems, elapsed time meters, and remote monitoring equipment;

(b) routine inspection and service for all pumps including, but not limited to: engines, motors, generators, pumps, wet wells, impellers, seals, bearings, wear clearances, couplings, drives, and related equipment; and routine inspection and service for air release valves;

(c) inspection and cleaning of Toledo's Sewer System and manholes in accordance with a schedule that ensures that Toledo cleans its entire Sewer System at least once every three years;

(d) inspection and maintenance of all force mains and siphons;

(e) routine inspection of all sewer and force main right-of-ways, including

inspection of: creek crossings and related appurtenances, stream bank encroachment towards gravity sewer lines and force mains, and right-of-way or easement accessibility (including the need to control vegetative growth or encroachment of man-made structures or activities that could threaten the integrity of the affected gravity sewer lines or force mains). Inspections shall include the development of written reports, and, where appropriate, representative photographs or videos of appurtenances being inspected (manholes, creek crossings, etc.). The MOM Program shall specifically include procedures by which field inspection personnel shall report, both verbally and in writing, to designated management officials of any observed SSDs, dry weather CSOs and any evidence of SSDs and dry weather CSOs that may have occurred since the last inspection; and

(f) provisions governing replacement of sewers as necessary to assure the proper operation and maintenance of Toledo's Sewer System.

47. The Plan also shall include provisions for insuring that the maximum flow is transported to the WWTP prior to discharging from any CSOs and that CSO discharges are minimized and treated to the maximum extent practicable.

48. Within six months of completion of all of the improvements required pursuant to Section V.B, above, and on a biannual basis thereafter, Toledo shall submit to U.S. EPA and Ohio EPA for approval an updated MOM plan which takes into account any improvements at the Bayview WWTP or in Toledo's Sewer System which could impact Toledo's management, operation and maintenance of Toledo's Sewer System, and Toledo's practical experience in using those improvements. The updated plan shall contain the provisions described in Paragraphs 45-47.

49. Toledo shall implement the plans submitted in accordance with Paragraphs 45-47 upon U.S. EPA and Ohio EPA's approval of that plan.

I. WWTP Operations and Maintenance Plan

50. Within three months following entry of this Consent Decree, Toledo shall submit to U.S. EPA and Ohio EPA for approval an operations and maintenance plan for the Bayview WWTP that addresses, at a minimum, the following:

(a) provisions to keep, to the maximum extent feasible, all essential units online at all times or maintained in a full state of readiness;

(b) provisions to assure that Toledo maximizes wastewater flows through its aeration basins and secondary clarifiers prior to bypassing those portions of the Bayview WWTP;

(c) provisions to assure that Toledo maximizes flows through its primary clarifiers prior to bypassing those portions of the Bayview WWTP;

(d) provisions to assure the prompt and efficient emptying of the grit collection boxes;

(e) provisions to assure the elimination of waste activated sludges or other sludges and recycle streams from being recycled back to the head of the plant; and

(f) provisions to assure that Toledo operates and maintains all treatment facilities at the Bayview WWTP in a manner that maximizes the removal of pollutants from any discharge.

51. Within one year after completion of construction of all of the improvements required

pursuant to Section V.B, above, and on a biannual basis thereafter, Toledo shall submit to U.S. EPA and Ohio EPA for approval an updated operations and maintenance plan which takes into account any improvements at the Bayview WWTP or in Toledo's Sewer System which could impact Toledo's operation and maintenance of the Bayview WWTP, and Toledo's practical experience in using those improvements. The updated plan shall contain the provisions described in Paragraph 50. The updated plan also shall set forth the procedures for starting up the ballasted flocculation facilities during wet weather events which will cause those facilities to achieve optimal suspended solids removal rates as rapidly as possible; procedures for steady state operations of the ballasted flocculation facilities including specific provisions governing chemical and ballast feed rates; procedures for maintaining the ballasted flocculation facilities; and shall specify the percent removal of suspended solids that the ballasted flocculation facilities will consistently achieve during steady state operations. The parties anticipate that the ballasted flocculation facilities will be able to achieve at least 40% (and probably much greater than 40%) removal of suspended solids on a continuous basis during steady state operations.

52. Toledo shall immediately and continuously implement its approved plans, submitted pursuant to Paragraphs 50-51, upon approval by U.S. EPA and Ohio EPA.

J. EPA Approval of Designs and Plans Prepared in Accordance With Parts V.B Through V.I

53. For all designs and plans submitted by Toledo for U.S. EPA approval in accordance with Sections V.B through V.I, above, U.S. EPA, after providing Ohio EPA with reasonable opportunity for consultation, may (a) approve the plan, in whole or in part; (b) approve the plan upon specified conditions, directing that Toledo modify its submission, or (c) any combination of