INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

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Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

May 14, 2012

VIA ELECTRONIC MAIL

Mr. Michael P. Kuss, Manager
Sanitary District of Michigan City
1100 E. Eighth Street
Michigan City, Indiana 46360-2567

Dear Mr. Kuss:

Re: CSOOP Update Review
Sanitary District of Michigan City
NPDES Permit No. IN0023752
LaPorte County

The Office of Water Quality (OWQ) has completed a review of the update to the Combined Sewer Overflow Operational Plan (CSOOP) submitted on February 29, 2012, and by this letter, grants approval of the updates to the CSOOP.

The Sanitary District of Michigan City shall maintain a current CSOOP, updated to reflect any new or revised State and/or Federal CSO regulations, policy and guidance material, as well as system modifications on file at the Publicly Owned Treatment Works (POTW) and also inform the OWQ of any significant changes. The CSOOP is a requirement of Attachment A of the National Pollutant Discharge Elimination System (NPDES) Permit No. IN0023752.

Please contact Dave Tennis at 317/232-8710 or by email at dtennis@idem.in.gov if you have questions regarding this CSOOP approval.

Sincerely,

Jerry Dittmer, Chief
Municipal NPDES Permits Section
Office of Water Quality

cc: Don Daily, OWQ/Inspections
Kevin Pierard, EPA Region V
Hala Kuss, Director
IDEM NW Regional Office

SANITARY DISTRICT OF MICHIGAN CITY

February 29, 2012

Office of Water Quality
Wet Weather Section
Indiana Department of Environmental Management
Mail Code 65-42
100 North Senate Ave
Indianapolis, IN 46204-2251

Dear Sirs,

Enclosed is the 2012 CSOOP update. This plan is being submitted in accordance with Part III.B of Attachment, of our NPDES Permit.

If you have any questions or comments, please do not hesitate to call me at (219) 874-7799.

Sincerely,

Michael P. Kuss
General Manager
Sanitary District of Michigan City

Enclosure

Sanitary District of Michigan City: 1100 E. Eighth Street, Michigan City, IN 46360-2567 · Phone: (219) 874-7799 · Fax: (219) 874-8053
Refuse Department: 1801 Kentucky Street, Michigan City, IN 46360-4144 · Phone: (219) 873-1530 · Fax: (219) 873-1565

The attached CSOOP is being submitted with the required Certification Statement:

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 assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the 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.

Michael P. Kuss
General Manager
Sanitary District of Michigan City

2-29-12
Date

Combined Sewer Overflow Operational Plan

SANITARY DISTRICT OF MICHIGAN CITY

Revision 3.2012
(February 2012)

Table of Contents

1 Introduction

This "Combined Sewer System Operational Plan (CSOOP) revision is being prepared and submitted in accordance with the provisions contained in Attachment A to NPDES Permit No. IN0023752.

Part III.B of Attachment states in part that, *"The permittee shall annually evaluate its CSOOP and update it, as necessary to reflect changes in its operation or maintenance practices; measures taken to implement the above minimum requirements; and changes to the treatment plant or collection system, including changes in collection system flow characteristics, collection system or WWTP capacity or discharge characteristics (including volume, duration, frequency and pollutant concentration)."*

Additionally, Part III.B of Attachment states in part that, *"ongoing annual CSOOP updates shall be submitted by the end of February"*...and that *"Updates shall include a summary of the proposed revisions to the approved CSOOP as well as a reference to the pages that have been revised." A copy of the NPDES Permit is included in APPENDIX A.*

In February of 2010, the Sanitary District prepared version 3.2010 of our CSOOP, and in July 2011 the Sanitary District submitted the updated version 3.2011. This update, version 3.2012, is being submitted on February 29, 2012[1].

[1] Additions and modifications are highlighted in yellow and Appendix B contains a Summary of Changes.

1.1 Historical Activities

The following timeline summarizes the efforts made by Michigan City to comply with various Federal and State of Indiana combined sewer system controls and requirements:

January 1990	The Sanitary District of Michigan City (SDMC) submitted its original Combined Sewer System Operational Plan (CSSOP) to the Indiana Department of Environmental Management (IDEM).
February 1994	SDMC submitted a revision of the CSSOP in response to comments from IDEM in June 1992 (Revision 1).
April 1994	IDEM approved the CSSOP as the CSOOP.
May 1996	IDEM released Indiana's Final Combined Sewer Overflow Strategy, through the Indiana Register, which was written in accordance with the U.S. EPA's 1994 National CSO Control Policy.
June 1996	IDEM requested that SDMC submit a revision to the approved CSOOP that addressed the three new minimum technology-based controls: pollution prevention; public notification; and monitoring to characterize CSO impacts and efficacy of controls. IDEM also requested that SDMC submit a Stream Reach Characterization and Evaluation Report (SRCER) in accordance with the date established in the upcoming NPDES renewal/modification.
July 1996	SDMC submitted revision of the CSOOP to address the three new minimum controls; update select portions of the approved plan; and included a CSO monitoring protocol for completing the SRCER. (Revision 2).
November 1997	IDEM approved a modification to SDMC's NPDES permit that required the submittal of the SRCER to IDEM no later than eighteen (18) months after approval of the CSO monitoring protocol. In addition, SDMC was required to submit a Long-Term Control Plan (LTCP) for combined sewer overflows to IDEM no later than 12 month after the submittal of the SRCER.
September 2000	SDMC submitted the completed SRCER.
April 2002	SDMC submitted LTCP (after approved extension to due date).
November 2003	SDMC responded to IDEM review of LTCP.
December 2003	SDMC responded to final IDEM review of LTCP.
April 2004	IDEM approved LTCP, pending modification of NPDES permit.
January 2006	IDEM approved modification of NPDES permit including final approval of LTCP and requirement to update CSOOP annually, starting 12 months after effective date of permit modification (February 13, 2006).
July 2008	SDMC submitted Revision 3 to the CSOOP
February 2009	SDMC submitted Revision 3.2009 to the CSOOP
March 2010	SDMC submitted Revision 3.2010 to the CSOOP
July 2011	SDMC submitted Revision 3.2011 to the CSOOP
February 2012	SDMC submitted Revision 3.2012 to the CSOOP

1.2 Scope

This document is written to provide the Sanitary District of Michigan City with a Combined Sewer Overflow Operational Plan (CSOOP). This plan is written to include mechanisms and specific procedures to ensure that the nine minimum technology-based controls for combined sewer overflows are followed and activities are properly documented. The nine minimum controls include:

- Proper operation and regular maintenance;
- Maximum use of the collection system for storage;
- Review and modification of pretreatment programs;
- Maximization of flow to the POTW for treatment;
- Prohibition of CSO discharges during dry weather;
- Control of solid and floatable materials in CSO discharges;
- Pollution prevention programs;
- Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and,
- Monitoring to effectively characterize CSO impacts, and the efficacy of CSO controls.

1.3 Operation Plan

This Combined Sewer Overflow Operational Plan shall be divided into the following chapters:

Chapter 1	Introduction
Chapter 2	System Inventory
Chapter 3	Administrative Aspects
Chapter 4	Maintenance
Chapter 5	Control Strategy
Chapter 6	Schedule of Activities

1.4 Combined Sewer System

Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, 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 receiving waters.

1.5 Problems Associated with Combined Sewer Systems

These overflows, called combined sewer overflows (CSOs), contain not only storm water but also untreated human, commercial, and/or industrial waste; potentially toxic materials; and debris. They are a major water pollution concern for the approximately 772 cities in the U.S. that have combined sewer systems.

1.6 Combined Sewer Controls

Technologies exist to control pollution from combined sewer overflows and storm water runoff. They can be grouped into three main categories. A brief discussion of each category follows:

1) SOURCE CONTROLS includes those measures for reducing pollution from combined sewer overflow and storm water which involves actions within the urban drainage basin before urban water reaches the sewer system, and affecting the quantity and quality of the aforementioned pollution.
2) COLLECTION SYSTEM CONTROLS are intended to insure that the combined sewer system operates as efficiently as possible and that maximum advantage is taken of opportunities to reduce combined sewer overflows.
3) TREATMENT CONTROL removes pollutants from combined sewer overflows.

The following Table 1-1 summarizes how the nine minimum technology-based controls and the three main pollution control categories interrelate:

Table 1-1

Nine Minimum Technology-Based Controls	Pollution Control Categories		
	Source Control	Collection System Control	Treatment Plant Control
Proper operation and maintenance of collection system		X	
Maximum use of collection system for storage		X	
Review and modification of pretreatment programs	X		
Maximization of flow to POTW for treatment		X	X
Prohibition of CSO discharges during dry weather		X	X
Control of solid and floatable materials in CSO discharges		X	X
Pollution prevention programs	X		
Public notification to ensure that public receives adequate notification of CSO occurrences and CSO impacts	X		
Monitoring to effectively characterize CSO impacts, and efficacy of CSO controls		X	X

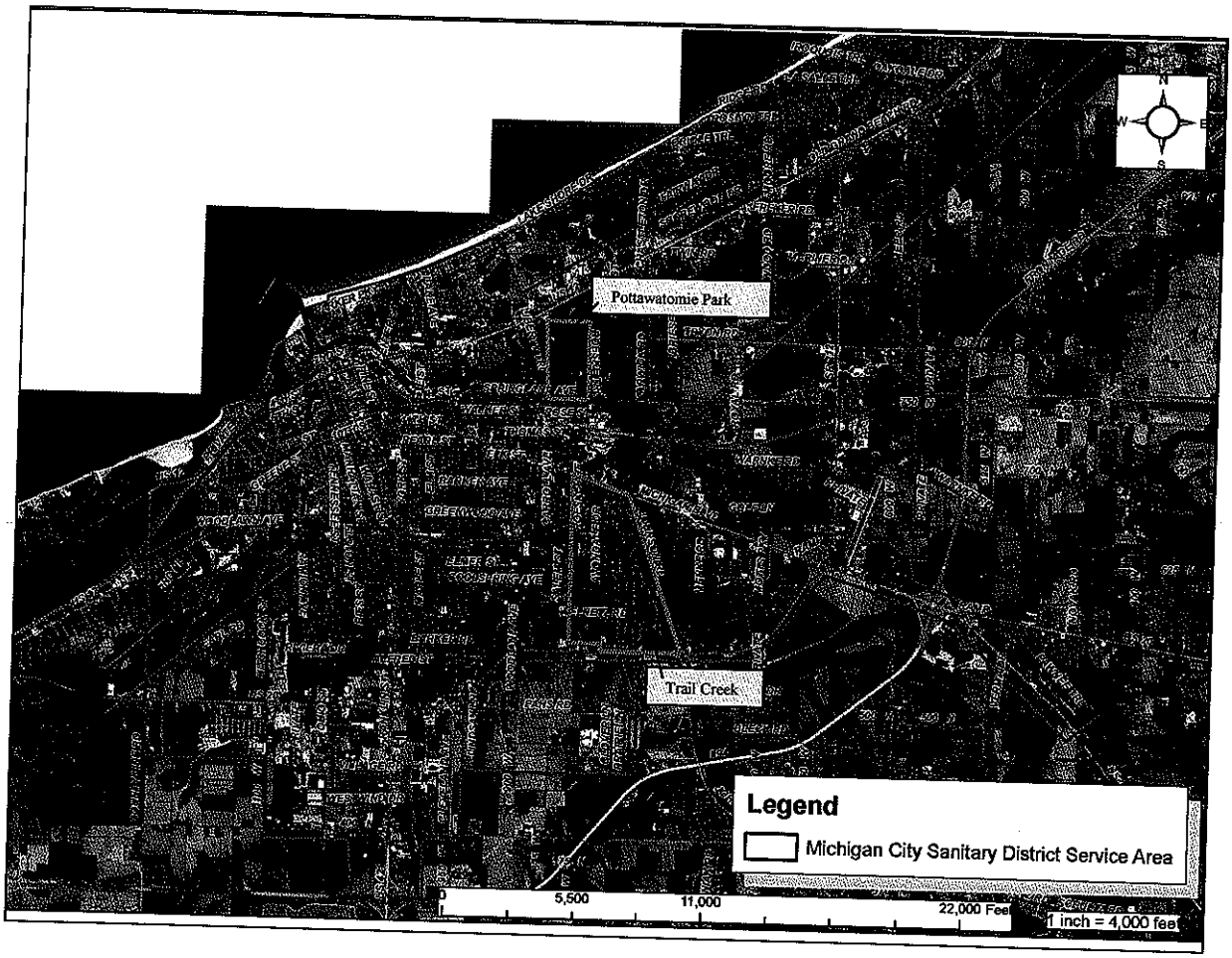
2 System Inventory

2.1 Service Area

2.1.1 Geographical

The Sanitary District of Michigan City service area is located in northwest LaPorte County, Indiana, and is generally bounded on the north by Lake Michigan; on the east by I-94; on the south by LaPorte County Road 400 North; and on the west by the LaPorte-Porter County Line Road. Figure 2-1 shows the general boundaries of the geographical service area.[2]

Figure 2-1 (updated for Revision 3.2012)



[2] The Town of Trail Creek is not served by sewers and the only a portion of the Town of Pottawatomie Park is served by sewers. The boundaries identified above are approximations and are not indented to identify the exact service area. Providing sewer service to each of these communities has been identified as a goal in the Trail Creek Watershed Management Plan.

2.1.2 Geological

During the period of the Wisconsin glaciation, the Lake Michigan ice lobe, which had excavated the Lake Michigan basin, extended to points south of the city. The furthest extent is indicated by the Valparaiso Moraine, which generally parallels US Hwy. 30. As the ice melted, the glacier retreated to the north leaving a crescent shaped lake between the ice lobe and the Valparaiso Moraine. The resulting body of water was called Lake Chicago and is the ancestor of the present Lake Michigan. The highest elevation of Lake Chicago is 640 feet above mean sea level.

In time, the level of glacial Lake Chicago was drastically lowered by the rapid escape of water through newly opened channels or sluiceways into the Des Plaines and Illinois Rivers. Each time a channel opened, a new stabilized lake level was obtained and sand beaches, dune ridges, and swamp areas were formed. The beach sand deposits, now brown in color, were in many cases reworked by the wind into dunes, leaving the gray silty sand and gravel lake deposits exposed to the atmosphere.

The last or most stabilized level of Lake Chicago was approximately 600 feet above mean sea level. Extensive sand and gravel beaches were formed along with dunes and deposited on the gray silty clay glacial till. As the level of Lake Michigan receded from the approximate elevation of 600 to its present elevation of 580, it did so in a series of parallel ridges and sloughs extending in the same general direction as the lake shore.

The post glacial land features are buried under a layer of fine sand, which in turn overlays a deep clay layer. This sand layer extends from Lake Michigan south to US Hwy. 20. The soils south of US Hwy. 20 vary from sand with traces of clay to rather dense, hard clay at the south corporation limits.

2.1.3 Topographical

The City of Michigan City and its surrounding area is situated on a wide plain composed partially of lacustrine or lake deposits and partially of glacial fluvial or river soils. With the exception of a high dune ridge, adjacent to the shore of Lake Michigan, the area generally slopes to the Lake from an elevation of 590 MSL (mean sea level) at the north (Lake Level) to a general high of 670 at the south and southeast. The average ground elevation for the central part of the service area is 630 feet. Large sand dunes are located along the edge of Lake Michigan and are approximately 150 feet in height. The entire area included in the service area drains to Lake Michigan and therefore, is part of the St. Lawrence Drainage Basin, ultimately discharging to the Atlantic Ocean.

An ancient line of dunes extending in a general east-west direction along the north side of US Hwy. 20 are evidence of the ancient shoreline of Lake Michigan.

2.1.4 Hydrological

Surface water sources in the service area include ponds, lakes, streams and various man-made impoundments. The principal surface waters are Lake Michigan, Trail Creek, Lake Clare and Lake Kai.

Stream flow variations are an important parameter for planning purposes. The 7-day, 10-year low flow for Trail Creek is 24 CFS (15 MGD).

2.2 Sewer System

2.2.1 Physical Condition

Previously, the Sanitary District of Michigan City completed sewer rehabilitation through the Federal PL92-500 Program. During this rehabilitation of sewers, bad portions of the system were lined. That rehabilitation project was the result from an Infiltration/Inflow Analysis and Sewer System Evaluation Survey. Other rehabilitation and problem areas have been addressed as needed.

With the opening of a Riverboat Gaming facility in Michigan City in 1997, the City of Michigan City began planning for the implementation of a phased approach for achieving significant storm water separation projects in the remaining combined sewer areas. With the construction of new storm sewers, the City of Michigan City Administration instructed the Sanitary District, the Michigan City Water Department and the City Engineer of Michigan City to employ a "Whole Project Approach" on future storm water separation projects.

The "Whole Project Approach" involved an assessment of all existing public infrastructure in a Project Area; including items such as existing sanitary (combined) sewers, existing water mains, curbs, gutters, sidewalks, trees, etc. Based on this assessment, existing infrastructure that was determined to be substandard in the Project Area would be replaced as part of the storm water separation projects and paid for, primarily, with Riverboat Gaming revenue. The overriding philosophy and direction of the City Administration was that if the City was going to go into a neighborhood and execute a major construction project to install new storm sewers, other infrastructure needs should also be addressed at that same time to minimize the inconvenience to local residents and to achieve cost savings by performing infrastructure replacement simultaneously, rather than one utility or component at a time.

Regarding the physical condition of sewers and the replacement of aging and problematic sanitary sewers during the execution of storm water separation projects, from 2002-2007 the Sanitary District replaced approximately 24,556 lineal feet, or 4.7 miles, of old sanitary sewers that contained defects. Table 2-1a identifies the sanitary sewer replacement achieved using the "Whole Project Approach" for storm water separation projects from 2002-2007:

Table 2-1a

Year	Project Name	Lineal Feet of Problematic Sewers Replaced as part of Storm Water Separation Projects
2002	Ohio/Barker	6,655 Lin. Ft.
2003	Ohio/Garfield	1,162 Lin. Ft.
2005	Wabash/Washington 1	3,844 Lin. Ft
2006	Wabash/Washington 2A	4,774 Lin. Ft
2007	Wabash/Washington 2B	3,506 Lin. Ft.
2007	Wabash/Washington 2C	4,615 Lin. Ft.
	Total:	**24,556 Lin. Ft.**
	Total Miles:	**~4.7 miles**

In 2008, the Sanitary District installed new storm sewers in the Lake Hills neighborhood to separate sewers in that area, and the Sanitary District extended sanitary sewer service under the following project names: Palatek, Tryon/Meer North A & B, and Meer South. Additionally, a new storm sewer system was installed on White Oak to provide drainage for this street. Table 2-1b identifies the lengths of storm and sanitary sewers installed in 2008.

Table 2-1b

Year	Project Name	Lineal Feet of Sewers Installed in 2008
2008	Lake Hills (storm)	4,560 Lin. Ft.
2008	Palatek (sanitary)	773 Lin. Ft.
2008	Tryon/Meer North A (sanitary)	5,233 Lin. Ft
2008	Tryon/Meer North B (sanitary)	3,528 Lin. Ft
2008	Meer South (sanitary)	3,395 Lin. Ft.
2008	White Oak (storm)	2,657 Lin. Ft.
	Total:	**20,146 Lin. Ft.**
	Total Miles:	**~3.8 miles**

In 2009, the Sanitary District replaced portions of the sanitary sewer system in the Southgate Neighborhood along south Ohio Street, along with replacing the Ohio Street Lift Station. Additionally, a new storm sewer system was installed to serve the newly built Pine Elementary School. Table 2-1c identifies the lengths of sanitary sewers installed in 2009.

Table 2-1c

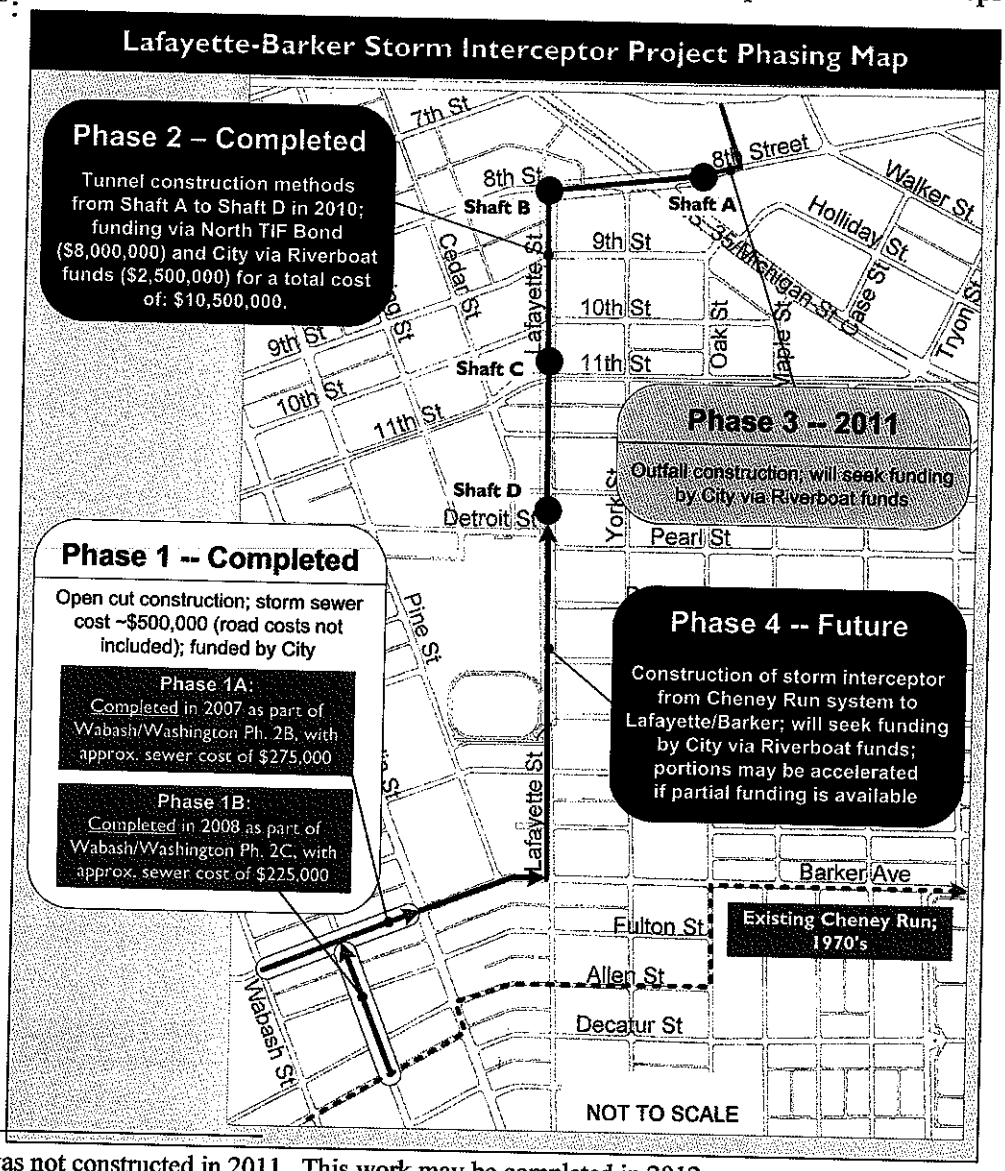
Year	Project Name	Lineal Feet of Sewers Installed in 2009
2009	Ohio Street - Gravity	3,484 Lin. Ft.
2009	Ohio Street – Force Main	4,280 Lin. Ft.
2009	Pine School - Gravity	2,230 Lin. Ft.
2009	Pine School – Force Main	3,222 Lin. Ft.
	Total:	**13,216 Lin. Ft.**
	Total Miles:	**~2.5 miles**

In 2010, the Sanitary District began construction of the next phase of the Lafayette-Barker Storm Sewer Project. This project establishes a new storm sewer interceptor in Michigan City and provides the storm sewer infrastructure necessary to facilitate future storm water separation projects. Table 2-1d identifies the lengths of storm sewers installed in 2010.

Table 2-1d

Year	Project Name	Lineal Feet of Sewers Installed in 2010
2010	Lafayette-Barker Storm Sewer	2,300 Lin. Ft.
	Total:	**2,300 Lin. Ft.**
	Total Miles:	**~0.4 miles**

An overall summary of the Lafayette-Barker Storm Sewer interceptor network is depicted as follows[3]:



[3] Phase 3 was not constructed in 2011. This work may be completed in 2012.

A plot showing the remaining portions of the current service area containing combined sewers is in APPENDIX C.

2.2.2 Age, Length, Materials, Sizes, and Depths of Sewers

The oldest sewers in Michigan City are over 70 years old. The average age of the sewers in Michigan City is 40 years old. Sewers in Michigan City are made of vitrified clay, concrete, and reinforced concrete. The City has some PVC sewers. Sewers in Michigan City are between 4 and 35 feet deep with an average depth of 15 feet. See APPENDIX D for pipe sizes and corresponding lengths in Michigan City.

2.2.3 Sewer Separation, Improvement and Addition Projects

Since 1962, the Sanitary District of Michigan City Sanitary District has been actively separating the sewers in Michigan City. The Sanitary District has spent $101,649,991 separating their combined sewers, upgrading the existing sewer system and adding additional sewers in new areas. The collection system is approximately 93.3% complete in the sewer separation program. The Sanitary District plans to continue their projects and is presently in the planning phase for the Lafayette-Barker combined sewer area. It is the Sanitary District's belief that the best way to eliminate combined sewer overflows or basement flooding is to eliminate the source. Therefore, the District has continuously been planning, designing or constructing projects to eliminate combined sewer overflows since 1962. The treatment plant was designed in the mid-1960's for an average design flow of 12 MGD. The current plant also has an average daily design flow of 12 MGD and had an average daily flow of 8.52 MGD in 2011. The Sanitary District believes that sewer separation projects, along with Infiltration/Inflow control, will not only eliminate overflows but will also provide the additional plant capacity.

2.2.4 Maintenance Practices

The Sanitary District of Michigan City has recently developed a manhole inspection standard operating procedure (SOP PM.2, see APPENDIX E) to ensure that each manhole is inspected and cleaned, as required. Current manhole inspection planning efforts anticipate inspecting the manholes associated with 20 miles of sewer per year and completing all manhole inspections over a 10 year period. Efforts will be made to shorten the overall duration as much as possible, subject to manpower availability.

The inspections will be conducted by District employees using the District's Magellan Hand Held Mobile Mappers and EnviroSite pole camera, with observations recorded in an inspection database questionnaire to ensure data consistency. The data will be kept in the GIS database (ESRI) servers maintained by the District's IT Department. The IT Department

does a regular back up of the data. The data will be available on District servers and access may depend on software licensing and hardware requirements.

Catch basins in remaining combined sewer areas are inspected and cleaned as necessary under the same inspection program. Certain special catch basins, approximately 50, in the "School Street Project" are cleaned and inspected annually as they were designed with deeper sumps in lieu of end-of-pipe storm water BMPs for that project. These catch basins are also treated for vector abatement. Similarly, catch basins on Lake Shore Drive are cleaned and inspected annually.

Problem manholes and catch basins are identified by supervisory review of the databases and are cleaned more frequently. In addition, catch basin cleaning occurs as preventive maintenance before anticipated precipitation events and when street flooding is reported by citizens or other City Departments. Also, we developed a list of catch basins and areas that have been historically identified as trouble areas for standing water, in the event that these catch basins were plugged with debris (leaves) or blocked via ice dam buildup. These locations generally tend to be at the low point in a 'bowl' area. The list is called "Rain Event Hot List and Winter Thaw". The catch basins or areas on this list are cleaned and or inspected before, during and after a rain event or winter thaw. Catch basin repair and replacement occur as needed.

The Sanitary District maintenance crew performs lift station maintenance and repair, as required. The forty-one (41) lift stations are inspected a minimum of once per quarter, and more frequently as other tasks permit. The conversion to real-time telemetry permits the reduction of physical inspection frequency without compromising the operation and maintenance of the lift stations.

2.3 *Treatment Plant Flows*

The wastewater treatment plant flow averages for 2000 through 2011 are in Table 2-2. The treatment plant has an average daily design flow of 12.0 MGD and a peak hourly design flow of 15.0 MGD. The diurnal high flows may be equalized in the diurnal basins and the high storm flows are detained in the diurnal and storm water detention basins. A detailed explanation of the diurnal/storm basin system is included in Section 5.8.3.1.

The wastewater treatment plant was last upgraded in 2005-07 with improvements to the headworks. The wastewater treatment plant performance continues to meet its NPDES permit. The new plant facilities will be explained in Section 5.8.1.

Table 2-2

Year	Avg. Daily Flow (MGD)
2000	7.29
2001	7.89
2002	7.36
2003	6.71
2004	6.97
2005	6.26
2006	7.50
2007	8.99
2008	9.73
2009	10.34
2010	8.07
2011	8.52

2.4 Lift Stations

There are forty (40) lift stations owned and operated by the Sanitary District of Michigan City maintains[4]. Table 2-3 is a list of existing lift stations, with the type of telemetry and to which trunk sewer the lift station ultimately discharges into. A status report on the lift stations is found in APPENDIX F. Flow rate (Q rate) was determined from Wonderware plots of the pump starts and wet well levels for those lift stations that were converted to Mission telemetry. Essentially, the analysis is a pump down test. Actual data from the analyses is found in the Appendices. Figure 2-2 shows the locations of each lift station. Figure 2-3 illustrates hierarchy relationships between lift stations.

[4] Beachwalk Lift Station is not owned or operated by the Sanitary District of Michigan City. This lift station is privately owned by the Beachwalk community. However, over the past several the Sanitary District of Michigan City has provided monitoring and some maintenance to this lift station, and therefore it is included on Table 2-3.

Table 2-3

No.	Lift Station	Wet Weather Influence [1]	Year of (C)onstruction, In (S)ervice, or (R)ehab.		Q Rate (GPM) [2]	On-Site Generator?	Permanent Building?	Standard Lift Station Design?	In Street or Right-of-Way?	Remote Control Panel?	Fence?	Mission Telemetry?	AT&T ALARM -NO ALARM	54-Inch Trunk Sewer	72-Inch Trunk Sewer
1	Beachwalk	L	R	2009	210							Y		Y	
			R	2005	210										
2	Beechwood	L	C	1995				Y			Y	Y			Y
3	Birch Tree Farms	M	C	1997	170,196					Y		Y		Y	
4	Broadway	L	R	1992					Y-s	Y		Y			Y
5	Clark	H	R	2000	327,340			Y			Y	Y			Y
6	Coolspring/Roeske	M	C	1985	198,198				Y-r			Y			Y
7	Eastwood	L	C	2000				Y			Y	Y			Y
8	Edgewood	M	C	1997	391,400				Y-r			Y			Y
9	Evergreen Plaza	M	C	1985	???,262				Y-r			Y			Y
10	Fourth Street	H	R	1984	???,37							Y		Y	
11	Freyer Road	M	R	1998	143,210			Y-				Y			Y
12	Glenbrook	L	C	1995				Y-			Y	Y			Y
13	Golfview	M	C	1996	540,517			Y-			Y	Y			Y
14	Henry Street	L	R	1984					Y-s	Y		Y			Y
15	Hidden Shores	L	C	1984	90,65							Y		Y	
16	Jackson Street	L	C	1989					Y-s			Y			Y
17	Johnson Rd & US35	L	C	2001				Y			Y	Y			Y
18	Kieffer Road	L	C	1993					Y-r			Y			Y
19	Kimball Woods	L	C	1990	114,191						Y	Y			Y
20	Krueger School (4 pumps)	M	R	1995	1501, 1269, 1268, 768						Y	Y			Y
21	Lake Avenue	M	R	1984	695,661				Y-s	Y		Y		Y	
22	Lake Hills	M-H	C	2007	336,353	Y		Y			Y	Y		Y	
23	Lakeland Triangle	L	C	1981					Y-s	Y		Y			Y
24	Liberty Trail	L	C	1988				Y-			Y	Y			Y
25	Marina	L	R	1997	129,184			Y-			Y	Y		Y	
26	Meadowdale	H	C	2003	277,331			Y			Y	Y			Y
27	Menke Rd & US 35 (3 pumps)	M	C	1989	252, ???, 246							Y			Y
28	Michiana Shores	L	C	2000	128,122			Y-			Y	Y			Y
29	Morton Ditch (STORM WATER)	Storm LS	C	1982	2,818		Y				Y	Y		NA	NA
			C	1982	???										
30	Ohio Street	H	C	2009	800	Y		Y			Y	Y			Y
31	Pine School	L	C	2009	260	Y		Y			Y	Y		Y	
32	Pottawattomie Park	H	C	1983					Y-r			Y			Y
33	Shoreland Hills	L	C	2000	542,575			Y-			Y	Y			Y
34	Sludge Lagoon	L	R	1984	???,110						Y-	Y		NA	NA
35	Smith Valley	L	R	1984	78,82				Y-r			Y		Y	
36	Tall Timbers	L	C	1989					Y-s			Y			Y

No.	Lift Station	Wet Weather Influence [1]	Year of (C)onstruction, In (S)ervice, or (R)ehab.		Q Rate (GPM) [2]	On-Site Generator?	Permanent Building?	Standard lift Station Design?	In Street or Right-of-Way?	Remote Control Panel?	Fence?	Mission Telemetry?	AT&T ALARM - NO ALARM	54-Inch Trunk Sewer	72-Inch Trunk Sewer
37	Tinkers Dam	M	C	1989	432,468					Y		Y		Y	
38	Tryon- Meer Road	L	C	2006	311,343	Y		Y			Y	Y			Y
39	US 12	M	C	1996	476,561						Y	Y			Y
40	US 20/ US35	M	C	2004	343,372	Y		Y			Y	Y			Y
41	Woodlawn	L	C	2001				Y-			Y	Y			Y

[1] L=Low, M=Moderate, H=High; Mission determined from plot of daily flow versus daily rainfall; AT&T from alarm history.

[2] Flow rates determined from Simulated Draw Down analysis performed on February 23,2008 data. "???" = no pump runs that day.

Figure 2-2

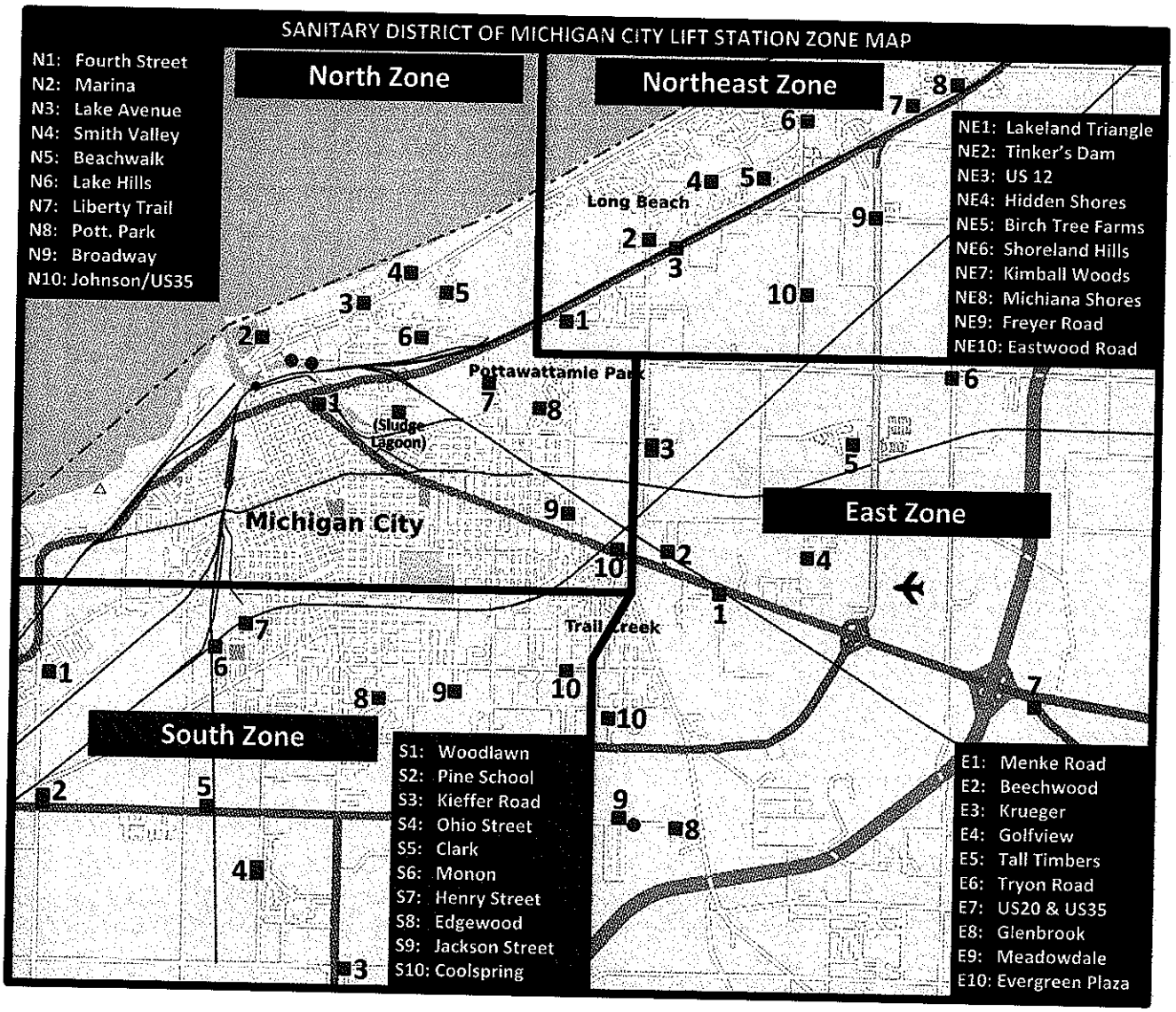
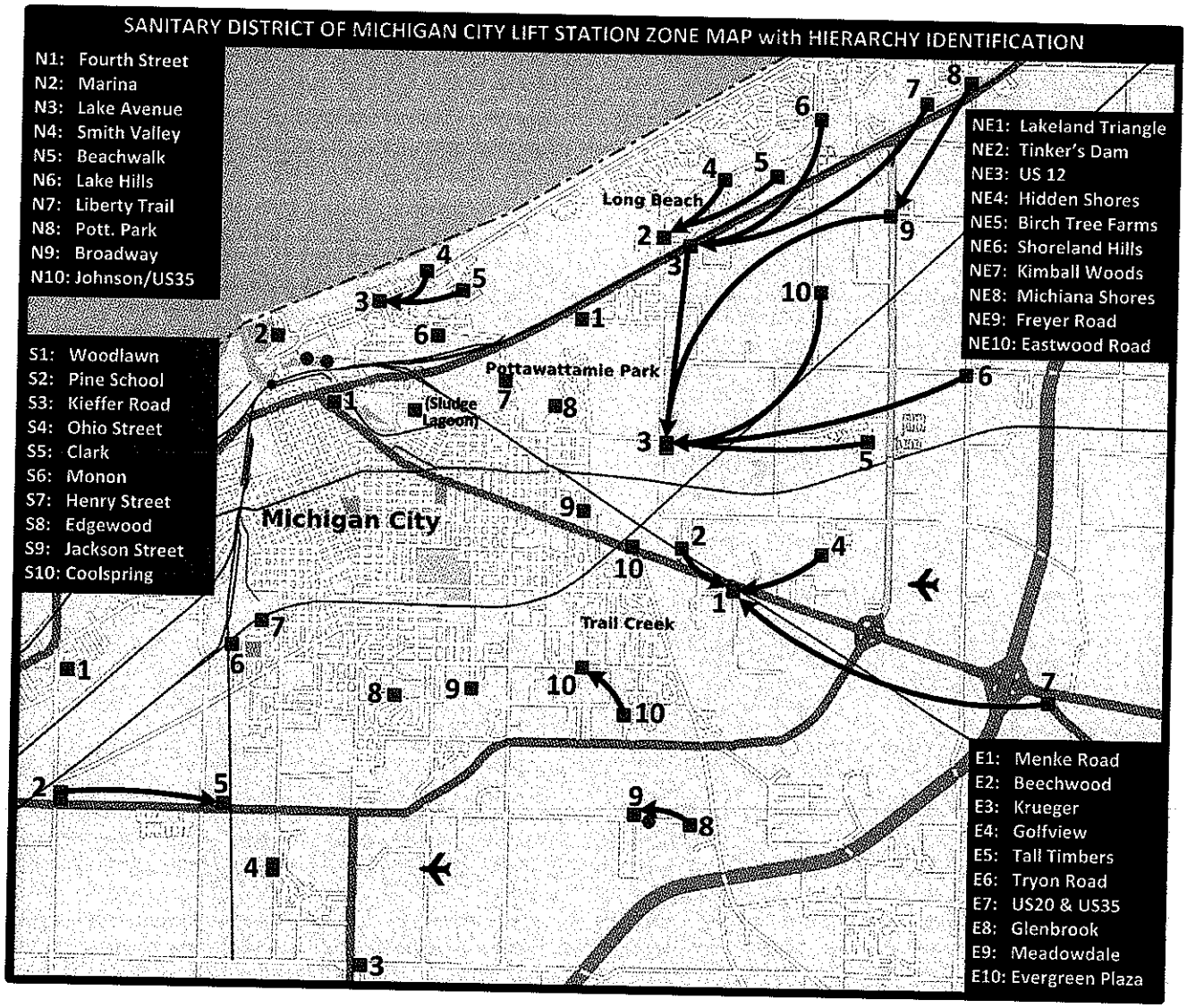


Figure 2-3


SANITARY DISTRICT OF MICHIGAN CITY LIFT STATION ZONE MAP with HIERARCHY IDENTIFICATION
N1: Fourth Street
N2: Marina
N3: Lake Avenue
N4: Smith Valley
N5: Beachwalk
N6: Lake Hills
N7: Liberty Trail
N8: Pott. Park
N9: Broadway
N10: Johnson/US35
S1: Woodlawn
S2: Pine School
S3: Kieffer Road
S4: Ohio Street
S5: Clark
S6: Monon
S7: Henry Street
S8: Edgewood
S9: Jackson Street
S10: Coolspring
NE1: Lakeland Triangle
NE2: Tinker's Dam
NE3: US 12
NE4: Hidden Shores
NE5: Birch Tree Farms
NE6: Shoreland Hills
NE7: Kimball Woods
NE8: Michiana Shores
NE9: Freyer Road
NE10: Eastwood Road
E1: Menke Road
E2: Beechwood
E3: Krueger
E4: Golfview
E5: Tall Timbers
E6: Tryon Road
E7: US20 & US35
E8: Glenbrook
E9: Meadowdale
E10: Evergreen Plaza
Long Beach
Pottawattamie Park
(Sludge Lagoon)
Michigan City
Trail Creek

2.5 Location of CSO Overflow

Table 2-4 summarizes the historical and current status of the CSO overflows. Only one overflow remains, Outfall 002A, which is the discharge from the storm retention basins. The physical structure of Outfall 002A is designed to prevent back flow of the receiving waters into the retention basins.

Table 2-4

No.	Description	1983 CSO Study	1984 Plant Improvements	1990 CSSOP	1996 CSSOP Update	Sep 1998 Permit Modification	Nov 1, 2004 Permit	Preliminary Stage Improvement Project 2005-06	Feb 13, 2006 Permit Modification
1	**Corymbo Drive at entrance to WWTP:** relieved excess flows through the 72" trunk sewer via a 3' by 8' wood weir.	**MONITORED**	Eliminated by extending 72" sewer to storm storage basins.						
2	**Eighth Street and NIPSCO substation:** Three sewers (Hobart, Walker, Eighth) collect in a common manhole on a 24" combined sewer. Normal flow drops into a 36" sewer underneath the 24" sewer. When capacity of 24" is exceeded, an overflow weir relieves excess flow and permits a discharge to Trail Creek.	**MONITORED** - No overflows occurred during study.			Plugged up with brick and mortar, thus eliminated.				
3	**East 6th Street:** inverted siphon under the interceptor sewer.	Overflow in kept plugged at all times. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
4	**East End Second Street Bridge:** overflow is located at MH C8.	Overflow in kept plugged at all times. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
5	**Penn-Central Railroad Bridge and the Second Street Bridge:** MH C9 and CC1 are structures constructed as a by-pass to Trail Creek. MH C9 was built on the interceptor sewer with a connection through MH CC1 to Trail Creek	Connection to Trail Creek is permanently plugged. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
6	**Penn-Central Railroad Bridge and the Second Street Bridge:** MH C11 was built on the interceptor sewer with a connection through MH CE1 to Trail Creek	Connection to Trail Creek is permanently plugged. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
7	**Northeast of Penn-Central Railroad Bridge:** MH C13 is located at the connection of an 18-inch sanitary sewer along the north side of the Penn-Central RR tracks to the interceptor sewer along the east side of Trail Creek.	Connection to Trail Creek is permanently plugged. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
8	**Fourth Street Box Sewer:** eleven overflows flow into Fourth St. Box Sewer. Sewer is an 8' x 10' concrete box.	**MONITORED**		**Listed as Overflow Point 003. contains eight overflows within collection system.**	**Listed as Overflow Point 003. All overflows to box sewer permanently plugged.**	**Eliminated by modification to NPDES Permit.**			
9	**West of Sixth Street Bridge:** MH B15 is located on 36-inch interceptor sewer. MH BB1B is on a 15-inch line to Trail Creek.	Overflow in kept plugged at all times. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
10	**East side of Spring Street and Fourth Street:** MH BCA1 is located in the SE corner of Spring St. and 4th St. on the 24-inch combined sewer along the E side of Spring St. Excessive flows go over weir to 4th St. box sewer.	**MONITORED**		An overflow point to 4th St. box sewer.	Plugged up with brick and mortar, thus eliminated.				
11	**West side of Spring Street and Fourth Street:** MH BCB1 is located at the SW corner of Spring St and 4th St. and is on a 24-inch combined sewer along the S side of 4th St. Excessive flow overflows into 4th St. box sewer.	**MONITORED**		An overflow point to 4th St. box sewer.	Plugged up with brick and mortar, thus eliminated.				
12	**East side of Pine Street and Fourth Street:** MH BCD1 is located in the SE corner of Pine and 4th Streets on a 27-inch combined sewer along the E side of 4th St. Excessive flows overflow into 4th St. box sewer.	**MONITORED**		An overflow point to 4th St. box sewer.	Plugged up with brick and mortar, thus eliminated.				
13	**West side of Pine Street and Fourth Street:** MH BCE1 is located on the N end of 27-inch combined sewer on the W side of Pine at 4th St. Excessive flow overflow weir to 4th St box sewer.	**MONITORED**		An overflow point to 4th St. box sewer.	Plugged up with brick and mortar, thus eliminated.				

Table 2-4 (continued)

	box sewer.								
14	**East side of Franklin Street and Tenth Street:** MH BCF8 is located E of Franklin Street storm sewer at intersection of 10th and Franklin St. on a 15-inch combined sewer flowing N.	Overflow in kept plugged at all times. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
15	**West side of Franklin and Tenth Street:** MHBCG9 is located W of Franklin St storm sewer at intersection of 10th and Franklin St on a 15-inch combined sewer flowing N.	Overflow in kept plugged at all times. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
16	**Washington Street and Tenth Street:** MH BCH10 is located at the head end of Washington Street Strom Sewer a the intersection of 10th and Washington on a 15-inch combined sewer. Excessive flow overflows into Washington Storm Sewer , which discharges into 4th St. box sewer.	**MONITORED** - No overflows occurred during study.			Plugged up with brick and mortar, thus eliminated.				
17	**Carlon Court Between Tenth Street at Donnelly Street:** MH BTC12 is located on Carlon Ct. about center of the block between 10th and Donnelly Street on 30-inch combined sewer from IN St. Prison. Excessive flow overflows weir into Willard St storm sewer. Willard Ave storm sewer discharges into 4th St. box sewer.	Overflow in kept plugged at all times. Not monitored during study.			Plugged up with brick and mortar, thus eliminated.				
18	**West side of Fourth Street and Inverted Siphon:** at MH B17 there is a 21-inch and 18-inch sewer entering from S and N respectively. There is an inverted siphon from this manhole that carries water under 4th St. box sewer to MH B16. There is an overflow at MH B17 that discharges to 4th St. box sewer.	**MONITORED**		An overflow point to 4th St. box sewer.	Plugged up with brick and mortar, thus eliminated.				
19	**East side of Fourth Street and Inverted Siphon:** At MH16 there is a 27-inch line entering from S and inverted siphon from W. a 36-inch line exists to east. MH16 overflows in excessive flow to 4th St. box sewer.	**MONITORED**		An overflow point to 4th St. box sewer.	Plugged up with brick and mortar, thus eliminated.				
20	**Wabash Street and Sixth Street:** MH BC11 a 36-inch sewer overflow to a 36-inch storm sewer which goes to 4th St. box sewer. Overflow in 6' long and 15" high.	**MONITORED**			Plugged up with brick and mortar, thus eliminated.				
A	**WWTP Bypass:** all flows greater than 12 MGD go directly from primary treatment to chlorine contact tanks then to Trail Creek (bypass secondary treatment)	**MONITORED**	Eliminated in 1984 upgrade to WWTP.						
B	**Influent Structure Overflow:** wet weather diversion structure on 54" trunk sewer at headwork. Overflow to 48-inch discharge line to Trail Creek.		Constructed as part of headworks improvement	**Listed as Overflow Point 004**	**Listed as Overflow Point 004**	**Listed as Overflow Point 004**	**Listed as Overflow Point 004**	**Filled with concrete on April 25, 2005**	**Eliminated by modification to NPDES Permit.**
C	**Storm Water Detention Basins Overflow:** a 96-inch overflow discharge line from a 2.5 MG and 2.8 MG storm water storage basins.		Constructed as part of improvement project.	**Listed as Overflow Point 002**	**Listed as Overflow Point 002**	**Listed as Overflow Point 002**	**Listed as Overflow Point 002**	**Listed as Overflow Point 002**	**Listed as Overflow Point 002A**

2.6 Sewer System Problem Areas

Areas of the collection system that are under consideration for rehabilitation or replacement:

A. Greenwood Avenue between Carroll Avenue and Cleveland Avenue; partial replacement completed in 2007.
B. Ohio Street at US Highway 20 crossing; completed in 2009.
C. Spring Street, both sides, between 11th Street and 6th Street; start of construction planned for 2011.
D. Cedar Street, both sides, between 11th Street and 6th Street; start of construction planned for 2011.
E. B&E Marina sanitary sewer line between the Water Filtration Plant and the AMTRAK receiving manhole; planned fall/winter 2011 start of construction.
F. Lake Avenue Lift Station.
G. Sanitary sewer in the alley of the 300 block of Springland Avenue.

These areas will be scheduled for upgrades on a priority basis dependent upon their severity and available funding.

2.7 Groundwater Levels

The groundwater table in the service area is generally tilted sharply toward Lake Michigan. A groundwater profile along US Hwy. 421 would, in general, follow a line beginning at elevation 580 MSL at the north end and slope upward to an approximate elevation of 635 MSL at the north side of US Hwy. 20. South of US Hwy. 20, the groundwater table is suppressed due to the thick layer of clay and silt overlaying it. Wells in this area have been constructed to depths of 90 to 120 feet. However, once the aquifer is reached, the water level in the well casing will rise to within a few feet of ground level.

A new ground water monitoring well was constructed in 2009 at the relocated Ohio Street Lift Station. Future plans are to construct two other ground water monitoring wells within the service area. This will assist the Sanitary District personnel in evaluating I/I impacts.

2.8 Quality of Receiving Waters

Trail Creek is the receiving waterbody for the wastewater treatment plant, Outfall 001B, and the discharge from the storm retention basins, Outfall 002A. Trail Creek has a seven-day, ten year, low flow ($Q_{7,10}$) of 24 cfs (15.5 MGD). Trail Creek is in the Lake Michigan drainage basin, and is therefore subject to the Indiana Water Quality Standards applicable to all waters of the State within the Great Lakes System in accordance with 327 IAC 2-1.5.

The wastewater treatment plant outfall to Trail Creek is approximately 1.8 miles upstream of Lake Michigan. The Indiana portion of the open waters of Lake Michigan is designated as outstanding state resource water in accordance with 327 IAC 2-1.5-19(b). Discharge to tributaries of outstanding state resource waters are subject to antidegradation implementation procedures for outstanding state resource waters in 327 IAC 5-2-11.7.

Trail Creek has the following designated uses (327 IAC 2-1.5-5):

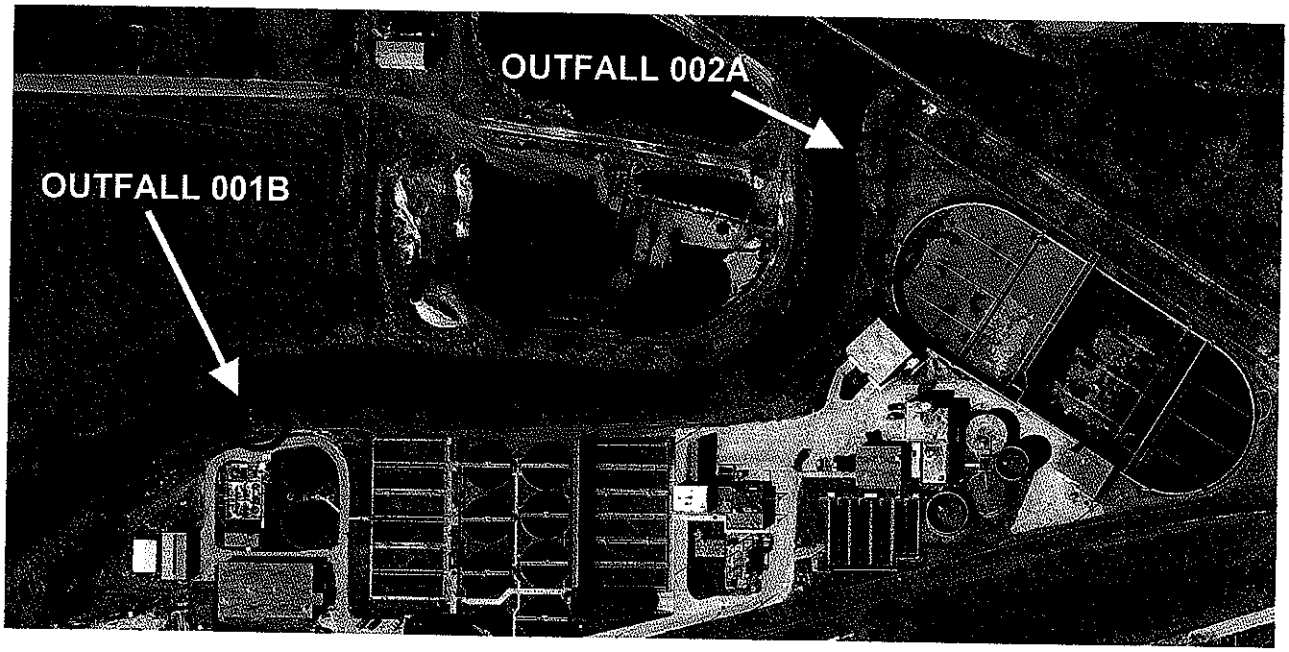
- For full-body contact recreation;
- Capable of supporting a well-balanced, warm water aquatic community; and
- Capable of supporting put-and-take trout fishing.

Trail Creek is also classified as high quality water for all parameters except E. coli, mercury and PCBs under IDEM's 2006 303(d) list. Trail Creek is considered impaired (for designated uses) for E. coli (Category 5C, impairment addressed by TMDL); and for mercury and PCBs on the basis of fish consumption advisories (Category 5B). These same impairments are found in IDEM's final 2008 303(d) list.

2.9 *Effluent Standards*

The current NPDES permit contains effluent limitations and monitoring requirements for the wastewater treatment plant, Outfall 001B, in Part I, A; and effluent limitations and monitoring requirements for the storm water retention basin discharge, Outfall 002A, in Attachment A, as modified. Figure 2-4 identifies the physical locations of Outfall 001B and 002A.

Figure 2-4



The parameters and effluent limitations, if specified, are summarized in Table 2-5.

Table 2-5

Parameter	Quantity or Loading: Monthly Average	Quantity or Loading: Weekly Average	Units	Quality or Concentration: Monthly Average	Quality or Concentration: Weekly Average	Quality or Concentration: Daily Maximum	Quality or Concentration: Daily Minimum	Units	Monitoring Requirements: Measurement Frequency	Monitoring Requirements: Sample Type
OUTFALL 001B										
Flow	Report	Report	MGD						Daily	24-Hr Total
CBOD5	626	939	lbs/day	5.0	7.5			mg/l	5 X Weekly	24-Hr Composite
TSS	751	1,127	lbs/day	6.0	9.0			mg/l	5 X Weekly	24-Hr Composite
Phosphorus				1.0				mg/l	5 X Weekly	24-Hr Composite
pH						9.0	6.0	Std. Units	Daily	Grab
Dissolved Oxygen							7.0	mg/l	Daily	3-Grabs/24-Hrs.
E. coli				125.0		235		col/100 mls	5 X Weekly	Grab
Ammonia-nitrogen										
Summer May 01-Nov 30	163	388	lbs/day	1.3		3.1		mg/l	5 X Weekly	24-Hr Composite
Winter Dec 01 - Apr 30	175	413	lbs/day	1.4		3.3		mg/l	5 X Weekly	24-Hr Composite
Total Residual Chlorine	1.25	2.88	lbs/day	0.010		0.023		mg/l	Daily	Grab
Cadmium, TRM				Report		Report		mg/l	1 X Monthly	24-Hr Composite
Chromium, TRM				Report		Report		mg/l	1 X Monthly	24-Hr Composite
Copper, TRM				Report		Report		mg/l	1 X Monthly	24-Hr Composite
Cyanide, CATC				Report		Report		mg/l	1 X Monthly	Grab
Lead, TRM				Report		Report		mg/l	1 X Monthly	24-Hr Composite
Mercury, TRM										
Interim				10		30		ng/l	Bi-monthly	Grab
Final	0.000163	0.000400	lbs/day	1.3		3.2		ng/l	Bi-monthly	Grab
Nickel, TRM				Report		Report		mg/l	1 X Monthly	24-Hr Composite
Zinc, TRM				Report		Report		mg/l	1 X Monthly	24-Hr Composite
OUTFALL 002A										
Flow	Report	Report	MGD						Daily	24-Hr Total
CBOD5				Report		Report		mg/l	Daily	Grab
TSS				Report		Report		mg/l	Daily	Grab
Phosphorus				Report		Report		mg/l	Daily	Grab
Total Residual Chlorine	1.25	2.88	lbs/day	0.010		0.023		mg/l	Daily	Grab
pH						Report	Report	Std. Units	Daily	Grab
Dissolved Oxygen							Report	mg/l	Daily	Grab
E. coli						235		col/100 mls	Daily	Grab
Ammonia-nitrogen				Report		Report		mg/l	Daily	Grab

3 Administrative Aspects

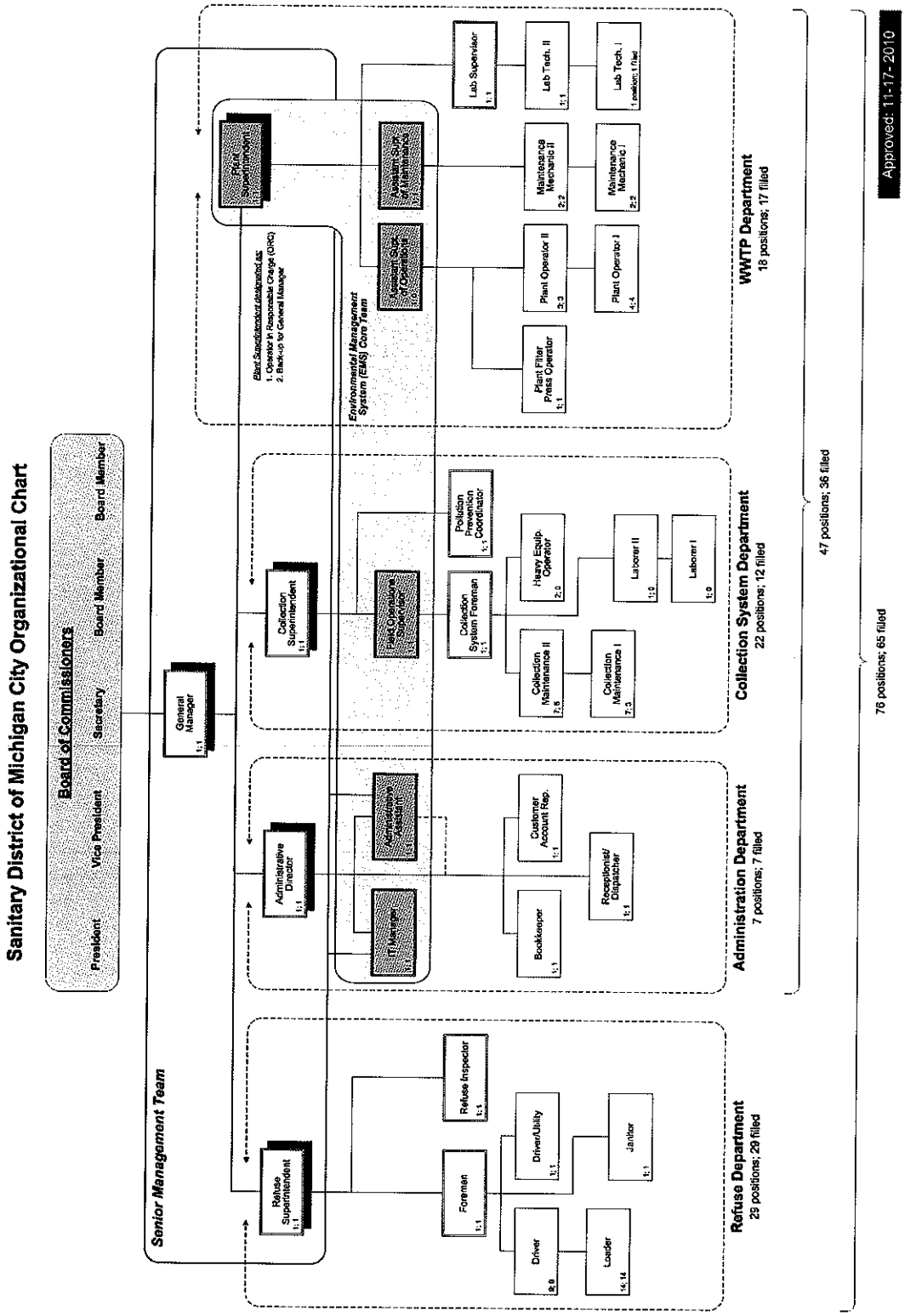
3.1 Responsibilities

The Sanitary District has a Board of Commissioners consisting of four members, appointed to four-year terms by the Mayor of Michigan City. The City Engineer, the fifth member, serves by virtue of his/her office.

The senior management team consists of a General Manager, with four area superintendents: Administrative Director, Collection Superintendent, Plant Superintendent and Refuse Superintendent. The Administrative Director has responsibility for the business operations and IT operations. The Collection Superintendent is responsible for the sanitary, storm and combined sewers; is the MS4 Operator; and is responsible for court ordered drainage ditch maintenance. The Plant Superintendent is responsible for the WWTP operations and maintenance, lift station operations and maintenance, the laboratory, and is the Operator in Responsible Charge. The Refuse Superintendent has responsibility for municipal refuse collection and disposal.

The organizational Structure is under review and this structure may change in 2012.

Figure 3-1


Sanitary District of Michigan City Organizational Chart
Board of Commissioners
President
Vice President
Secretary
Board Member
Board Member
Senior Management Team
General Manager 1:1
Plant Superintendent 1:1
Blue Superintendent designated as:
1. Operator in Responsible Charge (ORC)
2. Back-up for General Manager
Environmental Management System (EMS) Core Team
Assistant Supt. of Operations 1:1
Assistant Supt. of Maintenance 1:1
Lab Supervisor 1:1
Lab Tech. II 1:1
Lab Tech. I 1 position; 1 filled
Maintenance Mechanic II 2:2
Maintenance Mechanic I 2:2
Plant Operator II 3:3
Plant Operator I 4:4
Plant Filter Press Operator 1:1
WWTP Department
18 positions; 17 filled
Collection Superintendent 1:1
Field Operations Supervisor 1:1
Pollution Prevention Coordinator 1:1
Collection System Foreman 1:1
Heavy Equip. Operator 2:2
Laborer II 1:0
Laborer I 1:0
Collection Maintenance II 2:2
Collection Maintenance I 7:3
Collection System Department
22 positions; 12 filled
47 positions; 36 filled
Administrative Director 1:1
Administrative Assistant 1:1
IT Manager 1:1
Customer Account Rep. 1:1
Receptionist/ Dispatcher 1:1
Bookkeeper 1:1
Administration Department
7 positions; 7 filled
Refuse Superintendent 1:1
Refuse Inspector 1:1
Foreman 1:1
Driver/Utility 1:1
Janitor 1:1
Driver 8:8
Loader 14:14
Refuse Department
29 positions; 29 filled
76 positions; 65 filled
Approved: 11-17-2010

3.2 NPDES Permit

The current NPDES Permit (IN0023752) became effective on January 1, 2010.

3.3 City Ordinances

In 1962, the Sanitary District Board of Commissioners approved an Engineering Report prepared by Boyd E. Phelps, Inc, which stated the following:

"...no further consideration could be given to including or discharging additional storm water drainage in the existing system [collection system, sic], without increasing surcharge and resulting in the increase in basement flooding for buildings connected to the system."

As a result of that action, no new combined sewers have been constructed in Michigan City since that date.

The 2006 modification to Attachment A of NPDES Permit IN0023752 contains the following requirements:

"The Sewer Use Ordinance needs to ...

- *Prohibit construction of any new combined sewer or outfall;*
- *Prohibit any new connection to any combined sewer, unless the flow from the new connection will not cause or contribute to discharge from any portion of the POTW; including the collection system, other than Outfall 001; and*
- *Require that for any new dwelling or building connection to the combined sewer, any storm water connection be made separate and distinct from any sanitary waste connection to facilitate disconnection of the former if a separate storm sewer subsequently becomes available.*

Current City Code contains the following items:

- **City Code Sec. 98-311, Discharge of unpolluted water to sanitary sewer, states**: *No person shall discharge or cause to be discharged any unpolluted waters, such as stormwater, groundwater, roof runoff, subsurface drainage or cooling water, into any sanitary sewer.*

- **City Code Sec. 98-315, Dilution of discharge, states**: *No user introducing wastewater pollutants into a publicly owned treatment works shall augment the use of potable water process wastewater or mix separate waste streams or otherwise dilute*

the wastewater as a partial or total substitute for adequate treatment to achieve compliance with any standards set forth in this article.

- **City Code Sec. 98-225(h), Building Sewers and Connections states**: *No person shall make a connection of roof downspouts, foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building drain which in turn is connected directly or indirectly to a public sanitary sewer.*

- **City Code Sec. 98-312, Discharge of storm water, states**: *Stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm sewers, or to a natural outlet approved by the manager or approval authority and state or local agencies.*

- **City Code Sec 98.225(i), Specifications for connection, states**: *The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing codes or other applicable rules and regulations of the city and the sanitary district. All such connections shall be made gastight and watertight, and verified by proper testing. (See sections 22-111 and 22-232, which adopt state rules and regulations.)*

- **City Code Sec 98.225(l), Determination regarding system capacity, states**: *No connection shall be made, nor shall a permit to make a connection be issued, until and unless it has been determined by the manager that there is sufficient capacity in all downstream facilities to properly handle the additional effluent.*

- **City Ordinance No. 2660** requires storm water retention.

- **City Code Sec. 22-232, Adoption of state plumbing code, states**:

a) *The Indiana Plumbing Code, 1985 edition (675 IAC 16), is hereby adopted by reference as the rules and regulations governing the construction and alteration of buildings and structures in the city.*
b) *Notwithstanding any other provision of law, the plumbing rules and regulations as adopted in this section shall apply to all building and structures, including one- and two-family dwellings.*
c) *A copy of this code and the rules, regulations and codes adopted in this section by reference are on file as required by law in the office of the city clerk.*

The Sanitary District's Legal Counsel reviewed the above code and determined that the current City Code meets the intent of the requirements of Attachment A. An email notification of that finding is found in APPENDIX G. Full City Code can be found at www.emichigancity.com

3.4 Sewer Use Agreements

The Sanitary District of Michigan City has sewer use agreements with individual property owners that are signed by the Sanitary District and the following entities: Town of Pottawattomie Park, Town of Trail Creek, and Town of Long Beach. These agreements do not allow storm water to be put into the sewers covered therein. These agreements are on file at the Administrative Offices of the Sanitary District.

Under all of the agreements, the Sanitary District has ownership and maintains the collection system and all appurtenances, including lift stations, if applicable.

The Springfield Regional Sewer District agreement of 2009 conveys no ownership of the sewers. It only provides for treatment of waste. The 2009 SRSD agreement contains flow limitations, flow is metered, and the agreement contains language referencing and binding the SRSD to the Sewer Use Ordinance in the Michigan City Municipal Code.

3.5 Industrial Wastewater Permits

A list of permitted Industrial Users and their discharge locations is found in Table 3.1; and a summary of the monitoring data for 2010 is found in Table 3.2.

Table 3-1

Industrial Waste Pretreatment Permittee

Permittee	Permit #	SIC #	Cat. IU?	What Cat.?	Discharge Location	Sewer System
Triplex Plating, Inc 1555 E US 12 Michigan City, IN 4360-2004	001	3471	YES	413.14	manhole CD15	C
Vitamins, Inc. 1700 E. US Rt. 12 Michigan City, IN 4360	002	2041	no	N/A	manhole CFD22	C
Dept. of Water Works Treatment Plant 111 Lakeshore Drive Michigan City, IN 4636	003	4941	no	N/A	manhole C16	C
Lyon Workspace Products (Michigan City Storage Solutions) 1000 W. Barker Ave Michigan City, IN 46360	004	2542	YES	433.17	manhole AQV11	A
Midwest Custom Finishing 800 Royal Road Michigan City, IN 46360	005	2851	YES	433.17	manhole ANZ50	A
Waste Inc. Landfill RD/RA Group 1701 E. Hwy 12 Michigan City, IN 46360 O&M Contractors: LFR Elgin, IL 60123-6302	006	N/A ***See Note***	no	N/A	manhole on 8th St. & Winding Creek Cove	A
Federal-Mogul Corporation 402 Royal Rd Michigan City, IN 46360-2795	008	3714	YES	433(A).17 464.46(a)and(d) 428(F).66 428(J).106	Unnumbered manhole at FM's private line & District's line to Karwick LS N of property	A
Sullair Corporation 3700 East Michigan Blvd Michigan City, IN 46360	010	3563	no	N/A	unnumbered manhole on SE corner of property	A

Unused Permit Numbers:

#007 Blocksom; operational but no process flow.

#009 Previously Anderson Co. (Anco); out of business. Facility occupied by Federal-Mogul, permit #008.

NOTE: Closed superfund site, refer to www.epa.gov/region5superfund/npl/indiana/IND980504005

Table 3-2

Industrial Permit No.:		1	2	3	4	5	6	8	10
Industrial User:		Triplex Plating, Inc.	Vitamins, Inc.	Department of Water Works – Water Treatment Plant	Lyon Workspace Products	Midwest Wheelcoaters	Waste Inc. Landfill	Federal-Mogul Corp.	Sullair Corp.
Parameter	Units	Avg.	Avg.	Avg.	Avg.	Avg.	Avg.	Avg.	Avg.
Daily Flow	MGD	.048	.009		.0092	.0043	.0145	.036	.0009
pH (high/low)	SIU	9.9/8.5	7.73/5.75	7.4	7.0/6.9			9.5/7.2	9.4/8.3
Arsenic, t	mg/l								
Cadmium, t	mg/l	.007			.006	.006		.006	
Chromium, t	mg/l	1.29			.020	.057		.013	
Copper, t	mg/l	.037			.126	.016		.030	
Lead, t	mg/l	.193			.129	.132		.059	
Mercury, t	mg/l						<0.00020		
Nickel, t	mg/l	.026			.205	.023		.035	
Silver, t	mg/l				.003	.003		< 0.040	
Zinc, t	mg/l	.634			.117	.064		.048	
Total Metals	mg/l	1.843							
Oil & Grease	mg/l		39.5					5.0	13
Cyanide, t	mg/l	< 0.01			< 0.01	< 0.01		.007	
TTO	mg/l								
TPH	mg/l		5.6						6.2
non-TPH	mg/l		77						21
PCB's	mg/l						< 0.0008		
Ammonia-N	mg/l			.38			46.9		
TSS	mg/l			13					
TBOD5	mg/l								
Cl2 Res.	mg/l			.17					

All industrial users were in compliance with categorical and local pretreatment standards during 2007 and 2008. Since the only remaining CSO outfall is the Storm basin, NPDES Permit Outfall 002A, there is no significant impact on CSOs by industrial users.

Additionally, industrial users do not discharge storm water to the sanitary or combined sewer systems in Michigan City.

3.6 Analysis of System Capacity

An analysis of treatment plant influent flows versus average daily and peak hourly design flows was conducted in 2007 and updated in January 2008 as part of master planning for the next 20-year cycle. APPENDIX H has a summary table containing that data.

From the data, two conclusions can be drawn: first, for most months with heavy rainfall, the maximization of flows through the treatment plant can result in a monthly average flow in excess of the average daily design flow and over 80% of the peak hourly design flow; and second, despite an active program to separate combined sewers, there remains a significant wet weather impact on the treatment plant flows.

Master planning is ongoing and will attempt to address these issues and the need for continued combined sewer separation, infiltration and inflow control measures, and treatment plant improvements, including an increase in peak hourly design flow.

4 Maintenance

4.1 Source Controls

Technology-based controls, also known as the nine minimum controls, are designed to minimize the impact of combined sewer overflows on the water quality of the receiving water body by utilizing source control and collection system controls. These include pollution prevention programs, pretreatment programs, and proper operation and maintenance of the collection system to minimize the duration of overflows and maximize flow to the treatment plant. Since all the collection system overflow points have been eliminated, the technology-based controls result primarily for maximization of flows for treatment.

4.2 Identification of Sewer System Problem Areas

Sewer system problems are identified from various sources: telephone requests for service (this is the most common means); citizen complaints by email, walk-ins, meetings, etc.; information transferred from and generated by other Municipal Departments; and District generated work orders resulting from in-house inspection and maintenance programs.

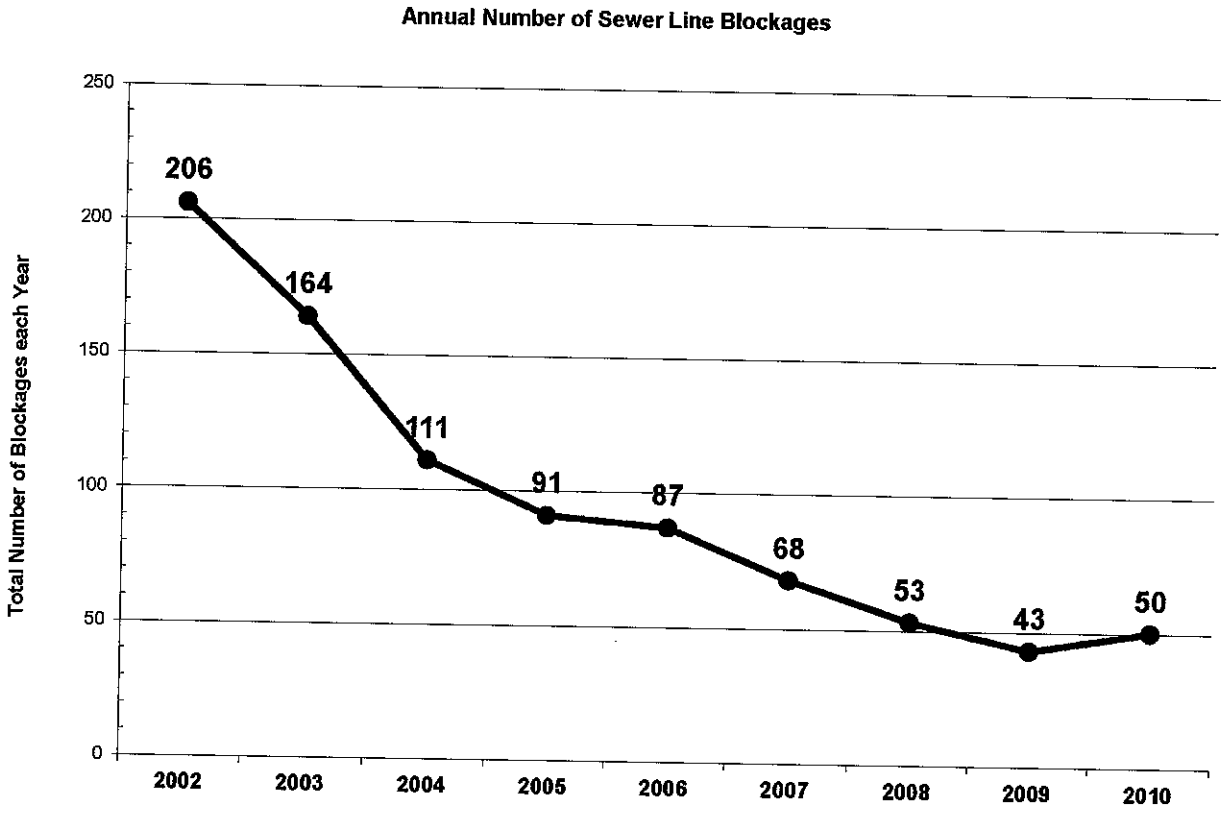
Data on sewer system problems is tracked using an in-house two-section paper Work Order system and entered into a MS Access database designed in-house to track Work Orders (see APPENDIX I). Identified problems are recorded on Section I of paper work order and dispatched to work crews by radio from the dispatcher or by management assignment. The work crew generates a Section II paper Work Order which is turned in at the end of the day to the District Foreman who examines the work order for completeness and notes additional work which may be required. If additional work is required, the Work Order is not turned in as completed. The District Foreman turns in Section II paper Work Orders to the Dispatcher who combines the Section I and Section II and enters the data into the Work Order database. The paper Work Orders are filed by year and stored. The computer database is archived for reference use and is backed up by the IT department on a regular basis.

The District Collection System Foreman and the Field Operations Supervisor review the data to determine the location of problem areas. A monthly and yearly report of Work Orders is printed and reviewed by the Field Operations Supervisor for analysis of trends and problem areas. A special emphasis is placed on the incidents of sewer blockage and the reduction of these incidents by increased preventive maintenance or other means of reducing the occurrences. These records are kept by the Field Operations Supervisor.

After reviewing the information from the work summary report and Work Order database report, the Field Operations Supervisor notes any duplicate location or repeated calls to a specific area and the cause of the sewer system problem (grease, debris, sand, roots, failed pipe, etc.) and determines an appropriate action to resolve these problems. If the problem resolution requires more than one isolated action, the problem is added to one of three monthly activity logs (Jet, Cut, or Vacuum) for repeated corrective action to resolve the problem. The monthly activity logs are generated at the beginning of each month and are

assigned to collection crews by the District Foreman. Completed monthly logs are filed for future reference and analysis to determine if the location remains on the monthly log for repeated action.

A summary of annual line blockages from 2002 through 2010 is provided below, there were 52 such plugs in 2011.



4.3 Street Cleaning

Street cleaning, to remove debris, dirt, and dust, is used to reduce the source of storm water related pollutants. The majority of the street contaminants are soil and asphalt erosion, automobile contaminants, and sand (due to our area). Street cleaning is accomplished by mechanical broom sweepers. Mechanical broom sweepers loosen dirt from the street surface and collect it in a temporary hopper. The Michigan City Street Department cleans the City streets weekdays from early spring to late Fall, when the dangers of freezing are not present. The City of Michigan City has two street sweepers in use. The City is split into three sections. Both sweepers work in the same section and complete all streets in the section within a week. Each section is repeated every three weeks.

4.4 Catch Basin Cleaning

A catch basin is a chamber well which accepts street surface water and discharges into a sewer. The catch basin has a sediment sump at this base which traps some of the coarse debris and grit from the surface water. This minimizes sewer clogging and reduces the amount of pollutants which may enter and eventually settle out in the sewers. Cleaning of these catch basins prevents accumulation of sediment which can become re-suspended and enter the sewer with the basin overflow.

The District is currently building the primary GIS layer of sanitary sewer manholes. Initial data acquisition for approximately 95% of the system has been completed. As this data is overlaid on a base map, another pass will be made to televise/inspect the manholes; obtain inlet and outlet sizes and directions; and televise/inspect the inlet and outlet piping. In the combined sewer areas this will include catch basin mapping. An enumeration of catch basins at street intersections is available; however, it has not been evaluated for completeness or relationship to the combined sewer areas. The list of catch basins will be compared to the map of combined sewer areas and the number of catch basins will be noted on the map. Field personnel know the location of all catch basins, but the information must be put on a map.

The Sanitary District of Michigan City currently uses crews consisting of two or more individuals to clean and vacuum sewers. The crews use combination jet/vacuum trucks to accomplish these tasks.

For street safety in winter driving conditions, the City of Michigan City has routinely used salt mixed with an organic beet juice (proprietary) mixture rather than sand.

Street inlet discharge pipes to the downstream sewer are generally unrestricted. However, there are recently installed flow restrictors in catch basins at South and Lafayette Streets and on Loran Road and Frey Court. These restrictors successfully prevent surcharging of the combined sewer during heavy rains. Both of these combined sewer areas are scheduled for

separation. Other restrictors will be enumerated as the manhole/catch basin inspection is completed. The street drain with restrictor at Loran Road and Frey Court was physically disconnected from the sanitary sewer system in 2008 as part of the Lake Hills Strom Sewer Project.

4.5 Sewer Flushing

The dry weather deposition of solids in sewers is a major cause of the "first-flush" phenomenon. The average dry weather flow velocities are inadequate to keep solids suspended, especially where sewer grades are flat. Up to 30% of the total collected solids may be deposited in combined sewers. Periodic sewer flushing can remove and transport the material to the treatment plant before a storm event washes it into a receiving stream via an overflow. Sewer flushing also maximizes the hydraulic capacity of the sewer for wet weather flows.

It was the goal of the Sanitary Disrtict of Michigan City to have all sanitary and combined sewers are cleaned or inspected once every three years. Unfortunately, the Sanitary District has not met this goal. The Sanitary District is currently developing a sewer cleaning schedule that will provide for adequate maintenance and cleaning of all sewers within our jurisdiction. Sewers are also cleaned when a plug or blockage is found in the sewers system.

Data on sewer system Preventive Maintenance is tracked using a MS Access database designed in-house to track this work. The database is archived for reference use and is backed up by the IT department on a regular basis.

When sewer cleaning is conducted it consists of flushing unless an excessive amount of debris is noted by the crew. If debris is noted, the line is vacuumed while flushing. All District flushing vehicles are combination jet/vacuum units.

Records are kept on sewer blockages and reviewed in accordance with the procedures described in Section 5.1.

Sewer televising is accomplished on an as-needed basis. For 2008, the District goal was to video inspect 20 miles of sewers, or about 10% of our overall system (see Section 6.2). The Sanitary District is currently developing a sewer system Video inspection schedule that will provide for adequate inspection of the sewer system.

The sewer system is currently mapped into 36 sections. There are 3 sewer trunk sections mapped by route to the treatment plant. Section A, roughly the City's south and east side, feeds the 72" sewer; section B, roughly the west and central City side, feeds the 54" sewer; and section C, the north side, feeds into the 54" at the E Street Bridge.

Appendix E contains Collection System SOP PM.2, "Manhole Inspection", which details the process for the District's manhole inspection program. Through 2009, 228 detailed manhole

inspections have been completed. This represents approximately 8% of our system's total number of manholes. An additional 312 manhole inspections were completed in 2010. Thus far, approximately 20% of the system's manholes have been inspected using SOP PM.2, and the District completed additional inspections in 2011.

4.6 Lift Stations

The Sanitary District of Michigan City Plant Maintenance staff maintains the lift stations on both an emergency and preventative maintenance basis. Corrective maintenance is preformed on an as-needed basis, twenty-four hours a day. For corrective maintenance, the response is determined by the type of alarm telemetry at the individual lift station. In 2005, the Sanitary District began a five year project to convert lift station telemetry from a general alarm/no alarm monitoring to real time cellular telemetry with digital and analog inputs. The District selected Mission Communications, Inc. to provide the telemetry system. The Sanitary District of Michigan City has installed the real time cellular telemetry on all of the District's lift stations[5]. This work was completed in 2009. The lift stations now have digital signals for each pump that indicate pump run/off, pump normal/fail, wet well normal/low level, wet well normal/high level, power normal/fail, and backup float control on/off. These lift stations also have an analog input for wet well level. All data is fed to a password protected website and to the Sanitary District's SCADA system through an OPC link. Alarm conditions are visually displayed on the website and SCADA screens and real-time updates are transmitted to the SCADA system. The Sanitary District is currently working on improving the interface between the Mission Communications, Inc. system and our SCADA system.

The Mission equipped lift stations transmit enough data to allow the Operations or Maintenance Staff to make intelligent decisions on the nature of the alarm and priority of the response. For example, if a pump failure alarm is received, but the wet well level is being maintained by the other pump(s), then maintenance personnel may not be dispatched until the next regular work day. APPENDIX J contains an example of an individual lift station screen, the general screen for alarm identification and the Lift Station Response Report.

For preventive maintenance, lift stations have been assigned to four groups. Each group is scheduled for inspection a minimum of once quarterly; and more frequently as other tasks permit. The data from the inspection is entered into a MS Access database; see section 5.1.1. Physical inspections are primarily for wet well conditions, condition of pressure transducer and backup float switches, test of the alarm system, and general condition of the wet well. The conversion of the lift station telemetry to real-time, with pump status and wet well level data, has permitted the Sanitary District to reduce the frequency of scheduled inspections.

[5] Although the Sanitary District of Michigan City does not own or operate the Beachwalk Lift Station it is equipt with the Mission Communications, Inc. telemetry equipment.

4.7 Repairs

4.7.1 Catch Basins

Catch basins are repaired on an as needed basis determined by the procedure described in Section 4.2.

4.7.2 Manholes

Manholes in Michigan City are generally in good condition. Degraded manholes are prioritized and repaired according to the manhole inspection SOP (see appendix E). Also, during storm water separation and street reconstruction projects degraded manholes are replaced with new pre-cast concrete manholes.

4.7.3 Sewers

Sewers, whether storm, sanitary or combined, are scheduled for repairs on a priority basis, dependent upon the severity and available funding.

4.7.4 Lift Stations

The lift stations in Michigan City are rehabilitated or relocated as needed. In 2001, the Sanitary District adopted a Standard Lift Station Design, which has been used for new or relocated lift stations since the standard has been adopted. New or relocated lift stations in remote or critical areas are equipped with a natural gas-fueled permanent on-site generator.

5 Control Strategy

5.1 Information Services

As stated in section 4.4, the Sanitary District has begun utilizing GIS technology. Additionally, field observations are routinely entered into MS Access databases, which have been created in-house. This allows easy customization of reports and data sorting for the immediate data needs.

5.1.1 Recordkeeping

Record keeping consists of original blueprints, drawings and Mylar records; some conversion of those records to electronic copies; video tapes and electronic copies; and field paper records and electronic copies. All blue prints, drawings and Mylar records are kept in storage drawers in the Map Room or in the Collection Superintendent's Office. All drawings are listed in a key or index, which indicates the nature of the record (preliminary or as-built, drawing or Mylar), the year of the project, the project name, and the drawer number.

Data acquisition for GIS mapping is recorded on field data sheets and transferred directly to a database periodically.

Requests for service, complaints and problem notification from other City Departments are recorded on a Work Order and are entered into the proper database by the District Administrative Staff. After the problem has been investigated and resolved, the database record is updated by the same staff. This permits the tracking of Work Orders that are still unresolved. See section 4.2 for a more detailed description.

Manhole inspections, as stated in section 2.2.4, are recorded in the field and later entered directly into the GIS database.

Video records, especially the electronic versions, are found on the Sanitary District's internal network. This is also true for the 36 section maps that comprise sewer areas A, B, and C (see section 4.5).

Lift station corrective and preventive maintenance activities are recorded by the maintenance crew on the proper form and later entered into a lift station database by the Plant Superintendent. Additionally, individual electric and natural gas bills are entered into a separate database for evaluation periodically by the Plant Superintendent for trends that might indicate a developing problem.

Finally, lift station alarms are maintained in two separate databases: the first is an integral part of the Wonderware SCADA system, and the second is part of the service provided by Mission Communication, Inc. The Wonderware SCADA has a maximum storage time of six

months. Consequently, the Plant Superintendent periodically reviews the data and converts critical records to MS Excel or JPEG files for permanent storage. While the maximum holding time for alarms and other stored data in the Mission databases is unknown, it is assumed that there is a time limit, so records are saved frequently, depending upon need. Lift station daily pump starts, pump run times, estimated flows (determined by pump down tests), and rain data are compiled weekly by the Plant Superintendent into a report.

5.1.2 Availability

Ultimately, all collection system data will be stored electronically and available to all collection system personnel and other Sanitary District personnel. Currently, while there is no restriction on access to blueprints and drawings, administrative, superintendent, and foreman level personnel generally utilize these resources. Mylar drawings are not distributed for protection of this resource.

Electronic versions of the 36 section maps are available to all personnel through a workstation computer and are located in an unrestricted shared directory on the internal network. Two workstations are located in the Collection System Building break room for use by Collection System Personnel.

In addition, electronic versions of video records from sewer televising are available to all Collection System Personnel through a web server.

The manhole inspection database is also accessible by all Collection System Personnel through a web server.

Currently, the database for lift stations and electrical usage are available to the Plant Superintendent and Assistant Plant Superintendent. While located on a shared directory, both databases are password protected to prevent accidental corruption. Eventually, a security hierarchy is envisioned to open these records to the maintenance staff.

All Wonderware and Mission alarm databases are accessible by maintenance, operations, and plant supervisory staff. Plant Maintenance crews are equipped with laptops and wireless internet access to view real time status of the lift stations while in the field. These laptops can also be used to access the Mission alarm database when troubleshooting the cause of an alarm at a Mission equipped lift station.

5.1.3 Analysis of Data

As indicated previously (Sections 2.2.4, 4.2, 4.4, 4.5, and 5.1.1), data is collected, compiled and evaluated by the proper personnel for: daily work assignments; identification of developing or actual problems; troubleshooting; and planning.

When problems arise that require cooperation between area superintendents, the issue is discussed openly and cooperatively. Weekly lift station reports are used to identify problems with pump start frequency and run time duration; potential I/I problems; and reserve capacity at Mission equipped lift stations. Often the analysis results in a cooperative, corrective effort between areas of responsibility.

5.2 Precipitation Monitoring

5.2.1 WWTP Weather Station

The Sanitary District wastewater treatment plant has a Davis Instrument Corporation, Model Vantage Pro2 Plus, with rain gauge, wind speed and direction, and barometer. The rain gauge measures rainfall in 0.01inches. Weather data is collected every 15 minutes and recorded in a proprietary database. Data is exported to MS Excel worksheets on a periodic basis for permanent storage and analysis. MS Excel worksheets are stored on a shared directory in the Sanitary District internal Network and are accessible by all employees through their workstations. The proprietary database is accessible by the Plant Superintendent.

5.2.2 Location of Other Rain Gauges

Rain gauges capable of measuring 0.01 inch of precipitation are located at four lift stations within the Sanitary District's service area (see Figure 5-1). The four locations were chosen to split the service area into quadrants and use the appropriate gauge for determining precipitation impacts on individual lift stations or a hierarchy of lift stations. Data is stored on the Mission web site and accessible to key personnel by password. Data is downloaded into MS Excel spreadsheets for analysis of storms and impacts on the collection system, the treatment plant and storm basin.

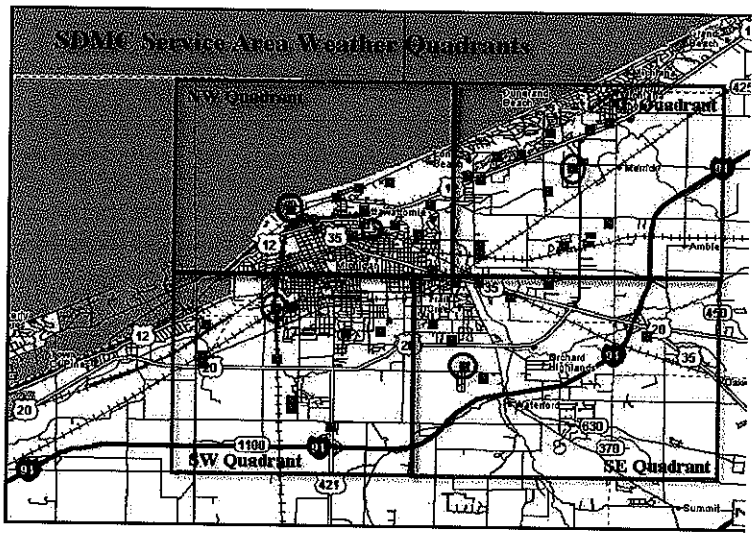


Figure 5-1

5.3 Preventive and Scheduled Maintenance

5.3.1 Catch Basins

Catch basins in remaining combined sewer areas are inspected and cleaned as necessary under the same inspection program. Certain special catch basins, approximately 50, in the "School Street Project" are cleaned and inspected annually as they were designed with deeper sumps in lieu of end-of-pipe storm water BMPs for that project. These catch basins are also treated for vector abatement. Similarly, catch basins on Lake Shore Drive are cleaned and inspected annually.

Problem catch basins are identified by supervisory review of the databases and are cleaned more frequently. In addition, catch basin cleaning occurs as preventive maintenance before anticipated precipitation events and when street flooding is reported by citizens or other City Departments. Also, we developed a list of catch basins and areas that have been historically identified as trouble areas for standing water, in the event that these catch basins were plugged with debris (leaves) or blocked via ice dam buildup. These locations generally tend to be at the low point in a 'bowl' area. The list is called "Rain Event Hot List and Winter Thaw". The catch basins or areas on this list are cleaned and or inspected before, during and after a rain event or winter thaw. Catch basin repair and replacement occur as needed.

5.3.2 Manholes

All manholes are inspected on a ten-year cycle. Manholes are cleaned as necessary under the inspection program or as required while resolving a problem under a Work Order. Problem manholes are identified by supervisory review of the databases and are cleaned more frequently.

Also, visual 'flow checks' are intended to be completed on all manholes within a three year cycle to check for and guard against the potential for debris buildup in the collection system. In addition, we have identified a list of "NINE CRITICAL MANHOLE INSPECTIONS" where we assess the flow levels three times a year coming from our three major drain areas, Sewer System A, B and C. As we collect data over time, we can prepare a comparative analysis to determine if there are any significant changes that may need to be addressed. The Field Operations Supervisor maintains this data. This is a manual process at this time and we will evaluate options to convert this to a real time sewer level monitoring system.

5.3.3 Sewers

As stated in Section 4.5, current practice is to clean and/or inspect, for preventive maintenance, all sewers every three years.

5.3.4 Lift Stations

Preventive and scheduled maintenance for lift stations is described in Section 4.6.

5.4 Conventional Combined Sewer System Controls

5.4.1 Side-by-Side Weirs

5.4.1.1 Status

The side-spill weir is constructed parallel to the combined sewer axis to divert flow from the interceptor. Excess flow passes over the side spill weir into the outfall sewer. The weir should be set to hold back peak dry weather flow, as well as to maximize the use of interceptor capacity during wet weather. This regulator may be used for any volume flow. All side-by-side weirs along the Fourth Street box sewer have been sealed; see section 2.5, Table 2-4.

5.4.1.2 Inspections

The Fourth Street Box weirs were inspected in November 2010, June 29, 2011, and this activity will be planned annually.

5.4.1.3 Remedial Action Plan

If a breach in the permanent seal is found at any of the former side-by-side CSO points in the Fourth Street box sewer, it will be resealed immediately and documented with additional photographic evidence. In 2010, remedial work was performed on three of the Fourth Street Box weirs to improve the seal on the weirs.

5.4.2 Inverted Siphons

5.4.2.1 Status

The use of internal self-priming siphons has been limited in Michigan City due to the fact that sand accumulated excessively in these siphons and is a major maintenance problem. Inverted siphons are located in the City in the locations indicated below[6]:

(2) siphons under Trail Creek just west of E Street Bridge: Status Active

(1) siphon in alley to east E Street alley between Union St. and Emily St.; conflict with water main; 8": Status Active

[6] An Inverted Siphon is not actually a siphoning mechanism. It is merely a dip or u-shaped portion of the sewer that travels under a creek or structure, with a lower invert on the downstream side than on the upstream side. He head pressure of the water in the sewer pushes the water through the u-shaped portion of the sewer and downstream.

(1) siphon in alley to east of Emily Street between Emily St. and Miller St.; conflict with water main; 10": Status Active

(1) siphon on Grand Avenue between Gladys St. and Roeske Ave.; conflict with water main; 24": Status Active

(1) siphon in line between Wolf Ave. and Rogers Ave.; conflict with stream; 8" : Status Active

(1) siphon on U.S. Highway 20 line at east side of Terrace Acres at Terrace Acres; conflict with ditch; 12": Status Active

(1) siphon at manhole B17 West side of 4th Street, closed CSO #18: Status Inactive

(1) siphon at manhole B16 East side of 4th Street, closed CSO #19: Status Inactive

5.4.2.2 Inspections

Siphons are inspected as part of the sewer inspection program identified above.

5.4.2.3 Remedial Action Plan

If siphons are found to have problems, the cleaning frequency is increased by supervisory review of database records.

5.5 Semi-Automatic Regulators

5.5.1 Cylinder Operated Gates

5.5.1.1 Status

Generally, Michigan City has decided to use electrically operated gates in lieu of cylinder operated gates for flow diversion. There is one cylinder operated gate at the headworks of the Stormwater Control Building. In the event of a power failure, the gate automatically closes, which bypasses the bar screen and diverts the storm flow through the 72-inch sewer to the second storm basin.

5.5.1.2 Inspections

Whenever there is a power loss at the wastewater treatment plant, the operations staff inspects the position of this gate.

5.5.1.3 Remedial Action Plan

Once power is restored, if the gate has closed, the operations staff will open the gate.

5.5.2 Motor Operated Gates

5.5.2.1 Status

Michigan City utilizes numerous motor operated gates for flow diversion and overflow at the sewage treatment plant. Section 5.8.1 explains the operation of these gates in detail, as they impact the CSOOP.

5.5.2.2 Inspection

Gates are inspected and maintained by the plant maintenance staff on a periodic basis.

5.5.2.3 Remedial Action Plan

Gates are controlled by a Programmable Logic Controller and are critical to the operation of the treatment plant and storm water management. Consequently, corrective and preventive maintenance is considered critical and of highest priority.

5.5.3 Tide Gates

5.5.3.1 Status

The purpose of tide gates (including backwater gates and flap gates) is to protect intercepting sewers and collecting sewers from high water levels in receiving waters. The gates open and permit discharge at the outfall when the flow in the sewer system regulator chamber produces a small differential head on the upstream face of the gate. A flap gate, or tide gate, was discovered at the intersection of Sixth Street and Willard Avenue approximately 12 years ago. It is a flapper valve from the 27" "Prison" line to the 8'x10' (4th Street) box storm sewer.

5.5.3.2 Inspection

The flapper is forced closed with wood cribbing and checked periodically. Examination of the flapper in 2008 confirmed that the flapper remained closed.

5.5.3.3 Remedial Action Plan

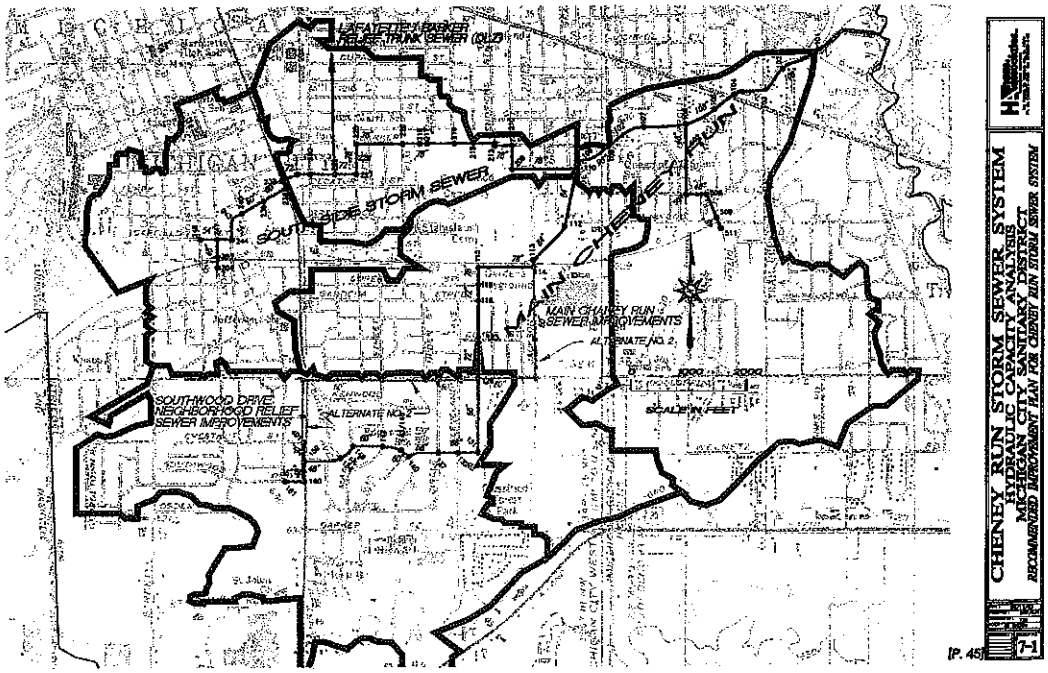
If needed, the flapper will be re-secured as an emergency and high priority task.

5.6 Modeling

The modeling that was completed for the approved CSOOP was valid for that time period and led to the mid-1980's upgrade of the treatment plant and various sewer separation projects. The most recent modeling effort was conducted in 2003 by Haas & Associates, LLC for the Cheney Run storm sewer drainage basin in preparation for separation of the combined sewers in the Lafayette-Barker area of Michigan City. A model was created using VISUAL SWMM, version 7.0, to simulate existing flow within the drainage basin and to evaluate the impact of creating a new storm water outfall to Trail Creek in order to remove the anticipated additional flow from the Lafayette-Barker combined sewer area.

The model was calibrated by flow data collected by a 2-year, 1-hour storm. The model indicated that the Cheney Run storm sewer system was operating at an acceptable level, with four subsystems operating below the 10-year, 1 hour standard. However, the operation was classified as acceptable due to the lack of significant storm water problems in the drainage basin. Under a separate contract, DLZ, Inc. concluded that up to 150 CFS of storm water could be re-directed to a new outfall on Trail Creek. The drainage basin was remodeled with the new outfall and all portions of the Cheney Run storm water system met the standard 10-year, 1 hour service level.

The model indicates that a new storm water outfall must be constructed prior to any separation of combined sewers in the Lafayette-Barker area. The Sanitary District is developing a phased project for construction of that outfall and eventual separation of the combined sewers in that area.



5.7 Maximization of Storage Capacity in the Collection System

5.7.1 General

Procedures to maximize the use of storage capacity of the combined sewer system would be difficult to implement. The Michigan City sewer system is extremely old and sewer separation has proceeded as funding is available and when excessive flooding in an area has prompted the construction of new storm sewers. The use of combined sewers as a storage device results in additional sewer cleaning. Material settlement increases with this type of use.

5.7.2 New or Existing Lift Stations

As sewer separation projects have progressed, sanitary sewers have been added to unsewered areas within Michigan City and wastewater from adjoining communities has been accepted. Often this requires a lift station. When a new lift station is constructed, the on/off levels for pumps are set to safely balance the risk of surcharging the lift station's sewer system with frequency of pump starts and duration of pump run time. With the conversion from alarm/no alarm telemetry to real time telemetry, data was collected which permits adjustment in those level set points to balance these concerns more efficiently. In the case of Tinkers Dam, Freyer Road, and Beachwalk Lift Stations, this has resulted in the utilization of the collection system for storage in order to reduce the frequency of pump cycles and extend the pump run time per cycle.

5.8 Maximization of Flow through Treatment Plant

5.8.1 Process Description

In the mid-1980's, a 54" combined sewer influent line at the treatment plant replaced an existing 42" sewer. This new 54" combined sewer terminated at the old Wet Weather Flow Diversion Structure. The 54" sewer capacity is 35 MGD.

During that same project, the 72" influent line to the treatment plant was extended to the Storm Basins and the 72" overflow was eliminated.

A major impact on treatment plant operations was a result of the Headworks Improvement Project. That project was substantially complete on July 26, 2006, and final completion was November 2006. The project included replacement of bar screens, grit removal, influent pumps, flow control systems and the main switchgear. Since existing equipment was replaced, the new equipment and facilities were phased into operation. The Headworks Process Diagram is presented in Figure 5-2, and Table 5-1 discusses the operations of each stage.

The main advantages of the new headworks are reliability in equipment and power; automatic flow control, with redundant control sensors; elimination of artificial backups in

the 54-inch trunk sewer that were created by the hydraulic design of the old headworks; and maximization of flows through the treatment plant prior to diversion to the storm water basins.

As stated, as a result of the new bar screens and removal of overflow weirs at the end of the old grit channels and prior to the storm bar screen, the normal level of wastewater in the 54-inch trunk sewer dropped significantly. This created two opportunities: first, the ability to determine if a diurnal pattern exists at the treatment plant for dry weather periods; and second, if said pattern exists, to use the diurnal pattern to assist in evaluating the potential impact of wet weather events.

One of the nine minimum technology-based controls requires flow maximization through the wastewater treatment plant. As discussed previously, the treatment plant has an average daily design flow of 12 MGD and a peak hourly design flow of 15 MGD. The 2006 modification to the Sanitary District's NPDES permit requires maximization of flows prior to (or concurrent with) the diversion to the storm retention basins.

Figure 5-2 **Headworks Process Diagram**

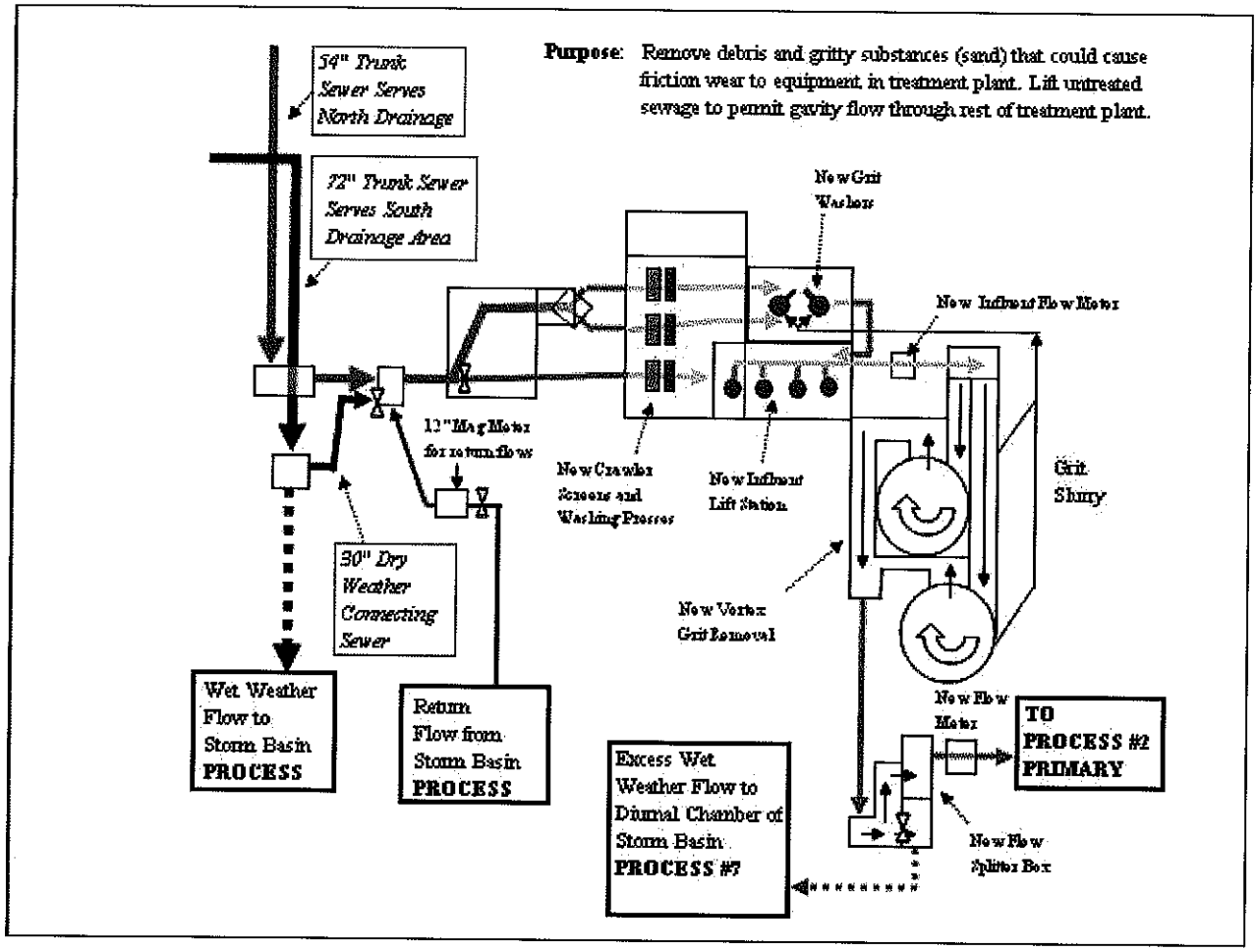


Table 5-1

Screenings	There are three hydraulic driven crawler screens with 5/8 inch bar spacing. Each bar screen is rated at 15 MGD. Two are used in dry weather and the third is used for wet weather flows. Additionally, each bar screen discharges to a screenings press that washes the material and compresses the washed screenings into a cake, reducing the water content substantially. Washed screening are discharged into 90 gallon refuse containers and ultimately picked up as municipal solid waste by the MC Refuse Dept.
Grit Removal	Sand and other inert material settles in the sumps of two 30 MGD vortex grit removal tanks. Periodically the grit slurry is pumped to two vortex grit washers that separate the grit from the slurry and use a screw conveyor to dry the grit and discharge it into 90 gallon refuse containers. The containers are dumped into a 3.9 yard trailer, which is used to transport the grit to the sludge storage area. Semiannually, grit is land applied with dewatered sludge.
Influent Pumps	Four VFD-driven vertical turbine pumps lift the screened wastewater to the vortex grit removal tanks. Each pump is rated at 15 MGD and the pump discharge rate is determined by wet well level as measured by a pressure transducer. All flows into the treatment plant are screened and receive grit removal prior to diversion, if required, to the diurnal storm basin [SEE FLOW CONTROL]
Flow Control; two trunk sewers feed the treatment plant: a 54-inch sewer and a 72-inch sewer	Dry Weather: all flows from the 54-inch sewer pass through bar screens 1 & 2. All flow in the 72 inch sewer enters the 54-inch sewer by a 30-inch connecting pipe. Light Wet Weather: All flows enter treatment plant in same manner and after passing through the vortex grit tanks flow to a new primary splitter box. Flow to the primary clarifiers is measured at this box and when that flow exceeds 15 MGD, a step modulated slide gate opens incrementally to maintain 15 MGD to the primary clarifiers. The gate is controlled by a programmable logic controller (PLC), which modulates the gate until the influent flow drops below 14 MGD.

Table 5-1 (continued)

Improvement:	
Flow Control (continued)	Moderate to Severe Storms: To prevent surcharging of the 54-inch sewer, the weir to the storm screen was removed and the wall was cut to the floor and a slide gate was installed. When the influent flow rate reaches 18 MGD OR the level differential between up and downstream of either bar screen exceeds 2 feet, the slide gate for the third bar screen automatically opens until the flow rate drops below 18 MGD. If the flow rate increases to 30 MGD or more, a modulating slide gate, which replaces the 30-inch pinch valve, closes incrementally to maintain the influent flow at 30 MGD. When that gate is partially or fully closed, a portion or all of the flow in the 72-inch sewer is diverted to the center storm basin. Both of the slide gates are controlled by the PLC.
Main Switchgear	Fully automatic flow control through PLC. Two banks of switchgear with a functioning automatic transfer switch from primary to secondary feed. Reliability of new equipment permitted the removal of the emergency plant bypass overflow weir.

5.8.2 Treatment Efficiencies

As a result of maximization, the flow through the treatment plant exceeds the average daily design flow for extended periods. Therefore wet weather events potentially have an impact on treatment efficiency. The following table summarizes the treatment capacity of each of the treatment stages.

Table 5-2

TREATMENT UNIT	"Ten States" STANDARD[7]	STANDARD VALUE	MCSD VALUE	MAXIMUM FLOW FOR UNIT PER STANDARD (MGD)
Climber Bar Screens				35.0
Pista Grit Channels				60.0
Influent Lift Pump				45.0
Primary Clarifiers	Surface overflow rate (SOR) @design flow tanks not receiving activated sludge gpd/sq ft	1,000	1,423	**8.4**
	SOR @design peak hourly flow tanks not receiving activated sludge	1,500	1,779	**12.7**
	SOR @design peak hourly flow tanks receiving activated sludge	1,200	1,779	**10.1**
Aeration Tanks	Organic Loading for extended aeration – single stage nitrification lbs BOD/d/1000 cu ft	15	**13 @ 7.7 MGD** **20 @ 12 MGD** **25 @ 15 MGD**	**14.0**
	F/M Ratio Lb BOD/d/lb MLVSS	0.05 – 0.1	0.055	
	MLSS (mg/l)	3,000 – 5,000	3,556	
Secondary Clarifiers	Extended aeration – single stage nitrification SOR gpd/sq ft	1,000		19.0
	Activated sludge w/chemical addition for phosphorus removal	900		17.1
Tertiary Sand Filters	Hydraulic loading gpm/sq ft	2.5-5.0 [1]	3.2 @12 MGD 3.9 @15 MGD	19.0 SOLIDS DEPENDENT

[1] Manufacturer's criteria.

Flows to the primary clarifiers that exceed 8 MGD also exceed the design capacity flow for that treatment unit. The secondary treatment unit has some excess capacity and therefore, can absorb the effects of less efficient primary treatment. One might expect the secondary and tertiary treatment stages to be strained under these conditions. However, the following Table 5-3 summarizes the treatment efficiencies for total suspended solids (TSS), biological oxygen demand (BOD5), ammonia as nitrogen, and total phosphorus for January 2007 through December 2009.

[7] Recommended Standards for Wastewater Facilities, 1997 Ed., Great Lakes-Upper Mississippi Board of State and Provincial Public Health Environmental Managers, Health Education Services, Albany, NY.

Table 5-3

Flow to Primary Clarifiers	<8 MGD		8-12 MGD		>12 MGD	
	MASS Lbs/Day	% Removal	MASS Lbs/Day	% Removal	MASS Lbs/Day	% Removal
TSS						
Influent	6,724		7,150		10,152	
Primary Effluent	2,945	56%	4,106	43%	5,085	50%
Secondary Eff.	330	39%	547	50%	940	41%
Final Effluent	151	3%	220	5%	428	5%
Overall Removal		98%		97%		96%
BOD5						
Influent	7,316		7,018		7,698	
Primary Effluent	4,288	41%	4,834	31%	5,210	32%
Secondary Eff.						
Final Effluent	142	57%	192	66%	53	64%
Overall Removal		98%		97%		96%
Ammonia-N						
Influent	805		791		776	
Primary Effluent	765	5%	846	-7%	859	-11%
Secondary Eff.	14	93%	12	105%	18	108%
Final Effluent	8	1%	9	0%	14	1%
Overall Removal		99%		99%		98%
Total Phosphorus						
Influent	185		185		212	
Primary Effluent	134	27%	157	15%	165	22%
Secondary Eff.	35	53%	42	62%	60	50%
Final Effluent	36	-1%	37	3%	51	4%
Overall Removal		80%		80%		76%

Clearly, the secondary and tertiary stages have been able to provide consistent treatment for elevated flows through the plant.

5.8.3 Storm Retention Basin

5.8.3.1 Storm Basin Operation and Performance

When the influent lift station flow exceeds 15 MGD (or different set point as discussed in Section 5.8.4 below), but is less that 30 MGD, diversions to the storm retention basins occur at the primary splitter box via PLC modulated gate valves. Those diversions are sent to the Diurnal Basin (see Figure 5.3).

When the influent lift station flow exceeds 30 MGD, then a gate on the 30-inch sewer connects the 72-inch trunk sewer with the 54-inch trunk sewer will modulate to limit the flow through the influent lift station to 30 MGD. Flows diverted by the closing or partial closure

of that gate, will be sent to the storm water control building for screening and discharge to Storm Basin #1.

When the diurnal basin reaches capacity, it will overflow into Storm Basin #1. Similarly, when Basin #1 reaches capacity, it will overflow into Storm Basin #2.

When the wastewater level in the diurnal basin covers the aeration header, the shift operator will manually turn on the blower to the diurnal basin. Similarly, the blowers for the aeration headers in Storm Basin #1 and #2 are turned on when the wastewater level in the respective basin covers the header. If the level in storm Basin #2 reaches within one foot of the discharge weir to the disinfection chamber, then the operator will turn off the blower for Storm Basin #2 and allow that basin to act as a settling chamber.

Once the storms have ended, and the plant influent pump station flow drops to 14 MGD, a modulating plug valve on the 12-inch return opens to permit automatic drainage of the storm basins to the plant headworks. The valve step modulates to maintain the influent pump station flow at 14 MGD. If that flow rate increases above that set point, the valve will close and the PLC will monitor the flow rate until it drops below the set point.

5.8.4 Maximizing Treated Flow and Treatment Efficiencies

The headworks are designed to maximize flows through the treatment processes at the peak hourly design flow capacity. This is done automatically through a programmable logic controller (PLC) which reads the flow meter for the raw pumping wet well (influent lift station) and the flow measurement for the primary clarifier influent. This controller automatically adjusts modulating gates to maintain the average flow to the primary clarifiers at a predetermined set-point.

During a storm event that would have the potential to fill the storm basins and/or likely cause an overflow at Outfall 002, the set point is kept at a value of 15 MGD. During small wet-weather events, the set point can be lowered to allow influent flow to enter the Diurnal Basin as designed.

The Diurnal Basin was constructed to allow for more uniform flow through the wastewater treatment facility when flows rise, during the course of a day. For example, if during the winter months snow melt occurs on a warm sunny day, or in drizzling type rain event that is predicted to quickly pass, flows may increase to a level near or slightly above 15 MGD. During this type of a wet weather event the set point may be lowered, for example to 13 MGD, in effort to enhance overall treatment, and some flow may be diverted into the Diurnal Basin. The stored wastewater will be treated through the treatment facility as soon as the influent flows subside.

The operational scheme calls for the Storm Basins to remain empty during dry weather, to be drawn down quickly after use, and to be used whenever influent flows increase to significantly high levels. Every effort is made to prevent a discharge from Outfall 002, by keeping the storm basins free of wastewater, and by maximizing flow prior to and during storm events that require the use of the Storm Basins.

All discharges are disinfected during the recreational season, April 1, through October 31, each year, as described in Section 5.8.4.2 below.

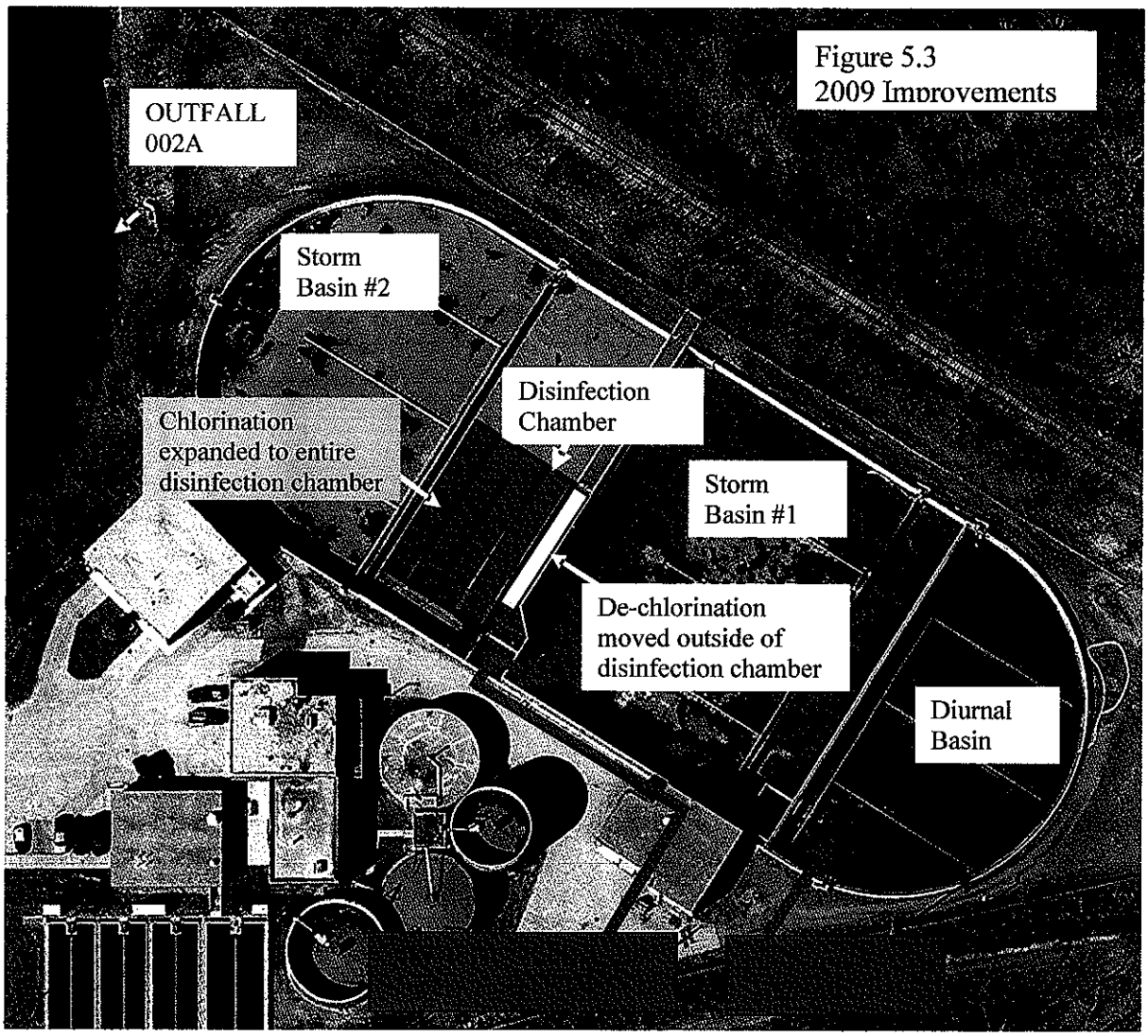
5.8.4.1 Overflow Occurrences

When Storm Basin #2 reaches the overflow weir to the disinfection chamber, the chamber fills and the wastewater overflows into a rectangular channel leading to a 96-inch diameter discharge pipe to Trail Creek. APPENDIX K lists the wet weather events for 2006 through 2007 that resulted in a significant use of the storm basins and/or a discharge from Outfall 002A. Of the fifty-two (52) significant events, only six (6) resulted in a CSO discharge. Note that the time required to empty the storm basins from the end of the storm varies widely over these events.

5.8.4.2 Disinfection of Discharge

The Sanitary District agreed to construct a disinfection chamber for Storm Basin #2 and the discharge through Outfall 002A, see Figure 5.3. The basin was designed to disinfect a maximum flow of 10 MGD for discharges of secondary treatment quality or 5 MGD for untreated wastewater. Disinfection is required for discharges from April 1st through October 31st. The disinfection chamber can hold 0.118 million gallons and flow is measured as the wastewater enters the disinfection chamber.

Figure 5-3



5.8.4.3 Monitoring Protocol

Storm basin influent flows are monitored in two places: the Primary Splitter Box Diversion and the 72-inch trunk sewer as it enters the Storm Basin Control Building. The former is measured by the difference between the plant influent pump station flow (48-inch magnetic flow meter) and the flow to the primary clarifiers (rectangular weir). The latter is measured by a velocity-cross section area meter. Return flow from the storm basins is measured by a 12-inch magnetic flow meter. Outfall 002A discharge flows are measured by a V-notch weir (0-5 MGD) and a rectangular weir (5-25 MGD) minus the volume of the disinfection chamber for the initial discharge date.

Actual plant influent flow is the sum of the 48-inch magnetic flow meter, the 12-inch storm return magnetic flow meter, and the 72-inch velocity-cross sectional area flow meter. Flows to the WWTP for treatment are measured by the rectangular weir at Primary Splitter Box.

Sampling requirements and frequency for the treatment plant are found in Table 2.5. All samples for Outfall 002A are grab samples once per day in accordance with Attachment A of the 2006 NPDES Permit Modification. Table 2.5 also contains NPDES Permit limits for plant effluent (Outfall 001B) and storm basin outfall (002A).

5.8.4.3.1 Data

Samples for Outfall 002A are taken within two hours after discharge begins. E. coli and chlorine residual samples are taken from April 1st through October 31st at two locations: immediately before the discharge from the disinfection chamber, and at the end of the rectangular channel just before the discharge flow enters the 96-inch diameter discharge pipe to Trail Creek. The former is for operational control and the latter is for NPDES Permit monitoring. All other permit parameters are sampled at the latter location. Samples for the second, third, etc day of discharge are taken during the normal day-shift (7:00 am to 3:00 pm) in the morning. Dissolved oxygen data is collected in the field with a YSI dissolved oxygen meter. All samples are held and preserved in accordance with 40 CFR Part 136.

APPENDIX L contains the data collected for Outfall 002A discharges from 2000 through 2009.

5.8.4.3.2 Observation and Reporting of Adverse Effects

All data for Outfall 002A are reported to the Indiana Department of Environmental Management monthly. All data within Table 9.2 meets acute water quality criteria for protection of Aquatic Life. Some the E. coli data exceeds the daily maximum limitation for protection of Full-Body Contact Recreation in Trail Creek. Efforts to bring the E. coli data into compliance are discussed in Section 5.8.3.3.

5.8.4.3.3 Public Notification

The public is notified at the earliest Sanitary District Board of Commissioners meeting and at the next scheduled meeting. A representative of the local newspaper is generally present at the meeting. Board meetings are recorded and available to the public at the following web site: http://www.alco.org/alcotv.html

5.8.4.3.4 Signage

As seen in this photograph, signage at Outfall 002A identifies the discharge as a CSO outfall.

5.8.4.3.5 Public Hearings

No Public Hearings have been held between 2000 and 2011 for CSO issues.

6 Schedule of Activities

6.1 Staffing

The Sanitary District staffing levels are currently under review in an effort to determine if they are adequate for completing the District's mission. Specifically, the current staffing level will be evaluated to determine if it adequate, for completing the tasks required by the CSOOP.

6.2 Collection System

The July 2011 submission of the CSOOP stated the following:

> The Sanitary District has two goals for sewer maintenance activities:
>
> A. Section 2.2.4 states all manholes and catch basins will be cleaned as needed; based on review of data, problem areas will be cleaned more frequently. Section 4.5 states that all sewers are inspected in a three year period; and,
>
> B. Current practice is to clean and /or inspect, for preventive maintenance, all sewers every three years. The current goal for manholes and catch basins is to conduct inspection on a 10 year cycle, or 20 miles per year.

It appears the all of these goals were not met, therefore, the Sanitary District is currently developing a sewer cleaning schedule that will provide for adequate maintenance and cleaning of all sewers within our jurisdiction. In 2012, the cleaning and inspection efforts have increased dramatically to date. The Sanitary District is identifying problem areas and dedicating crews to these areas on a regular basis. Management is currently considering implementing a contracted cleaning of the 54" main influent sewer and the Trail Creek Inverted Siphons. This work is estimated to range from $100,000 to $200,000 in cost depending upon how much work the District can accomplish on its own. It is expected that this work will be completed by mid-summer 2012. More frequent monitoring and cleaning of the 4th Street sewer has also been implemented.

6.3 Infiltration and Inflow Control Projects

For Clark Lift Station, manhole inspections with our portable video inspection equipment has been completed on portions of the upstream sewers. Sources of I/I have yet to be pinpointed and these activities will continue in 2010.

For sewers that drain into the Meadowdale and Evergreen Park Lift Stations, manhole inflow prevention dishes have been installed in low lying manholes in and adjacent to drainage ditches to reduce the amount of inflow that may be flowing into the sewers through the manhole covers.

Flow meters have been installed in the Meadowdale Subdivision to further define existing flow changes during wet weather events. Historical videotape inspection reports are also being examined to prioritize spot repairs in the Meadowdale sanitary sewer system for repair implementation in 2010.

6.4 Lift Station Upgrades

As indicated on the Lift Station Status Report, APPENDIX F, several lift stations need rehabilitation and/or relocation. The Sanitary District addresses these as part of financial planning. Henry Street lift station was postponed due to a higher priority for relocating the Ohio Street lift station. That lift station was relocated in 2009, with additional pumping capacities and the redirection of the discharge to a portion of the sewer system with greater capacity. Engineering for pump upgrades to the Kimball Woods Lift Station was completed in 2009; and the pump replacement at Beachwalk Lift Station was completed in 2009.

Preliminary engineering for replacement of the Trail Creek siphons with a lift station was completed in 2009, along with preliminary discussions on relocating Lake Avenue Lift Station. Both of these projects will help to alleviate hydraulic flow concerns during certain operating conditions in the B&E Marina sanitary sewer line along the stream of Trail Creek.

6.5 Treatment Plant Upgrades

Although the existing capacity of the treatment plant is adequate for flow maximization, Sections 3.6 and 5.8, anticipated future flows, Laporte County Master Planning, and age of existing plant led to the development of a Master Planning Study by McMahon and Associates, Inc., in 2007 for the next 20-year planning cycle. That study was reviewed by District staff and presented to the Sanitary District Board of Commissioners for their approval in 2008.

Under the proposed plan, the average daily design flow would remain at 12 MGD, but the peak hourly design would increase from 15 MGD to 18 MGD. This increase would permit

higher flows through the treatment plant during wet weather and potentially reduce or eliminate discharges from the Strom Basins (NPDES Permit Outfall 002A).

The proposed plan calls for increasing the peak flow by converting existing secondary clarifiers to new primary clarifiers; replacing the existing single-stage nitrification aeration system with aerated biological filters; replacing the existing shallow-bed sand filters with disc filters; switching from chlorine/dechlorination to UV disinfection; and rehabilitating the anaerobic digesters and gas storage equipment.

The proposed plan will permit the doubling of the average daily design flow in the future, without any need for additional land. That study was presented to the Sanitary District Board of Commissioners in 2008 and preliminary engineering was completed in 2009.

Final design engineering has not been initiated, and it is not anticipated that such work would be accomplished in 2012.

APPENDIX A

NPDES Permit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

VIA E[illegible]. MAIL

November 25, 2009

The Honorable Charles Oberlie, Mayor
City of Michigan City
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Dear Mayor Oberlie:

Re: Final NPDES Permit No. IN0023752
J.B. Gifford Wastewater Treatment Plant
LaPorte County

Your application for a National Pollutant Discharge Elimination System (NPDES) permit has been processed in accordance with Sections 402 and 405 of the Federal Water Pollution Control Act as amended, (33 U.S.C. 1251, et seq.), and IDEM's permitting authority under IC 13-15. The enclosed NPDES permit covers your discharges to Trail Creek. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires monthly reporting of several effluent parameters. Reporting is to be done on the Monthly Report of Operation (MRO) form. This form is available on the internet at the following web site:

http://www.in.gov/idem/5104.htm

You should duplicate this form as needed for future reporting.

Another condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may bring criminal or civil penalties upon the permittee. (See Part II.A.1 and II.A.11 of this permit). It is very important that your office and treatment operator understand this part of the permit.

Please note that this permit issuance can be appealed. An appeal must be filed under procedures outlined in IC 13-15-6, IC 4-21.5, and the enclosed public notice. The appeal must be initiated by you within 18 days from the date this letter is postmarked, by filing a request for an adjudicatory hearing with the Office of Environmental Adjudication (OEA), at the following address:

Office of Environmental Adjudication
Indiana Government Center North
100 North Senate Avenue, Room 501
Indianapolis, IN 46204

Please send a copy of any such appeal to me at IDEM, Office of Water Quality-Mail Code 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.

The permit should be read and studied. It requires certain action at specific times by you, the discharger, or your authorized representative. One copy of this permit is also being sent to your operator to be kept at the treatment facility. You may wish to call this permit to the attention of your consulting engineer and/or attorney.

If you have any questions concerning your NPDES permit, please contact Bill Stenner at 317/233-1449. Questions concerning appeal procedures should be directed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,

Bruno Pigott
Assistant Commissioner
Office of Water Quality

Enclosures
cc: LaPorte County Health Department
Mr. Daniel R. Olson, Certified Operator
Mr. Boyd Phelps, Sanitary District Board President
Mr. Alan J. Walus, General Manager
U.S. EPA, Region 5
NWRO

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), Title 13 of the Indiana Code, and regulations adopted by the Water Pollution Control Board, the Indiana Department of Environmental Management (IDEM) is issuing this permit to the

SANITARY DISTRICT OF MICHIGAN CITY

hereinafter referred to as "the permittee." The permittee owns and/or operates the **J. B. Gifford Wastewater Treatment Plant**, a major municipal wastewater treatment plant located 1100 East Eighth Street, Michigan City, Indiana, LaPorte County. The permittee is hereby authorized to discharge from the outfall identified in Part I of this permit to receiving waters named Trail Creek in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in the permit. The permittee is also authorized to discharge from combined sewer overflow outfalls listed in Attachment A of this permit, to receiving waters named Trail Creek in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: January 1, 2010.

Expiration Date: December 31, 2014.

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and application forms as are required by the Indiana Department of Environmental Management. The application shall be submitted to IDEM at least 180 days prior to the expiration date of this permit, unless a later date is allowed by the Commissioner in accordance with 327 IAC 5-3-2 and Part II.A.4 of this permit.

Issued on November 25, 2009, for the Indiana Department of Environmental Management.

Bruno Pigott
Assistant Commissioner
Office of Water Quality

TREATMENT FACILITY DESCRIPTION

The permittee currently operates a Class IV, 12.0 MGD activated sludge wastewater treatment facility consisting of bar screens, grit removal, primary sedimentation, activated sludge biological treatment including nitrification, secondary sedimentation, phosphorus removal, gravity filtration, chlorination/dechlorination facilities, reaeration and influent and effluent flow meters.

The collection system is comprised of combined sanitary and storm sewers with one Combined Sewer Overflow location. The CSO location has been identified and permitted with provisions in Attachment A of the permit.

The mass limits for $CBOD_5$, TSS, ammonia-nitrogen and total residual chlorine have been calculated utilizing the peak design flow of 15.0 MGD. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee shall take samples and measurements at a location representative of each discharge to determine whether the effluent limitations have been met. Refer to Part I.B of this permit for additional monitoring and reporting requirements.

1. Beginning on the effective date of this permit, the permittee is authorized to discharge from Outfall 001, which is located at Latitude: 41° 43' 00", Longitude: 86° 53' 03". The discharge is subject to the following requirements:

TABLE 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	Report	MGD	---	---	---	Daily	24-Hr. Total
$CBOD_5$	626	939	lbs/day	5	7.5	mg/l	5 X Weekly	24-Hr. Composite
TSS	751	1,127	lbs/day	6	9	mg/l	5 X Weekly	24-Hr. Composite
Phosphorus [2]	---	---	---	1.0	---	mg/l	5 X Weekly	24-Hr. Composite

TABLE 2

Parameter	Quality or Concentration: Daily Minimum	Monthly Average	Daily Maximum	Units	Monitoring Requirements: Measurement Frequency	Sample Type
pH [3]	6.0	----	9.0	s.u.	5 X Weekly	Grab
Dissolved Oxygen [4]	7.0	----	----	mg/l	5 X Weekly	3 Grabs/24-Hrs.
E. coli [5]	----	125 [6]	235 [7]	colonies/100 ml	5 X Weekly	Grab

TABLE 3

Parameter	Quantity or Loading: Monthly Average	Daily Maximum	Units	Quality or Concentration: Monthly Average	Daily Maximum	Units	Monitoring Requirements: Measurement Frequency	Sample Type
Ammonia-nitrogen								
Summer [8]	163	388	lbs/day	1.3	3.1	mg/l	5 X Weekly	24-Hr. Composite
Winter [9]	175	413	lbs/day	1.4	3.3	mg/l	5 X Weekly	24-Hr. Composite
Total Residual Chlorine Final[10] [11]	1.25	2.88	lbs/day	0.010	0.023	mg/l	Daily	Grab

[1] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once annually.

[2] In accordance with 327 IAC 5-10-2(b), the facility must produce an effluent containing no more than 1.0 mg/l total phosphorus (P) any month that the average phosphorus level in the raw sewage is greater than 5 mg/l. Otherwise, a degree of reduction, as prescribed below, must be achieved. Such reduction is to be calculated based on monthly average raw and final concentrations.

Phosphorus (P) Level in Raw Sewage (mg/l)	Required Removal (%)
greater than or equal to 4	80%
less than 4, greater than or equal to 3	75%
less than 3, greater than or equal to 2	70%
less than 2, greater than or equal to 1	65%
less than 1	60%

[3] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the minimum or maximum pH value of any individual sample during the month on the Discharge Monitoring Report forms.

[4] The daily minimum concentration of dissolved oxygen in the effluent shall be reported as the arithmetic mean determined by summation of the three (3) daily grab sample results divided by the number of daily grab samples. These samples are to be collected over equal time intervals.

[5] The *Escherichia coli (E. coli)* limitations apply from April 1 through October 31 annually. IDEM has specified the following methods as allowable for the detection and enumeration of *Escherichia coli (E. coli)*:

1. Coliscan MF® Method
2. EPA Method 1103.1 using original m-TEC agar.
3. EPA revised Method 1103.1 using modified m-TEC agar.
4. *Standard Methods* 20th Edition Method 9223 B using Colilert®

[6] The monthly average *E. coli* value shall be calculated as a geometric mean. Per 327 IAC 5-10-6, the concentration of *E. coli* shall not exceed one hundred twenty-five (125) cfu or mpn per 100 milliliters as a geometric mean of the effluent samples taken in a calendar month. No samples may be excluded when calculating the monthly geometric mean.

[7] If less than ten samples are taken and analyzed for *E. coli* in a calendar month, no samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. However, when ten (10) or more samples are taken and analyzed for *E. coli* in a calendar month, not more than ten percent (10%) of those samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. When calculating ten percent, the result must not be rounded up. In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.

[8] Summer limitations apply from May 1 through November 30 of each year.

[9] Winter limitations apply from December 1 through April 30 of each year.

[10]The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations (*E. coli*) do not occur from April 1 through October 31, annually. If the permittee uses chlorine for any reason, at any time including the period from November 1 through March 31, then the limits and monitoring requirements in Table 3 for total residual chlorine shall be in effect whenever chlorine is used.

[11]The monthly average water quality based effluent limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ) as specified below. Compliance with the total residual chlorine concentration limitations will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. For the purpose of calculating the monthly average value, the daily effluent values that are less than the LOQ may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for total residual chlorine is greater than or equal to the LOD value, but less than the LOQ value specified in the permit. Compliance with this effluent limitation will be demonstrated if the measured daily effluent concentrations are less than the LOQ. For daily maximum mass limitations based on WQBELs which are less than the LOQ value, compliance with the daily maximum mass value is based on the LOQ value. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 7.5 lbs/day.

At present, two methods are acceptable to IDEM measure total residual chlorine: amperometric and DPD colorimetric methods.

Parameter	LOD	LOQ
Chlorine	0.02 mg/l	0.06 mg/l

Case-Specific MDL

The permittee may determine a case-specific method detection level (MDL) using the analytical method specified above. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. Other methods may be used if first approved by the U.S. EPA and IDEM.

2. Minimum Narrative Limitations

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

a. including the mixing zone, to contain substances, materials, floating debris, oil, scum or other pollutants:

(1) that will settle to form putrescent or otherwise objectionable deposits;

(2) that are in amounts sufficient to be unsightly or deleterious;

(3) that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;

(4) which are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;

(5) which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

b. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

3. Additional Discharge Limitations and Monitoring Requirements

a. Beginning on the effective date of the permit, the effluent from Outfall 001 shall be limited and monitored by the permittee as follows:

TABLE 4

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Cadmium [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Chromium [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Copper [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	See [2] Below
Lead [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Mercury [1][3]	----	Report	lbs/day	----	Report	ng/l	2 X Yearly	Grab
Nickel [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Zinc [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide or Cyanide Amenable to Chlorination.

The following EPA test methods and/or Standard Methods and associated LODs and LOQs are recommended for use in the analysis of the effluent samples. Alternative 40 CFR 136 approved methods may be used provided the LOD is less than the monthly average and/or daily maximum effluent limitations.

The permittee may determine a case-specific method detection level (MDL) using one of the analytical methods specified below, or any other test method which is approved by IDEM prior to use. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. NOTE: The MDL for purposes of this document, is synonymous with the "limit of detection" or "LOD" as defined in 327 IAC 5-1.5-26: "the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix".

Parameter	EPA/Standard Method	LOD	LOQ
Cadmium	3113 B	0.1 ug/l	0.32 ug/l
Chromium	3111 C or 3113 B	2.0 ug/l	6.4 ug/l
Copper	3113 B	1.0 ug/l	3.2 ug/l
Cyanide, Free	4500 CN-G	5.0 ug/l	16.0 ug/l
Cyanide, Free	1677	0.5 ug/l	1.6 ug/l
Lead	3113 B	1.0 ug/l	3.2 ug/l
Mercury	1631, Revision E	0.2 ng/l	0.5 ng/l
Nickel	3113 B	1.0 ug/l	3.2 ug/l
Zinc	200.7, Revision 4.4 or 3120 B	2.0 ug/l	6.4 ug/l

[2] The maximum holding time is 24 hours when sulfide is present. Therefore, initially the CN sample should be a grab sample that is tested with lead acetate paper before pH adjustments in order to determine if sulfide is present. If sulfide is present, it can be removed by the addition of cadmium nitrate powder until a negative spot test is obtained. The sample is filtered and then NaOH is added to pH 12. The sample may then be analyzed within 14 days. Alternatively, if the permittee can demonstrate that the wastewater contains no sulfide, the permittee may collect a composite sample and analyze it within 14 days.

[3] Mercury effluent monitoring shall be conducted two times yearly for the term of the permit. Monitoring shall be conducted in the months of February and August of each year. Mercury monitoring and analysis will be performed using EPA Test Method 1631, Revision E. If Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method immediately after approval by EPA.

CASE-SPECIFIC LOD/LOQ

The permittee may determine a case-specific limit of detection or limit of quantitation using the analytical method specified above, or any other test method which is approved by the IDEM and U.S. EPA prior to use. The limit of detection shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.2 times the limit of detection. Other methods may be used if first approved by the IDEM.

4. Additional Monitoring Requirements

Beginning on the effective date of this permit, the permittee shall conduct the following monitoring activities:

a. Influent Monitoring

The permittee shall monitor the influent to its wastewater treatment facility for the following pollutants. Samples shall be representative of the raw influent in accordance with 327 IAC 5-2-13(b).

TABLE 5

	Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Unit	Measurement Frequency	Sample Type
Cadmium [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Chromium [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Copper [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [1]	----	Report	mg/l	Quarterly	See [2] Below
Lead [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Mercury [1][3]	----	Report	ng/l	2 X Yearly	Grab
Nickel [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Zinc [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide or Cyanide Amenable to Chlorination.

[2] The maximum holding time is 24 hours when sulfide is present. Therefore, initially the CN sample should be a grab sample that is tested with lead acetate paper before pH adjustments in order to determine if sulfide is present. If sulfide is present, it can be removed by the addition of cadmium nitrate powder until a negative spot test is obtained. The sample is filtered and then NaOH is added to pH 12. The sample may then be analyzed within 14 days. Alternatively, if the permittee can demonstrate that the wastewater contains no sulfide, the permittee may collect a composite sample and analyze it within 14 days.

[3] Mercury influent monitoring shall be conducted two times yearly for the term of the permit. Monitoring shall be conducted in the months of February and August of each year. Mercury monitoring and analysis will be performed using EPA Test Method 1631, Revision E. If Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method immediately after approval by EPA.

b. Organic Pollutant Monitoring

The permittee shall conduct an annual inventory of organic pollutants (see 40 CFR 423, Appendix A) and shall identify and quantify additional organic compounds which occur in the influent, effluent, and sludge. The analytical report shall be sent to the Pretreatment Group. This report is due in December of each year. The inventory shall consist of:

(1) Sampling and Analysis of Influent and Effluent

Sampling shall be conducted on a day when industrial discharges are occurring at normal or maximum levels. The samples shall be 24-hour flow proportional composites, except for volatile organics, which shall be taken by appropriate grab sampling techniques. Analysis for the U.S. EPA organic priority pollutants shall be performed using U.S. EPA methods 624, 625 and 608 in 40 CFR 136, or other equivalent methods approved by U.S. EPA. Equivalent methods must be at least as sensitive and specific as methods 624, 625 and 608.

All samples must be collected, preserved and stored in accordance with 40 CFR 136, Appendix A. Samples for volatile organics must be analyzed within 14 days of collection. Samples for semivolatile organics, PCBs and pesticides must be extracted within 7 days of collection and analyzed within 40 days of extraction. For composite samples, the collection date shall be the date at the end of the daily collection period.

(2) Sampling and Analysis of Sludge

Sampling collection, storage, and analysis shall conform to the U.S. EPA recommended procedures equivalent to methods 624, 625 and 608 in 40 CFR 136. Special sampling and/or preservation techniques will be required for those pollutants which deteriorate rapidly.

Sludge samples for volatile organics must be analyzed within 14 days of collection. Sludge samples for semivolatile organics, PCBs and pesticides must be extracted within 14 days of collection and analyzed within 40 days of extraction.

(3) Additional Pollutant Identification

In addition to the priority pollutants, a reasonable attempt shall be made to identify and quantify the ten most abundant constituents of each fraction (excluding priority pollutants and unsubstituted aliphatic compounds) shown to be present by peaks on the total ion plots (reconstructed gas chromatograms) more than ten times higher than the adjacent background noise. Identification shall be attempted through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be based on an order of magnitude estimate based upon comparison with an internal standard.

The annual pretreatment program report, required by Part III. A.7. of this permit, should identify the additional steps necessary to determine whether the pollutants that are present interfere, pass through, or otherwise violate 40 CFR 403.2. Upon such determination, the report must also identify the steps taken to develop and enforce local limitations on industrial discharges for those pollutants. This is a requirement of 40 CFR 403.5.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge flow and shall be taken at times which reflect the full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameters.

2. Data on Plant Operation

The raw influent and the wastewater from intermediate unit treatment processes, as well as the final effluent shall be sampled and analyzed for the pollutants and operational parameters specified by the applicable Monthly Report of Operation Form, as appropriate, in accordance with 327 IAC 5-2-13. Except where the permit specifically states otherwise, the sample frequency for the raw influent and intermediate unit treatment process shall be at a minimum the same frequency as that for the final effluent. The measurement frequencies specified in each of the tables in Part I.A. are the minimum frequencies required by this permit.

3. Monthly Reporting

The permittee shall submit monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous month and shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

These reports shall include, but not necessarily be limited to, the Discharge Monitoring Report (DMR) and the Monthly Report of Operation (MRO). Permittees with metals monitoring requirements shall also complete and submit the Indiana Monthly Monitoring Report Form (MMR-State Form 30530) to report their influent and/or effluent data for metals and other toxics. All reports shall be mailed to IDEM, Office of Water Quality – Mail Code 65-42, Data & Information Services Section, 100 North Senate Ave., Indianapolis, Indiana 46204-2251. Permittees with combined sewer overflow discharges must also submit the CSO Discharge Monitoring Report to IDEM by the 28th day of the month following each completed monitoring period. CSO DMRs shall be mailed to IDEM, Office of Water Quality – Mail Code 65-42, Data & Information Services Section, 100 North Senate Ave., Indianapolis, Indiana 46204-2251.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

A calendar week will begin on Sunday and end on Saturday. Partial weeks consisting of four or more days at the end of any month will include the remaining days of the week, which occur in the following month in order to calculate a consecutive seven-day average. This value will be reported as a weekly average or seven-day average on the MRO for the month containing the partial week of four or more days. Partial calendar weeks consisting of less than four days at the end of any month will be carried forward to the succeeding month and reported as a weekly average or a seven-day average for the calendar week that ends with the first Saturday of that month.

4. Definitions

a. Calculation of Averages

Pursuant to 327 IAC 5-2-11(a)(5), the calculation of the average of discharge data shall be determined as follows: For all parameters except *E. coli*, calculations that require averaging of sample analyses or measurements of daily discharges shall use an arithmetic mean unless otherwise specified in this permit. For *E. coli*, the monthly average discharge, as a concentration, shall be calculated as a geometric mean.

b. Terms

(1) "Monthly Average" -The monthly average discharge means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month. The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.

(2) "Weekly Average" - The weekly average discharge means the total mass or flow weighted concentration of all daily discharges during any calendar week for which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar week. The average weekly discharge limitation is the maximum allowable average weekly discharge for any calendar week.

(3) "Daily Maximum" - The daily maximum discharge limitation is the maximum allowable daily discharge for any calendar day. The "daily discharge" means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four hour period that represents the calendar day for purposes of sampling.

(4) "24-hour Composite" - A 24-hour composite sample consists of at least eight (8) individual flow-proportioned samples of wastewater, taken by the grab sample method over equal time intervals during the period of operator attendance or by an automatic sampler, which are taken at approximately equally spaced time (or flow volume) intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow proportioned composite sample shall be obtained by the following method or its mathematical equivalent:

(a) recording the discharge flow rate at the time each individual sample is taken,

(b) adding together the discharge flow rates recorded from each individual sampling time to formulate the "total flow value,"

(c) dividing the discharge flow rate of each individual sampling time by the total flow value to determine its percentage of the total flow value, and

(d) multiplying the volume of the total composite sample by each individual sample's percentage to determine the volume of that individual sample which will be included in the total composite sample.

(5) $CBOD_5$: Five-day Carbonaceous Biochemical Oxygen Demand

(6) TSS: Total Suspended Solids

(7) *E. coli*: Escherichia coli bacteria

(8) The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

(9) The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.

(10) Limit of Detection or LOD is defined as a measurement of the concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the method detection level or MDL.

(11) Limit of Quantitation or LOQ is defined as a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration about the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also called the limit of quantification or quantification level.

(12) Method Detection Level or MDL is defined as the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by the procedure set forth in 40 CFR Part 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

5. Test Procedures

The analytical and sampling methods used shall conform to the current version of 40 CFR, Part 136, unless otherwise specified within this permit. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the State agency and the U.S. Environmental Protection Agency.

a. Standard Methods for the Examination of Water and Wastewater
18th, 19th, or 20th Editions, 1992, 1995 or 1998 American Public Health Association, Washington, D.C. 20005.

b. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis
1972 American Society for Testing and Materials, Philadelphia, PA 19103.

c. Methods for Chemical Analysis of Water and Wastes
June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

6. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record and maintain records of all monitoring information and monitoring activities under this permit, including the following information:

a. The exact place, date, and time of sampling or measurements;

b. The person(s) who performed the sampling or measurements;

c. The dates and times the analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses and measurements.

7. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Discharge Monitoring Report and on the Monthly Report of Operation form. Such increased frequency shall also be indicated on these forms. Any such additional monitoring data which indicates a violation of a permit limitation shall be followed up by the permittee, whenever feasible, with a monitoring sample obtained and analyzed pursuant to approved analytical methods. The results of the follow-up sample shall be reported to the Commissioner in the Monthly Discharge Monitoring Report.

8. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three-year period shall be extended:

a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or

b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

9. Discharge Monitoring Reports

a. For parameters with monthly average water quality-based effluent limitations (WQBELs) below the limit of quantitation (LOQ), daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean. When a daily discharge value is below the LOQ, a value of zero (0) shall be used for that value in the calculation to determine the monthly average unless otherwise specified or approved by the Commissioner.

c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as < 0.1 µg/l.

d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate the value is not quantifiable.

e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass value.

f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

C. REOPENING CLAUSES

In addition to the reopening clause provisions cited at 327 IAC 5-2-16, the following reopening clauses are incorporated into this permit:

1. This permit may be modified or, alternately, revoked and reissued after public notice and opportunity for hearing to incorporate effluent limitations reflecting the results of a wasteload allocation if the Department of Environmental Management determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.

2. This permit may be modified due to a change in sludge disposal standards pursuant to Section 405(d) of the Clean Water Act, if the standards when promulgated contain different conditions, are otherwise more stringent, or control pollutants not addressed by this permit.

3. This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

   a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

   b. controls any pollutant not limited in the permit.

4. This permit may be modified, or alternately, revoked and reissued after public notice and opportunity for hearing to include whole effluent toxicity limitations or to include limitations for specific toxicants if the results of the biomonitoring and/or the TRE study indicate that such limitations are necessary.

5. This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing, to include a case-specific Method Detection Level (MDL). The permittee must demonstrate that such action is warranted in accordance with the procedure specified under Appendix B, 40 CFR Part 136, or approved by the Indiana Department of Environmental Management.

6. This permit may be modified, or, alternatively, revoked and reissued after public notice and opportunity for hearing to incorporate additional requirements or limitations for specific toxicants if the required additional analyses in Part I.A. indicate that such additional requirements and/or limitations are necessary to assure that State Water Quality Standards are met in the receiving stream.

D. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The 1977 Clean Water Act explicitly states, in Section 101(3) that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. In support of this policy the U.S. EPA in 1995 amended the 40 CFR 136.3 (Tables IA and II) by adding testing methods for measuring acute and short-term chronic toxicity of whole effluents and receiving waters. To adequately assess the character of the effluent, and the effects of the effluent on aquatic life, the permittee shall conduct Whole Effluent Toxicity Testing. Part 1 of this section describes the testing procedures, Part 2 describes the Toxicity Reduction Evaluation which is only required if the effluent demonstrates toxicity, as described in paragraph f.

1. Whole Effluent Toxicity Tests

The permittee shall conduct the series of bioassay tests described below to monitor the toxicity of the discharge from Outfall 001. If toxicity is demonstrated as defined under paragraph f below, the permittee is required to conduct a toxicity reduction evaluation (TRE).

a. Bioassay Test Procedures and Data Analysis

(1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Fourth Edition Section 13, Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test Method, (1000.0) EPA 821-R-02-013, October 2002, or most recent update.

(2) Any circumstances not covered by the above methods, or that require deviation from the specified methods shall first be approved by the IDEM's Environmental Toxicology and Chemistry Section.

(3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for chronic toxicity endpoints as outlined in Section 9, and in Sections 11 and 13 of the respective Test Method (1000.0 and 1002.0) of Short-term Methods of Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA 821-R-02-013), Fourth Edition, October 2002 or most recent update.

b. Types of Bioassay Tests

The permittee shall conduct a 7-day Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test and a 7-day Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test on samples of the final effluent. All tests will be conducted on 24-hour composite samples of final effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of the effluent collected on alternate days shall be used to renew the test solutions.

If in any control more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7 days, that test shall be repeated. In addition, if in the *Ceriodaphnia* test control the number of newborns produced per surviving female is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow test if the mean dry weight of surviving fish in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

(1) Samples for the purposes of Whole Effluent Toxicity Testing will be taken at a point that is representative of the discharge, but prior to discharge. The maximum holding time for whole effluent is 36 hours for a 24 hour composite sample. Bioassay tests must be started within 36 hours after termination of the 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.

(2) Chemical analysis must accompany each effluent sample taken for bioassay test. The analysis detailed under Part I.A. should be conducted for the effluent sample. Chemical analysis must comply with approved EPA test methods.

d. Frequency and Duration

The toxicity tests specified in paragraph b. shall be conducted once **annually** for the duration of the permit. The results of the toxicity tests are due once annually as calculated from twelve months after the effective date of the permit.

If toxicity is demonstrated as defined under paragraph f (1), (2) or (3), the permittee is required to conduct a toxicity reduction evaluation (TRE) as specified in Section 2.

e. Reporting

(1) Results shall be reported according to EPA 821-R-02-013, Section 10 (Report Preparation). Two copies of the completed report for each test shall be submitted to the Compliance Evaluation Section of the IDEM no later than sixty days after completion of the test.

(2) For quality control, the report shall include the results of appropriate standard reference toxic pollutant tests for chronic endpoints and historical reference toxic pollutant data with mean values and appropriate ranges for the respective test species *Ceriodaphnia dubia* and *Pimephales promelas*. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.

(3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

f. Demonstration of Toxicity

(1) Acute toxicity will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a(acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas*, which ever is more sensitive.

(2) Chronic toxicity will be demonstrated if the effluent is observed to have exceeded 1.3 TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas* .

(3) If toxicity is found in any of the tests specified above, a confirmation toxicity test using the specified methodology and same test species shall be conducted within two weeks of receiving the chronic toxicity test results. If any two (2) consecutive tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a Toxicity Reduction Evaluation (TRE) as described below. The whole effluent toxicity tests required above may be suspended (upon approval from IDEM) while the TRE is being conducted.

g. Definitions

(1)TU_c is defined as 100/NOEC or $100/IC_{25}$.

(2)TU_a is defined as $100/LC_{50}$ where the LC_{50} is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.

(3)"Inhibition concentration 25" or "IC_{25}" means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC_{25} is the concentration of toxicant (effluent) that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.

(4)"No observed effect concentration" or "NOEC" is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity is demonstrated as defined by Paragraph 1.f.

Milestone Dates: see sections a through e following for additional information on the TRE milestone dates.

Development of TRE Plan	Within 90 days of two failed toxicity tests.
Initiate Effluent TRE	Within 30 days of TRE Plan submittal to IDEM.
Progress Reports	Every 90 days from the initiation date of the TRE.
Submit Final TRE Results	Within 90 days of the completion of the TRE, not to exceed 3 years from the date of the initial determination of toxicity (two failed toxicity tests).
Post-TRE Biomonitoring Requirements	Immediately upon completion of the TRE, conduct 3 consecutive months of toxicity tests, if no toxicity is shown, reduce toxicity tests to once every 6 months for the duration of the permit term. If post – TRE biomonitoring demonstrates toxicity, revert to implementation of a TRE.

a. Development of TRE Plan

Within 90 days of determination of toxicity, the permittee shall submit plans for an effluent toxicity reduction evaluation (TRE) to the Compliance Evaluation Section of the IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicant and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications listed below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characterization Procedures, Second Edition (EPA/600/6-91/003), February 1991.

Phase II Toxicity Identification Procedures (EPA 600/R-92/080), September 1993.

Phase III Toxicity Confirmation Procedures (EPA/600/R-92/081), September 1993.

(2) Methods for Chronic Toxicity Identification Evaluations

Phase I Characterization of Chronically Toxic Effluents EPA/600/6-91/005F, May 1992.

(3) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070), April 1989.

(4) Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment Plants (EPA/833-B-99-022), August 1999

b. Conduct the TRE

Within 30 days after submission of the TRE plan to the IDEM, the permittee must initiate an effluent TRE consistent with the TRE plan. Progress reports shall be submitted every 90 days to the Compliance Evaluation Section of the Office of Water Quality (OWQ) beginning 90 days after initiation of the TRE study.

c. Reporting

Within 90 days of the TRE study completion, the permittee shall submit to the Compliance Evaluation Section of the Office of Water Quality (OWQ) the final study results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of whole effluent.

d. Compliance Date

The permittee shall complete items a, b, and c from Section 2 and reduce the toxicity to acceptable levels as soon as possible but no later than three years after the date of determination of toxicity.

e. Post-TRE Biomonitoring Requirements (Only Required After Completion of a TRE)

After the TRE, the permittee shall conduct monthly toxicity tests with 2 or more species for a period of three months. Should three consecutive monthly tests demonstrate no toxicity, the permittee shall conduct chronic tests every six months for the duration of the permit. These tests shall be conducted in accordance with the procedures under the Whole Effluent Toxicity Tests Section. The results of these tests shall be submitted to the Compliance Evaluation Section of the Office of Water Quality (OWQ).

If toxicity is demonstrated as defined in paragraph 1.f after the initial three month period, testing must revert to a TRE as in Part 2 (TRE).

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Provide Information

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the facility that:

a. could significantly change the nature of, or increase the quantity of, pollutants discharged; or

b. the Commissioner may request to evaluate whether such cause exists.

In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit a renewal of this permit in accordance with 327 IAC 5-3-2(a)(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. The application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if:

a. permission is requested in writing before such deadline;

b. IDEM grants permission to submit the application after the deadline; and

c. the application is received no later than the permit expiration date.

As required under 327 IAC 5-2-3(g)(1) and (2), POTWs with design influent flows equal to or greater than one million (1,000,000) gallons per day and POTWs with an approved pretreatment program or that are required to develop a pretreatment program, will be required to provide the results of whole effluent toxicity testing as part of their NPDES renewal application.

5. Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date.

b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner.

c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.

d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

6. Permit Actions

In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge controlled by the permittee (e.g., plant closure, termination of the discharge by connecting to a POTW, a change in state law or information indicating the discharge poses a substantial threat to human health or welfare).

Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

1. could significantly change the nature of, or increase the quantity of, pollutants discharged; or

2. the commissioner may request to evaluate whether such cause exists.

7. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or an invasion of rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

8. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

9. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

10. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

11. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Water Pollution Control Board is liable for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation. Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation commits a class C infraction.

Pursuant to IC 13-30-10, a person who intentionally, knowingly, or recklessly violates any provision of this permit, the water pollution control laws or a rule or standard adopted by the Water Pollution Control Board commits a class D felony punishable by the term of imprisonment established under IC 35-50-2-7(a) (up to one year), and/or by a fine of not less than five thousand dollars ($5,000) and not more than fifty thousand dollars ($50,000) per day of violation. A person convicted for a violation committed after a first conviction of such person under this provision is subject to a fine of not more than one hundred thousand dollars ($100,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

12. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(9), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10, provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under a permit shall, upon conviction, be punished by a fine of not more than ten thousand dollars ($10,000) per violation, or by imprisonment for not more than one hundred eighty (180) days per violation, or by both.

13. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

14. Operator Certification

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7. The permittee shall designate one (1) person as the certified operator with complete responsibility for the proper operations of the wastewater facility.

327 IAC 5-22-10(b) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(10), "responsible charge" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(a), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

15. Construction Permit

Except in accordance with 327 IAC 3, the permittee shall not construct, install, or modify any water pollution treatment/control facility as defined in 327 IAC 3-1-2(24). Upon completion of any construction, the permittee must notify the Compliance Evaluation Section of the Office of Water Quality in writing.

16. Inspection and Entry

In accordance with 327 IAC 5-2-8(7), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a point source, regulated facility, or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and

d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

17. New or Increased Discharge of Pollutants

a. New or increased discharges of pollutants must comply with 327 IAC 5-2-11.3. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a pollutant or pollutant parameter that is not a BCC, unless one (1) of the following is completed prior to the commencement of the action:

(1) Information is submitted to the Commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality as defined under 327 IAC 5-2-11.3(b)(1). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.

(2) An antidegradation demonstration is submitted and approved in accordance with 327 IAC 5-2-11.3(b)(3) through (6).

b. The permittee is prohibited from allowing a new or increased discharge of a BCC from:

(1) an existing industrial user proposing to increase or add a process wastestream; or

(2) a proposed new industrial user that will have a process wastestream;

where the process wastestream contains a BCC at concentrations detectable using the most sensitive analytical method for the BCC contained in 40 CFR 136 or approved by the Commissioner, except as provided under subsection (c):

c. A new or increased discharge of a BCC from an existing or proposed industrial user is not prohibited under subsection (b) if one (1) of the following is completed prior to commencement of the discharge:

(1) Information is submitted to the Commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality as defined under 327 IAC 5-2-11.3(b)(1). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.

(2) An antidegradation demonstration is submitted and approved in accordance with 327 IAC 5-2-11.3(b)(3) through (6).

d. The permittee shall monitor for any BCC known or believed to be present in the discharge, whether or not the permit contains a limit for that pollutant. If there is an increase in the loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall notify the Commissioner of the increase unless either:

(1) the permittee has submitted the information required under 327 IAC 5-2-11.3(b)(2)(A)(i) for the increase; or

(2) an antidegradation demonstration for the increase has been approved under 327 IAC 5-2-11.3(b)(5).

If the increase is determined to be a significant lowering of water quality, as defined under 327 IAC 5-2-11.3(b)(1), the Commissioner shall require reduction or elimination of the increase.

e. If the permittee seeks to significantly lower water quality in a high quality water for any pollutant or pollutant parameter, the permittee must first submit an antidegradation demonstration for consideration and approval by the Commissioner, in accordance with 327 IAC 5-2-11.3(b).

B. MANAGEMENT REQUIREMENTS

1. Facility Operation, Maintenance and Quality Control

a. In accordance with 327 IAC 5-2-8(8), the permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for collection and treatment that are:

(1) installed or used by the permittee; and

(2) necessary for achieving compliance with the terms and conditions of the permit.

Neither 327 IAC 5-2-8(8), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit.

b. The permittee shall operate the permitted facility in a manner which will minimize upsets and discharges of excessive pollutants. The permittee shall properly remove and dispose of excessive solids and sludges.

c. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

d. Maintenance of all waste collection, control, treatment, and disposal facilities shall be conducted in a manner that complies with the bypass provisions set forth below.

e. Any extensions to the sewer system must continue to be constructed on a separated basis. Plans and specifications, when required, for extension of the sanitary system must be submitted to the Facility Construction Section, Office of Water Quality in accordance with 327 IAC 3-2-1. There shall also be an ongoing preventative maintenance program for the sanitary sewer system.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(11):

a. Terms as defined in 327 IAC 5-2-8(11)(A):

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses, as defined above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.B.2.d; or

(4) The condition under Part II.B.2.f below is met.

c. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery.

d. The permittee must provide the Commissioner with the following notice:

(1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.

(2) The permittee shall orally report or fax a report of an unanticipated bypass within 24 hours of becoming aware of the bypass event. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance (i.e. the bypass) and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event.

e. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.b. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

f. The permittee may allow any bypass to occur that does not cause a violation of the effluent limitations in the permit, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.B.2.b.,d and e of this permit.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(12):

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this subsection, are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;

(2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures;

(3) The permittee complied with any remedial measures required under "Duty to Mitigate", Part II.A.2; and

(4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

a. Collected screenings, slurries, sludges, and other such pollutants shall be disposed of in accordance with provisions set forth in 329 IAC 10, 327 IAC 6.1, or another method approved by the Commissioner.

b. The permittee shall comply with existing federal regulations governing solids disposal, and with applicable provisions of 40 CFR Part 503, the federal sludge disposal regulation standards.

c. The permittee shall notify the Commissioner prior to any changes in sludge use or disposal practices.

d. The permittee shall maintain records to demonstrate its compliance with the above disposal requirements.

5. Power Failures

In accordance with 327 IAC 5-2-10 and 327 IAC 5-2-8(13) in order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, or

b. shall halt, reduce or otherwise control all discharge in order to maintain compliance with the effluent limitations and conditions of this permit upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(10)(F) and 5-2-16(d), the permittee shall give notice to the Commissioner as soon as possible of any planned alterations or additions to the facility (which includes any point source) that could significantly change the nature of, or increase the quantity of, pollutants discharged. Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited. Material and substantial alterations or additions to the permittee's operation that were not covered in the permit (e.g., production changes, relocation or combination of discharge points, changes in the nature or mix of products produced) are also cause for modification of the permit. However those alterations which constitute total replacement of the process or the production equipment causing the discharge converts it into a new source, which requires the submittal of a new NPDES application.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(9), 327 IAC 5-2-13, and 327 IAC 5-2-15, monitoring results shall be reported at the intervals and in the form specified in "Data On Plant Operation", Part I.B.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(10), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the noncomplying circumstances by calling 317/233-7745 (888/233-7745 toll free in Indiana);

c. Any upset (as defined in Part II.B.3 above) that exceeds any technology-based effluent limitations in the permit;

d. Any discharge from the sanitary sewer system; or

e. Any dry weather discharge from a combined sewer overflow which is identified in this permit.

The permittee can make the oral reports by calling 317/232-8670 during regular business hours or by calling 317/233-7745 (888/233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass Overflow/Incident Report" or a "Noncompliance Notification Report", whichever is applicable, to IDEM at 317/232-8637 or 317/232-8406. If a complete fax submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the fax report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance

Pursuant to 327 IAC 5-2-8(10)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, not related to the failure to report planned changes in the permitted facility, or not relating to any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent the noncompliance.

5. Other Information

Pursuant to 327 IAC 5-2-8(10)(E), where the permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Commissioner, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(14):

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a principal executive defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making functions for the corporation or the manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a federal, state, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Certification. Any person signing a document identified under paragraphs a and b of this section, shall make 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 assure that qualified personnel properly gather and evaluate 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."

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(14) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Progress Reports

In accordance with 327 IAC 5-2-8(10)(A), reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

10. Advance Notice for Planned Changes

In accordance with 327 IAC 5-2-8(10)(B), the permittee shall give advance notice to IDEM of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements.

11. Additional Requirements for POTWs and/or Treatment Works Treating Domestic Sewage

a. All POTWs shall identify, in terms of character and volume of pollutants, any significant indirect discharges into the POTW which are subject to pretreatment standards under section 307(b) and 307 (c) of the CWA.

b. All POTWs must provide adequate notice to the Commissioner of the following:

(1) Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to section 301 or 306 of the CWA if it were directly discharging those pollutants.

(2) Any substantial change in the volume or character of pollutants being introduced into that POTW by any source where such change would render the source subject to pretreatment standards under section 307(b) or 307(c) of the CWA or would result in a modified application of such standards.

As used in this clause, "adequate notice" includes information on the quality and quantity of effluent introduced into the POTW, and any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the POTW.

c. This permit incorporates any conditions imposed in grants made by the U.S. EPA and/or IDEM to a POTW pursuant to Sections 201 and 204 of the Clean Water Act, that are reasonably necessary for the achievement of effluent limitations required by Section 301 of the Clean Water Act.

d. This permit incorporates any requirements of Section 405 of the Clean Water Act governing the disposal of sewage sludge from POTWs or any other treatment works treating domestic sewage for any use for which rules have been established in accordance with any applicable rules.

e. POTWs must develop and submit to the Commissioner a POTW pretreatment program when required by 40 CFR 403 and 327 IAC 5-19-1, in order to assure compliance by industrial users of the POTW with applicable pretreatment standards established under Sections 307(b) and 307(c) of the Clean Water Act. The pretreatment program shall meet the criteria of 327 IAC 5-19-3 and, once approved, shall be incorporated into the POTW's NPDES permit.

D. ADDRESSES

1. Cashiers Office

Indiana Department of Environmental Management
Cashiers Office – Mail Code 50-10C
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Cashiers Office:

a. NPDES permit applications (new, renewal or modifications) with fee

b. Construction permit applications with fee

2. Municipal Permits Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Municipal Permits Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Municipal Permits Section:

a. Preliminary Effluent Limits request letters

b. Comment letters pertaining to draft NPDES permits

c. NPDES permit transfer of ownership requests

d. NPDES permit termination requests

e. Notifications of substantial changes to a treatment facility, including new industrial sources

3. Data & Information Services Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Data & Information Services Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Data & Information Services Section:

a. Discharge Monitoring Reports (DMRs)

b. Monthly Reports of Operation (MROs)

c. Monthly Monitoring Reports (MMRs)

4. Compliance Evaluation Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Compliance Evaluation Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Compliance Evaluation Section:

a. Gauging station and flow meter calibration documentation

b. Compliance schedule progress reports

c. Completion of Construction notifications

d. Whole Effluent Toxicity Testing reports

e. Toxicity Reduction Evaluation (TRE) plans and progress reports

f. Bypass/Overflow reports

g. Anticipated Bypass reports

h. CSO Discharge Monitoring Reports

5. Wet Weather Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Wet Weather Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Wet Weather Section:

a. Combined Sewer Overflow (CSO) Operational Plans

b. CSO Long Term Control Plans (LTCP)

c. Stream Reach Characterization and Evaluation Reports (SRCER)

6. Pretreatment Group

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Compliance Evaluation Section – Pretreatment Group
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Pretreatment Group:

a. Organic Pollutant Monitoring Reports

b. Significant Industrial User (SIU) Quarterly Noncompliance Reports

c. Pretreatment Program Annual Reports

d. Sewer Use Ordinances

e. Enforcement Response Plans (ERP)

f. Sludge analytical results

PART III

REQUIREMENT TO OPERATE A PRETREATMENT PROGRAM

A. CONDITIONS

The permittee, hereinafter referred to as the "Control Authority," is required to operate its approved industrial pretreatment program approved on January 23, 1985, and any subsequent modifications approved up to the issuance of this permit. To ensure the program is operated as approved and consistent with 327 IAC 5-16 through 5-21, the following conditions and reporting requirements are hereby established. The Control Authority (CA) shall:

1. Legal Authority

   The CA shall develop, enforce and maintain adequate legal authority in its Sewer Use Ordinance (SUO) to fully implement the pretreatment program in compliance with State and local law. As part of this requirement, the CA shall develop and maintain local limits as necessary to implement the prohibitions and standards in 327 IAC 5-18.

2. Permit Issuance

   In accordance with 327 IAC 5-19-3(1) the CA is required to issue/reissue permits to Significant Industrial User(s) (SIU) as stated in the SUO. The CA must issue permits to new SIUs prior to the commencement of discharge. A SIU is defined in the SUO.

3. Industrial Compliance Monitoring

   The CA is required to conduct inspection, surveillance, and monitoring activities to determine SIU compliance status with the approved program and the SUO independent of data supplied by the SIU. SIU compliance monitoring performed by the CA will be conducted in accordance with the program plan or yearly program plan. SIUs will be inspected once per year, at a minimum.

4. Enforcement

   The CA is required to initiate the appropriate enforcement action against a SIU violating any provision of the SUO and/or discharge permit in accordance with the Enforcement Response Procedures (ERP) adopted by the CA. The CA must investigate violations by collecting and analyzing samples and collecting other information with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions in accordance with 40 CFR 403.8(f)(1)(iii) and 327 IAC 5-19-3(1)(F).

5. SIU Quarterly Noncompliance Report

The CA is required to report the compliance status of each SIU quarterly. The report is due by the 28th of the following months: April, July, October, and January of each year. The report shall include a description of corrective actions that have or will be taken by the CA and SIU to resolve the noncompliance situations. This report is to be sent to the Compliance Branch of the Office of Water Quality.

6. Public Participation and Annual Publishing of SIUs in Significant Noncompliance

The CA is required to comply with the public participation requirements under 40 CFR 25 and 327 IAC 5-19-3(2)(L). The CA must publish annually, by January 28, in the largest daily newspaper in the area, a list of SIUs that have been in significant noncompliance (SNC) with the SUO during the calendar year. The CA shall include in the ANNUAL REPORT a list of the SIUs published along with the newspaper clipping.

7. Annual Report

The CA is required to submit an annual report to the Pretreatment Group by April 1, of each year. The annual report will be submitted in accordance with the State supplied "POTW PRETREATMENT PROGRAM ANNUAL REPORT GUIDANCE."

8. Records Retention

Pursuant to 327 IAC 5-16-5(d), the CA shall retain any pretreatment reports from an industrial user a minimum of three (3) years and shall make such reports available for inspection and copying by IDEM or the U.S. EPA. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user, the operation of the POTW pretreatment program or when requested by IDEM or the U.S. EPA.

9. Confidentiality

The CA is required to comply with all confidentiality requirements set forth in 40 CFR 403.14, as well as the procedures established in the SUO.

10. Program Resources

Pursuant to 327 IAC 5-19-3(3), The CA shall maintain sufficient resources and qualified personnel to carry out the pretreatment program requirements.

11. Interjurisdictional Agreements

The CA must maintain sufficient legal authority to ensure compliance with all applicable pretreatment limits and requirements by all SIUs discharging to the POTW, including SIUs within governmental jurisdictions outside the immediate jurisdiction of the POTW. The CA must maintain the interjurisdictional agreements necessary to ensure full compliance by SIUs located within other jurisdictions as discussed in 40 CFR 403.8(f)(1).

12. POTW Pretreatment Program Revision Requirements

No later than 6 months after the effective date of this permit, the permittee shall submit to EPA Region 5 and IDEM pretreatment group, a program modification request to incorporate the pretreatment streamlining revisions in 327 IAC 5-16 through 327 IAC 5-21 of Indiana Administrative Code, which became effective on May 3, 2009. The modification request shall highlight all changes to the approved program, the sewer use ordinance (SUO) and the enforcement response plan (ERP) necessary to incorporate the revisions of 327 IAC 5-16 through 327 IAC 5-21 of Indiana Administrative Code required to be implemented by all delegated pretreatment programs. Any of the optional changes must be included with this submission. The required changes are described in USEPA's Pretreatment Streamlining Rule Fact Sheet 2.0: Required Changes, available at: http://cfpub.epa.gov/npdes/home.cfm?program_id=3.

13. Program Modification

Pursuant to 327 IAC 5-19-6 and 40 CFR 403.18, any significant proposed program modification shall be submitted to the Pretreatment Group and the U.S. EPA for approval. A significant modification shall include, but not be limited to, any change in the SUO, major modification in the approval program's administrative procedures, a significant reduction in monitoring procedures, a significant change in the financial/revenue system, a significant change in the local limitations contained in the SUO, and a change in the industrial survey.

NOTE: A summary of the revisions to the General Pretreatment Regulations (40 CFR 403) is available from the Pretreatment Group of the Compliance Evaluation Section.

ATTACHMENT A

Precipitation Related Combined Sewer Overflow Discharge Authorization Requirements

I. Discharge Authorization

A. Outfall	Location	Receiving Water
002	96" Discharge Pipe from CSO Basin Latitude: 41° 43' 15" Longitude: 86° 52' 52"	Trail Creek

Beginning on the effective date of this permit, the permittee is authorized to discharge treated combined sewage from Outfall 002 when the CSO Basin is full and flows exceed the peak wastewater treatment plant design capacity of 15.0 MGD. Any discharge from 002 is subject to the requirements and provisions of this permit including the following requirements:

TABLE 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter[5]	Daily Maximum	Monthly Average	Units	Daily Maximum	Monthly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
$CBOD_5$	----	----	----	Report	Report	mg/l	Daily	Composite
TSS	----	----	----	Report	Report	mg/l	Daily	Composite
Phosphorus	----	----	----	Report	----	mg/l	Daily	Composite
Total Residual Chlorine [2][3]	2.88	1.25	lbs/day	0.023	0.010	mg/l	Daily	Composite
Ammonia-Nitrogen	----	----	----	Report	Report	mg/l	Daily	Composite

TABLE 2

	Quality or Concentration				Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Monthly Average	Units	Measurement Frequency	Sample Type
pH	Report	Report	----	s.u.	Daily	Grab
Dissolved Oxygen	Report	----	----	mg/l	Daily	Grab
E. coli [4]	----	235	125[6]	colonies/100 ml	Daily	Grab

[1] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once annually.

[2] The monthly average water quality based effluent limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ) as specified below. Compliance with the total residual chlorine concentration limitations will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. For the purpose of calculating the monthly average value, the daily effluent values that are less than the LOQ may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for total residual chlorine is greater than or equal to the LOD value, but less than the LOQ value specified in the permit. Compliance with this effluent limitation will be demonstrated if the measured daily effluent concentrations are less than the LOQ.

At present, two methods are acceptable to IDEM measure total residual chlorine: amperometric and DPD colorimetric methods.

Parameter	LOD	LOQ
Chlorine	0.02 mg/l	0.06 mg/l

Case-Specific MDL

The permittee may determine a case-specific method detection level (MDL) using the analytical method specified above. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. Other methods may be used if first approved by the U.S. EPA and IDEM.

[3] The effluent shall be disinfected on a continuous basis during any discharge such that violations of the applicable bacteriological limitations do not occur from April 1 through October 31, annually. If the permittee uses chlorine for any reason, at any time including the period from November 1 through March 31, then the limits and monitoring requirements in Table 1 for total residual chlorine shall be in effect whenever chlorine is used.

[4] The *E. coli* limitations and monitoring requirements apply from April 1 through October 31 annually. The monthly average *E. coli* value shall be calculated as a geometric mean.. IDEM has specified the following methods as allowable for the detection and enumeration of *Escherichia coli (E. coli)*:

1. Coliscan MF® Method
2. EPA Method 1103.1 using original m-TEC agar.
3. EPA revised Method 1103.1 using modified m-TEC agar.
4. *Standard Methods* 20th Edition Method 9223 B using Colilert®

[5] Effluent composite sampling, either by automatic sampler collecting samples at set intervals or by grab samples collected during discharges from the wet weather treatment component, shall be representative of the discharge and of sufficient quantity to insure that the parameters in Table 1 of Attachment A can be measured and shall be initiated within 30 minutes from the beginning of a discharge event; and shall continue at intervals determined by the Permittee, but no less frequent than every 2 hours during the duration of the event. If an event lasts more than 24 hours a new sampling period shall be initiated. Analysis for the parameters identified in Table 1 of Attachment A shall be from the composite sample collected as described above.

For *E. coli*, the one (1) sample to determine the level during a wet weather discharge event is to be collected within 30 minutes of initiation of the discharge from the wet weather treatment component or sooner if the operator anticipates the discharge will not last for 30 minutes. The *E. coli* monthly average shall be the geometric mean of all samples collected during the month, provided that 5 or more samples are collected.

For purposes of reporting on a discharge event which lasts less than 24 hours, but occurs during two calendar days, the pollutant concentrations for the event shall be reported as daily values on the day when the majority of the discharge occurred.

[6] If there are less than five (5) discharges in a calendar month, then the monthly average does not need to be reported on the Discharge Monitoring Report (DMR). If Outfall 001 discharges five (5) times or more during a calendar month, then the monthly average *E. coli* value shall be calculated as a geometric mean and reported on the DMR.

B. Combined Sewer Overflows are point sources subject to both technology-based and water quality-based requirements of the Clean Water Act and state law.

C. At all times the discharge from any and all CSO outfalls herein shall not cause receiving waters:

1. including the mixing zone, to contain substances, materials, floating debris, oil, scum, or other pollutants:
   a. that will settle to form putrescent or otherwise objectionable deposits;
   b. that are in amounts sufficient to be unsightly or deleterious;
   c. that produce color, visible oil sheen, odor, or other conditions in such a degree as to create a nuisance;
   d. which are in amounts sufficient to be acutely toxic to, or otherwise severely injure or kill aquatic life, other animals, plants, or humans;
   e. which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

2. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

D. Dry weather discharges from any portion of the sewer collection system are prohibited. Discharges from Outfall 002 are not authorized unless the CSO Basin is full and flows exceed the peak wastewater treatment plant design capacity of 15.0 MGD. If a dry weather discharge occurs, or a discharge from Outfall 002 occurs which does not meet the authorized discharge criteria, the permittee shall notify the Office of Water Quality, Compliance Evaluation Section, by phone within 24 hours and in writing within five days of the occurrence, in accordance with the provisions in Part II. C. 3 of this permit. The correspondence shall include the duration and cause of the discharge as well as the remedial action taken to end the discharge.

II. Monitoring Report Requirements

The permittee shall monitor and report authorized discharges from Outfall 002 in accordance with Part I.A.2., of Attachment A of this permit.

III. CSO Operational Plan

A. The permittee shall comply with the following minimum technology-based controls, in accordance with the federal CSO Control Policy:

1. The permittee shall implement proper operation and regular maintenance programs for the sewer system and the CSOs. The purpose of the operation and maintenance programs is to reduce the magnitude, frequency and duration of CSOs. The program shall consider regular sewer inspections; sewer, catch basin, and regulator cleaning; equipment and sewer collection system repair or replacement, where necessary; and disconnection of illegal connections.
2. The permittee shall implement procedures that will maximize the use of the collection system for wastewater storage that can be accommodated by the storage capacity of the collection system in order to reduce the magnitude, frequency and duration of CSOs.
3. The permittee shall review and modify, as appropriate, its existing pretreatment program to minimize CSO impacts from non-domestic users. The permittee shall identify all industrial users that discharge to the collection system upstream of any CSO outfalls; this identification shall also include the pollutants in the industrial user's wastewater and the specific CSO outfall(s) that are likely to discharge the wastewater.
4. The permittee shall operate the POTW treatment plant at maximum treatable flow during all wet weather flow conditions to reduce the magnitude, frequency and duration of CSOs. The permittee shall deliver all flows to the treatment plant within the constraints of the treatment capacity of the POTW.

5. Dry weather overflows from CSO outfalls are prohibited. Each dry weather overflow must be reported to IDEM as soon as the permittee becomes aware of the overflow. When the permittee detects a dry weather overflow, it shall begin corrective action immediately. The permittee shall inspect the dry weather overflow each subsequent day until the overflow has been eliminated.
6. The permittee shall implement measures to control solid and floatable materials in CSO discharges.
7. The permittee shall implement a pollution prevention program focused on reducing the impact of CSOs on receiving waters.
8. The permittee shall implement a public notification process to inform citizens of when and where CSO discharges occur and their impacts. This notification must also be done in accordance with 327 IAC 5-2.1.
9. The permittee shall monitor to effectively characterize CSO impacts and the efficacy of CSO controls.

B. The permittee's implementation of each of the minimum controls in Part III.A of this Attachment A shall be documented in its CSO Operational Plan (CSOOP), which was approved April 18, 1994. The permitee shall annually evaluate its CSOOP and update it, as necessary to reflect changes in its operation or maintenance practices; measures taken to implement the above minimum requirements; and changes to the treatment plant or collection system, including changes in collection system flow characteristics, collection system or WWTP capacity or discharge characteristics (including volume, duration, frequency and pollutant concentration). The permittee's most recent CSOOP update was submitted in February 2009. Therefore, ongoing annual CSOOP updates shall be submitted by the end of February. The permitee shall submit the CSOOP updates to IDEM, Office of Water Quality, Wet Weather Section.

The CSOOP update(s) shall include a summary of the proposed revisions to the CSOOP as well as a reference to the page(s) that have been modified. Any CSOOP updates shall not result in:

1. a lower amount of flow being sent to and through the plant for treatment, or
2. more discharges (measured either by volume, duration, frequency, or pollutant concentration) occurring from the CSO outfalls.

The permitee shall maintain a current CSO Operational Plan, including all approved updates, on file at the POTW.

IV. CSO Long-Term Control Plan

The Indiana Department of Environmental Management (IDEM) has approved the Sanitary District of Michigan City's Long-Term Control Plan (LTCP) and related documents. The LTCP is incorporated herein.

The Sanitary District of Michigan City's approved CSOOP, LTCP and issued NPDES permit outline the wet weather operating procedures and design capabilities of the WWTP and CSO basin facilities. All flows retained by the basin shall receive full treatment. In conditions where wet weather discharges from CSO 002 result from a storm event, rainfall amount, or intensity which exceed the design capacity of the facilities, the permittee shall provide documentation that all conditions and requirements expressed in their NPDES permit, including Attachment A, were achieved. All documentation regarding performance of the WWTP and the basin during storm events identified above, would be reviewable by IDEM with exercise of enforcement discretion for discharges from CSO 002 accorded to under IC 13 – 30 for these storm events.

V. Sewer Use Ordinance Review/Revision and Enforcement

The permittee's Sewer Use Ordinance must contain provisions which: (1) prohibit introduction of inflow sources to any sanitary sewer; (2) prohibit construction of new combined sewers outside of the existing combined sewer service area; and (3) provide that for any new building the inflow/clear water connection to a combined sewer shall be made separate and distinct from sanitary waste connection to facilitate disconnection of the former if a separate storm sewer subsequently becomes available. The permittee shall continuously enforce these provisions.

VI. Reopening Clauses

A. After LTCP implementation, if IDEM has evidence that a CSO discharge is causing or contributing to exceedances of water quality standards, then additional control measures, effluent limitations, and/or monitoring requirements may be imposed on the CSO through a modification of this permit, after public notice and opportunity for hearing.

B. This permit may be reopened to address changes in the EPA National CSO Policy or state or federal law.

C. The permit may be reopened, after public notice and opportunity for hearing, to incorporate elements of an approved LTCP.

D. The permit may be reopened, after public notice and opportunity for hearing, to incorporate applicable provisions of IC 13-18.

Fact Sheet
September 16, 2009

Sanitary District of Michigan City
J. B. Gifford Wastewater Treatment Plant
located at 1100 East Eighth Street
Michigan City, Indiana
LaPorte County

Outfall Location	Latitude:	41° 43' 00"
	Longitude:	86° 53' 03"

NPDES Permit No. IN0023752

Background

This is the proposed renewal of the NPDES permit for the J. B. Gifford Wastewater Treatment Plant which was issued on September 23, 2004 and has an expiration date of October 31, 2009. The permit was modified on January 25, 2006 to incorporate terms and conditions of the facility's Long Term Control Plan. The permittee submitted an application for renewal which was received on April 23, 2009. The permittee currently operates a Class IV, 12.0 MGD activated sludge wastewater treatment facility consisting of bar screens, grit removal, primary sedimentation, activated sludge biological treatment including nitrification, secondary sedimentation, phosphorus removal, gravity filtration, chlorination/dechlorination facilities, reaeration, and influent and effluent flow meters. Solids are managed via anaerobic digestion and belt filter dewatering and landfilled under Land Application Permit No. INLA000051

Collection System

The collection system is comprised of combined sanitary and storm sewers with one Combined Sewer Overflow location. CSO Outfall 002 represents a discharge from the CSO basin to Trail Creek. The CSO location has been identified and permitted with provisions in Attachment A of the permit. CSO Outfall 004 was eliminated from the permit in a February 13, 2006 permit modification.

CSO Statutory or Regulatory Basis for Permit Provisions

CSOs are point sources subject to NPDES permit requirements, including both technology-based and water quality-based requirements of the CWA and state law. Thus the permit contains provisions IDEM deems necessary to meet water quality standards, as well as technology-based treatment requirements, operation and maintenance requirements, and best management practices.

This permit is based on various provisions of state and federal law, including (1) Title 13 of the Indiana Code; (2) the water quality standards set forth in 327 IAC 2-1.5; (3) the NPDES rules set forth in 327 IAC 2 and 327 IAC 5, including 327 IAC 5-2-8 and 327 IAC 5-2-10; and (4) section 402(q) of the CWA (33 USC § 1342), which requires all permits or orders issued for discharges from municipal CSOs to conform with the provisions of EPA's National CSO Control Policy (58 Fed. Reg. 18688, April 19, 1994). EPA's CSO Policy contains provisions that, among other things, require permittees to develop and implement minimum technological and operational controls and long term control plans to meet state water quality standards. The permit's penalty provisions are based in large part on IC 13-30. In addition to the regulatory provisions previously cited, the data collection and reporting requirements are based in part on 327 IAC 5-1-3, 327 IAC 5-2-13 and section 402(q) of the CWA. The long term control plan provisions were included to ensure compliance with water quality standards.

Explanation of Effluent Limitations and Conditions

The effluent limitations set forth in Part I of Attachment A are derived in part from the narrative water quality standards set forth in 327 IAC 2-1.5-8. The narrative standards are minimum standards that apply to all waters at all times, and therefore are applicable to all discharges of pollutants. Because EPA has not issued national effluent limitation guidelines for this category of discharges, the technology-based BAT/BCT provisions are based on best professional judgment (BPJ) in addition to section 402(q) of the CWA. (CSO discharges are not subject to the secondary treatment requirements applicable to publicly owned treatment works because overflow points have been determined to not be part of the treatment plant. Montgomery Environmental Coalition v. Costle, 646 F.2d 568 (D.C. Cir. 1980).)

The Sanitary District of Michigan City's collection system is partially combined by design. There is one CSO (No. 002) in the POTW located at the CSO Basin at the WWTP. The permittee has submitted a CSO Long-Term Control Plan (LTCP) to address discharges from this CSO outfall, and the IDEM has formally approved The Sanitary District of Michigan City's LTCP. Outfall 002 is classified as a CSO, and is authorized to have wet weather discharges subject to the requirements and provisions of the permit, including Attachment A, when the wet weather basin at the WWTP is full and flows exceed the peak WWTP design capacity of 15.0 MGD.

This permit applies appropriate effluent limitations and monitoring requirements on the discharge from Outfall 002. The following effluent parameters are limited and/or monitored at Outfall 002: flow, CBOD, TSS, Phosphorus, pH, Dissolved Oxygen, *E. coli*, Ammonia-Nitrogen, and Total Residual Chlorine. Effluent limits for *E. coli* are included and are applied at the end-of-pipe due to the requirements of 327 IAC 5-2-11.4(d)(1) and (2). Total residual chlorine is limited to 0.010 mg/l (1.25 lbs/day) as a monthly average and 0.023 mg/l (2.88 lbs/day) as a daily maximum. Compliance will be demonstrated if the observed effluent concentrations are less than the Limit of Quantitation for chlorine of 0.06 mg/l.

Monitoring requirements for the other parameters are included because these same parameters are pollutants of concern, which are currently required to be monitored for the discharge at Outfall 001 (WWTP discharge). Proposed monitoring frequencies and sample types are reflective of the expected episodic nature of discharges from the CSO Basin.

Spill Reporting Requirements

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.c. and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedences that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedence to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

Solids Disposal

The permittee is required to dispose of its sludge in accordance with 329 IAC 10, 327 IAC 6.1, or 40 CFR Part 503. The permittee maintains a land application permit (INLA000051) for the disposal of solids.

Receiving Stream

The facility discharges to Trail Creek via Outfall 001. The receiving water is located within the Lake Michigan drainage basin. Trail Creek has a seven day, ten year low flow ($Q_{7,10}$) of 24.0 cubic feet per second (15.5 MGD) at the outfall location. This provides a dilution ratio of receiving stream flow to treated effluent of 1.3:1. The receiving stream is designated for full body contact recreational use and shall be capable of supporting a well-balanced warm water aquatic community in accordance with 327 IAC 2-1.5-5. Additionally, the receiving stream is designated as a salmonid water in 327 IAC 2-1.5-5(3) and shall be capable of supporting a salmonid fishery. The permitted discharge occurs approximately 1.8 miles upstream of Lake Michigan. The Indiana portion of the open waters of Lake Michigan is designated as an outstanding state resource water in accordance with 327 IAC 2-1.5-19(b).

Industrial Contributions

The permittee accepts industrial flow from Federal-Mogul Corporation, Triplex Plating, Inc., Sullair Corporation, Vitamins, Inc., Midwest Custom Finishing, Inc., Lyon Workspace Products, LLC, and Waste, Inc. Based on the industrial flow received by the treatment facility, the permittee is required to operate its approved industrial pretreatment program approved on January 23, 1985. Provisions for the industrial pretreatment program are included in Part III of this permit renewal. In addition, monitoring requirements for cadmium, chromium, copper, cyanide, lead, nickel and zinc are being included in the permit renewal.

Additional Great Lakes Basin Discharger Requirements

Future Significant Lowering of Water Quality:

As the permittee discharges into a water body which is located in the Great Lakes basin, it is subject to the water quality standards which are specific to the Great Lakes basin dischargers as found in 327 IAC 2-1.5, 327 IAC 5-1.5 and 327 IAC 5-2. These rules, effective as of February 13, 1997, prohibit any action resulting in a significant lowering of water quality unless an antidegradation demonstration has been completed by the applicant and approved by the IDEM.

A significant lowering of water quality, in accordance with 327 IAC 5-2-11.3(b)(1), occurs when there is a new or increased loading of a bioaccumulative chemical of concern (BCC) from the permitted facility; or a new or increased permit limit for a non-BCC where the new or increased permit limits results in both a calculated increase in the ambient concentration of a pollutant in the receiving water body, and a lowering of water quality greater than a de minimis lowering of water quality. If the permittee plans to pursue any increase in design flow by plant expansion during the term of this permit, then an antidegradation study would be necessary.

As required by 327 IAC 5-2-11.3(b)(2), the permit renewal (Part II.A.17) specifically prohibits the permittee from taking deliberate actions that would result in new or increased discharges of BCCs or new or increased permit limits for non-BCCs without first proving that the new or increased discharge would not result in a significant lowering of water quality, or by submission and approval of an antidegradation demonstration to the IDEM.

Effluent Limitations and Rationale

The effluent limitations proposed herein are based on Indiana Water Quality Standards, NPDES regulations, and a Wasteload Allocation (WLA) analysis performed by this Office's Permits Technical Support Section staff on December 31, 2001. Metal monitoring requirements are based on Reasonable Potential Evaluations (RPE) performed in conjunction with a WLA analysis performed by this Office's Permits Technical Support Section staff on July 23, 2009.

The limits are in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(11)(A). Monitoring frequencies are based upon facility size, type, and compliance history.

The final effluent limitations to be limited and/or monitored include: Flow, Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), Ammonia-nitrogen (NH_3-N), Phosphorus, pH, Dissolved Oxygen (DO), Total Residual Chlorine (TRC), *Escherichia coli* (*E. coli*), cadmium, chromium, copper, cyanide, lead, mercury, nickel and zinc.

Final Effluent Limitations

The summer monitoring period runs from May 1 through November 30 of each year and the winter monitoring period runs from December 1 through April 30 of each year. The disinfection season runs from April 1 through October 31 of each year. The mass limits for $CBOD_5$, TSS, and Ammonia-nitrogen are calculated by multiplying the average design flow (in MGD) by the corresponding concentration value and by 8.345. The mass limits for $CBOD_5$, TSS and Ammonia-nitrogen have been calculated utilizing the peak design flow of 15.0 MGD. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy.

Flow

Flow is to be measured daily as a 24-hour total. Reporting of flow is required by 327 IAC 5-2-13.

$CBOD_5$

$CBOD_5$ is limited to 5 mg/l (626 lbs/day) as a monthly average and 7.5 mg/l (939 lbs/day) as a weekly average. Monitoring is to be conducted five times weekly by 24-hour composite sampling. The $CBOD_5$ concentration limitations included in this permit are set in accordance with the Wasteload Allocation (WLA) analysis performed by this Office's Permits Technical Support Section staff on December 31, 2001 and are the same as the concentration limitations found in the facility's previous permit.

TSS

TSS is limited to 6 mg/l (751 lbs/day) as a monthly average and 9 mg/l (1,127 lbs/day) as a weekly average. Monitoring is to be conducted five times weekly by 24-hour composite sampling. The TSS concentration limitations included in this permit are set in accordance with the Wasteload Allocation (WLA) analysis performed by this Office's Permits Technical Support Section staff on December 31, 2001 and are the same as the concentration limitations found in the facility's previous permit.

Ammonia-nitrogen

Ammonia-nitrogen is limited to 1.3 mg/l (163 lbs/day) as a monthly average and 3.1 mg/l (388 lbs/day) as a daily maximum during the summer monitoring period. During the winter monitoring period, ammonia-nitrogen is limited to 1.4 mg/l (175 lbs/day) as a monthly average and 3.3 mg/l (413 lbs/day) as a daily maximum. Monitoring is to be conducted five times weekly by 24-hour composite sampling. The ammonia-nitrogen concentration limitations included in this permit have been retained from the previous permit in accordance with the antibacksliding regulations specified in 327 IAC 5-2-10(11)(A).

Phosphorus

In accordance with 327 IAC 5-10-2(a) & (b), as the treatment facility discharges into receiving waters located within the Lake Michigan drainage basin, phosphorus removal facilities shall achieve a degree of reduction as prescribed in the sliding scale of phosphorus removal in Footnote [2] of the permit, or produce an effluent containing no more than 1.0 mg/l total phosphorus (P), whichever is more stringent. Monitoring is to be conducted five times weekly by 24-hour composite sampling. These phosphorus limitations are the same as the limitations found in the facility's previous permit.

pH

The pH limitations have been based on 40 CFR 133.102 which is cross-referenced in 327 IAC 5-5-3. To ensure conditions necessary for the maintenance of a well-balanced aquatic community, the pH of the final effluent must be between 6.0 and 9.0 standard units in accordance with provisions in 327 IAC 2-1.5-8(c)(2). pH must be measured five times weekly by grab sampling. These pH limitations are the same as the limitations found in the facility's previous permit.

Dissolved Oxygen

Dissolved oxygen shall not fall below 7.0 mg/l as a daily minimum average. This dissolved oxygen limitation is set in accordance with the Wasteload Allocation (WLA) analysis performed by this Office's Permits Technical Support Section staff on December 31, 2001 and is the same limit found in the facility's previous permit. Dissolved oxygen measurements must be based on the average of three (3) grab samples taken within a 24-hr. period. This reduced number of required grab samples has been retained from the previous permit based on the permittee's compliance history for this parameter. Monitoring for dissolved oxygen is to be conducted five times weekly. The monitoring frequency has been reduced from daily based on the permittee's compliance history for this parameter.

Total Residual Chlorine

The monthly average water quality based effluent limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ), 0.06 mg/l. Compliance with this permit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for total residual chlorine is greater than or equal to the LOD value, but less than the LOQ value specified in the permit. Compliance with this permit will be demonstrated if the observed daily effluent concentrations are less than the LOQ. For daily maximum mass limitations based on WQBEL's less than the LOQ, compliance with the daily maximum mass value is based on the LOQ value. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 7.5 lbs/day. These total residual chlorine limitations are the same as the limitations found in the facility's previous permit.

E. coli

The *E. coli* limitations and monitoring requirements apply from April 1 through October 31, annually. *E. coli* is limited to 125 count/100 ml as a monthly average, and 235 count/100 ml as a daily maximum. The monthly average *E. coli* value shall be calculated as a geometric mean. This monitoring is to be conducted five times weekly by grab sampling. These *E. coli* limitations are set in accordance with 327 IAC 2-1.5-8(e) as cross-referenced with 327 IAC 5-2-11.4(d)(2).

Mercury

A Reasonable Potential Evaluation (RPE) was performed for mercury in conjunction with the Wasteload Allocation Analysis performed by this Office's Permits Technical Support Section staff on July 23, 2009. In reviewing the RPE, the projected effluent quality (PEQ) for mercury is less than the projected effluent limitations (PEL). Therefore, effluent limitations have not been retained in the permit for mercury. However, monitoring for mercury by a grab sample has been retained in the permit at a reduced frequency of twice per year in order to allow for the continued assessment of this pollutant parameter. In addition to effluent monitoring, the permittee is required to monitor the influent wastestream for mercury by a grab sample at a frequency of twice yearly.

Metals/Non-conventional Pollutants

Reasonable Potential Evaluations (RPE) for metals were performed in conjunction with the Wasteload Allocation Analysis performed by this Office's Permits Technical Support Section staff on July 23, 2009. In reviewing the RPE, the projected effluent quality (PEQ) for cadmium, chromium, copper, cyanide, lead, nickel and zinc is less than the projected effluent limitations (PEL). Therefore, effluent limitations have not been included in the permit for the aforementioned metals. However, due to the industrial contributors to the J. B. Gifford Wastewater Treatment Plant collection system, monitoring requirements for these metals are being retained, at a reduced frequency of quarterly utilizing 24-Hr. composite sampling. In addition to effluent monitoring, the permittee is required to monitor the influent wastestream for cadmium, chromium, copper, cyanide, lead, nickel and zinc at a frequency of quarterly utilizing 24-Hr. composite sampling.

Whole Effluent Toxicity Testing

The permittee submitted a whole effluent toxicity tests (WETT) with the renewal application as required in 327 IAC 5-2-3(g). The permittee shall conduct the whole effluent toxicity tests described in Part I.D. of the permit to monitor the toxicity of the discharge from Outfall 001. This toxicity testing is to be performed annually for the duration of this NPDES permit. Acute toxicity will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a (acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas*, which ever is more sensitive. Chronic toxicity will be demonstrated if the effluent is observed to have exceeded 1.3 TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas*. If acute or chronic toxicity is found in any of the tests specified above, another toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two tests indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as is described in Part I.D.2. of the permit.

Backsliding

None of the concentration limits included in this permit conflict with antibacksliding regulations found in 327 IAC 5-2-10(11)(A), therefore, backsliding is not an issue.

Reopening Clauses

Six reopening clauses were incorporated into the permit in Part I.C. One clause is to incorporate effluent limits from any further wasteload allocations performed, a second clause is to allow for changes in the sludge disposal standards, a third clause is to incorporate any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, a fourth clause is to include whole effluent toxicity limitations or to include limitations for specific toxicants, a fifth clause is to include a case-specific Method Detection Level (MDL), and a sixth clause is to incorporate effluent limitations and monitoring requirements for specific heavy metals and cyanide.

Compliance Status

The permittee has no enforcement actions at the time of this permit preparation.

Expiration Date

A five-year NPDES permit is proposed.

Drafted by: Bill Stenner
September 16, 2009

APPENDIX B

Summary of Changes

Summary of Changes
From the
July 2011 version of the CSOOP to the February 2012 Version of the CSOOP

Deletions

Introduction - Deleted background info
Section 2.3 - Deleted rainfall relationship for 2010
Section 2.6 - Deleted item H
Section 2.9 – Deleted Appendix reference
Section 3.1 - Deleted last paragraph
Section 3.2 - Deleted attachment reference for NPDES Permit
Section 4.4 - Deleted much of last two paragraphs and made additions to better describe what the sewer crew does when cleaning.
Section 4.5 - Deleted and made additions to better describe what the sewer crew does when cleaning.
Section 4.6 – Deleted reference conversion of Lift stations in 2009.
Section 5 .1 Deleted CSOOP 1996 reference
Section 5.8 – Deleted references to Old Headworks and tables etc and reworded this section to make it more accurate. Also deleted Figure 5-5 Aerial view of the Storm Basin and History of disinfection of Outfall 002.
Section 6.2 Deleted Annual goals and 2008 sewer work information.
Note: There may have been additional deletions that were appropriate.

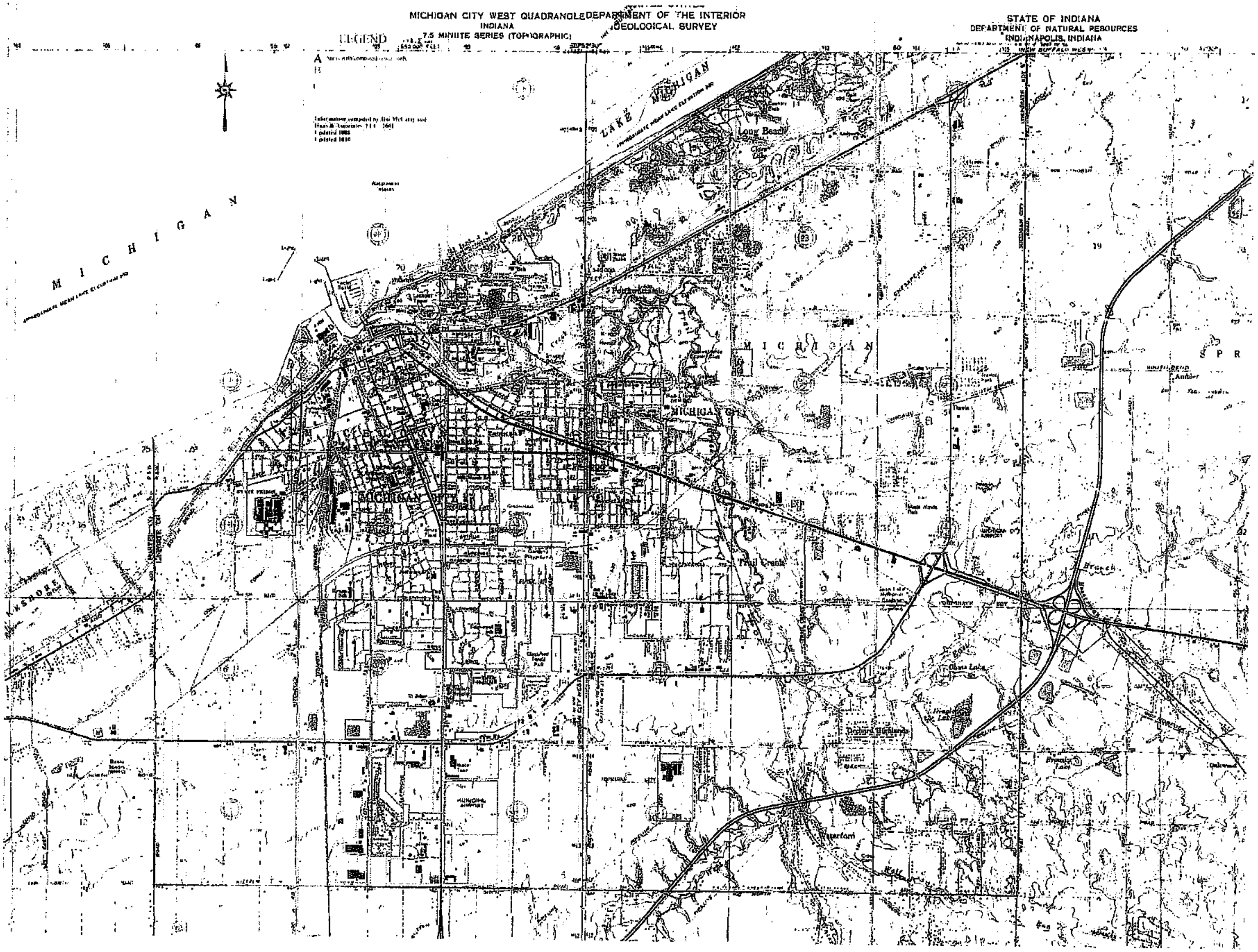
Additions and/or Changes
All additions are highlighted in yellow. Additions and/or changes were made to the following section:

Section 1
Section 1.1
Section 2.1.1
Section 2.2.1 Figure 3 footnote
Section 2.2.3
Section 2.3
Section 2.4
Section 3.1
Section 3.2
Section 4.2
Section 4.4
Section 4.5
Section 4.6
Section 5.4.1.2
Section 5.4.2.1 Footnote
Section 5.8.1
Section 5.8.4
Section 5.4.3.5
Section 6.1
Section 6.2
Section 6.5
Additionally the Appendix references are highlighted in Yellow and most if not all changed.

Every effort was made to identify the changes by highlighting them in yellow, if something was missed it was merely and oversight, and not intentional.

APPENDIX C

Current Service Area Containing Combined Sewers



MICHIGAN CITY WEST QUADRANGLE
INDIANA
7.5 MINUTE SERIES (TOPOGRAPHIC)
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES
INDIANAPOLIS, INDIANA
LEGEND
LAKE MICHIGAN
M I C H I G A N
Long Beach
MICHIGAN CITY
Trail Creek
Orchard Highlands
Ambler
S P R

APPENDIX D

Pipe Sizes and Corresponding Lengths in Michigan City

SANITARY DISTRICT OF MICHIGAN CITY

TO: Mayor Sheila Brillson
Chuck Oberlie, Controller
Bill Phelps, City Engineer

cc: Dan Olson
Mike Hoffman
Doretha Sanders
Bob Sutherlin

FROM: Al Walus, General Manager

DATE: August 12, 2002

RE: Sewer Inventory

For GASB 34 and other reasons, the Sanitary District has been utilizing in-house staff resources to update our overall sewer inventory. The District's 1990 Combined Sewer System Operational Plan identified our "Sewer System Inventory" as consisting of:

Combined & Sanitary Sewer Inventory -- 1990 Data
2,247 man-holes, and
583,179 feet of sewers; this equates to 110.45 miles of sewers

Examining the tabular data from the 1990 report, the sewer inventory described appears to be combined sanitary/storm sewers and sanitary only sewers. Thus, reviewing Project Manuals for sanitary sewer extension projects constructed since the 1990 report, the updated 2002 sanitary sewer inventory is as follows:

Combined & Sanitary Sewer Inventory -- 2002 Data
2,737 man-holes, and
721,879 feet of sewers; this equates to 136.72 miles of sewers

Since the above data does not contain storm sewers, we reviewed our Sewer Atlas to scale the lineal feet of storm sewers in our storm water sewer system. Once we obtained this initial data, we again reviewed Project Manuals and Final Payment certified as-built sewer lengths to construct our overall storm sewer inventory as follows:

Storm Sewer Inventory -- 2002 Data
899 man-holes, and
213,293 feet of sewers; this equates to 40.40 miles of sewers

Adding together our 2002 Combined/Sanitary Sewers and Storm Sewers, our total sewer inventory is:

Total Combined/Sanitary & Storm Sewer Inventory -- 2002 Data
3,636 man-holes, and
935,172 feet of sewers; this equates to 177.12 miles of sewers

NOTE: While the sewer inventory does not include each and every sanitary sewer project completed since 1990 or each and every storm sewer in Michigan City, we believe this is a documented baseline point from which we will continue to update as time permits in the coming months. (Note: Sewer length spreadsheets are attached for information.)

Sanitary District of Michigan City: 1100 E. Eighth Street, Michigan City, IN 46360-2567 · Phone: (219) 874-7799 · Fax: (219) 874-8053
Refuse Department: 1801 Kentucky Street, Michigan City, IN 46360-4144 · Phone: (219) 873-1530 · Fax: (219) 873-1565

Sanitary District of Michigan Sanitary Sewer Inventory as of 2002 (includes combined sewers and sanitary only sewers, but not storm sewers)

by: AJW; 8/12/2002

System Name	No. of Man-holes	Length of Sewer in Feet														
		6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"	42"	48"	66"	72"
A5	76	0	940	9,465	8,125	905	0	0	0	0	0	0	0	0	0	2,365
A14	91	0	0	6,065	10,725	645	118	0	3,795	0	0	0	1,955	1,325	1,645	0
A20	23	0	0	925	130	0	0	0	1,234	0	0	0	2,330	0	0	0
A30	18	0	0	1,760	1,370	0	0	0	0	0	0	1,690	270	0	0	0
A34	39	0	0	1,280	5,000	1,675	1,020	520	0	125	400	1,190	0	0	0	0
AN8	87	0	660	5,120	12,105	1,485	515	0	0	0	135	505	1,935	0	0	0
AN20	54	2,515	1,105	12,370	0	0	945	0	0	0	1,605	0	0	0	0	0
AN28	47	0	7,660	3,635	760	2,280	620	0	1,810	0	0	0	0	0	0	0
ANM2	20	0	1,590	1,930	500	575	430	0	0	0	0	0	0	0	0	0
ANZ26	40	0	0	815	525	100	7,940	0	2,385	0	0	0	0	0	0	0
AQ6	64	0	1,060	5,470	6,000	1,610	690	595	1,370	0	0	0	1,320	255	0	0
AQ13	166	0	805	23,505	14,375	4,905	775	720	0	0	830	1,435	860	0	0	0
AQ26	54	0	640	8,960	1,860	1,505	445	620	1,165	0	425	0	0	0	0	0
AQ34	88	0	355	5,635	11,035	3,510	5,110	0	0	0	0	0	0	0	0	0
AQ59	14	0	0	0	3,560	0	0	0	0	0	0	0	0	0	0	0
AQW2	14	0	0	2,680	1,030	0	0	0	0	0	0	0	0	0	0	0
AQZ46	30	0	0	0	6,345	1,420	0	0	0	0	0	0	0	0	0	0
AU5	41	0	1,760	2,270	4,690	0	1,105	1,144	1,000	0	0	0	0	0	0	0
AU16	42	0	0	6,340	2,560	2,590	985	0	0	0	0	0	0	0	0	0
AUM2	26	0	630	920	5,925	0	0	0	0	0	0	0	0	0	0	0
AUM23	35	0	620	620	5,680	2,170	910	1,660	0	0	0	0	0	0	0	0
AW5	54	0	170	5,181	7,840	1,280	0	0	0	0	1,580	0	0	0	0	0
AW14	6	0	0	0	1,860	0	0	0	0	0	0	0	0	0	0	0
AZ4	47	0	1,585	2,810	2,410	2,730	1,585	0	2,125	0	0	0	0	0	0	0
AZ19	18	0	55	345	4,540	0	0	0	0	0	0	0	0	0	0	0
AZF6	14	0	740	1,120	0	0	1,710	0	0	0	0	0	0	0	0	0
AZJ6	92	0	2,980	14,565	5,885	420	0	0	0	0	0	0	0	0	0	0
B1	68	0	1,710	6,250	4,200	230	0	1,040	0	0	0	4,030	0	0	0	0
B28	44	0	210	1,940	3,255	2,043	1,040	0	300	2,715	0	0	0	0	0	0
B15B	15	0	1,040	450	0	0	1,660	0	530	210	0	60	0	0	0	0
B41B	48	0	605	4,870	3,850	355	550	0	2,130	0	0	0	0	0	0	0
BC1	137	0	2,965	4,160	2,650	6,380	4,310	5,945	5,395	2,340	0	1,395	0	0	0	0
BC13	19	0	0	2,900	990	0	0	0	320	0	0	660	0	0	0	0
B16	65	0	0	2,680	11,310	1,850	270	0	550	0	270	0	0	0	0	0
BF1	34	0	0	1,620	1,590	820	1,160	2,075	0	1,385	0	0	0	0	0	0
BL1	20	0	0	0	5,240	0	0	0	0	0	0	0	0	0	0	0
BT2	185	0	665	1,025	1,310	220	0	0	860	735	0	0	0	0	0	0
BT7A	16	0	120	0	2,760	0	1,150	0	0	0	0	0	0	0	0	0
BTC12B	14	0	0	0	200	0	2,040	0	800	0	640	0	0	0	0	0
C3	53	0	3,420	4,619	1,450	300	1,540	2,300	0	0	0	0	0	0	0	0

Sanitary District of Michigan Sanitary Sewer Inventory as of 2002 (includes combined sewers and sanitary only sewers, but not storm sewers)

by: AJW; 8/12/2002

System Name	No. of Man-holes	Length of Sewer in Feet															
		6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"	42"	48"	66"	72"
CD2	16	0	0	1,910	0	0	2,340	0	0	0	0	0	0	0	0	0
CD10	67	0	390	11,840	7,685	1,040	3,480	1,140	0	0	0	0	0	0	0	0
CF1	19	0	0	0	2,280	1,905	640	0	0	0	0	0	0	0	0	0
CF11	13	0	320	340	600	2,170	0	0	0	0	0	0	0	0	0	0
CF22	69	0	4,760	7,560	2,600	2,920	0	0	0	0	0	0	0	0	0	0
CFD1	29	0	0	4,515	3,015	0	0	0	0	0	0	0	0	0	0	0
A4	16	0	290	3,300	0	0	0	0	0	0	0	0	0	0	0	0
Freyer	12	0	0	0	1,206	2,770	0	0	0	0	0	0	0	0	0	0
Woodlawn	51	0	9,370	0	3,100	2,640	0	0	0	0	0	0	0	0	0	0
212/Lumber	10	0	135	3,147	0	0	0	0	0	0	0	0	0	0	0	0
Shor/Mich	132	0	18,263	2,288	9,219	0	0	2,218	0	0	0	0	0	0	0	0
Crescent	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/Freyer	35	0	1,127	3,789	1,924	0	0	3,845	0	0	0	0	0	0	0	0
Eastwood	13	0	2,221	0	4,000	0	32	0	0	0	0	0	0	0	0	0
Roeske N.	7	0	153	0	1,127	0	0	0	0	0	0	0	0	0	0	0
Roeske S.	10	0	916	740	0	0	1,095	0	0	0	0	0	0	0	0	0
Motts I	81	0	9,620	3,083	6,750	1,845	0	2,789	0	0	0	0	0	0	0	0
Motts II	14	0	0	1,768	2,548	958	0	0	0	0	0	0	0	0	0	0
Burnside	14	0	590	118	1,877	0	0	0	0	0	0	0	0	0	0	0
212/12	17	0	455	100	4,956	0	0	0	0	0	0	0	0	0	0	0
South Side	89	0	5,633	354	1,498	0	3,886	2,012	6,307	1,256	2,638	0	2,334	0	0	0
Totals:	2,737	2,515	88,333	199,152	218,025	58,231	50,076	28,623	32,076	8,766	8,523	10,965	11,004	1,580	1,645	2,365

Thus, through 2002, our sanitary sewer inventory has identified: 2,737 man-holes; and 721,879 feet of sewers; which equals: 136.72 miles of sewers

Sanitary District of Michigan City Storm Sewer Inventory as of 2002

by: AJW; 8/12/2002

System Name	No. of Man-holes	Length of Sewer in Feet																								
		8"	10"	12"	15"	16"	18"	21"	24"	25"	27"	30"	33"	36"	42"	48"	54"	60"	66"	72"	78	84	96	102	108	10' x 8'
Sht. 4	66			2,080	2,700																					
Sht. 5	34	200	700	4,290		1,450	3,950	620	3,330					720	1,220	320	2,020	550	2,400							
Sht. 27	48			1,970	2,630	0	870	810	910	370	530	1,240		1,360	0	1,840										
Sht. 28	63			700	1,600	0	620	360	1,320	0	470	770		920	1,920	2,520	300		1,130							
Sht. 29	88		1,230	2,390	2,030	0	1,630	260	1,950	0	0	1,740		1,550	430	430	860	1,700	1,050	2,650						2,480
Sht. 30	23			1,000	0	0	380	0	820	0	1,700	910														
Sht. 31	45		350	1,640	410	0	2,140	0	1,080	0	0	1,230		920	0	160	0	0	890							
Sht. 32	86			2,220	1,980	0	1,990	550	3,580	0	260	2,010	1,430	2,340	300	760	1,150	820		660	5,730	2,070	910	1,450	2,250	
Sht. 33	56			1,270	940		270	1,070	250			790		260	1,440	2,370				1,900						
Sht. 34	11				280											2,170										
Pullman	37	226	2,112	1,472	1,611		2,192	1,857	276		404			273	272	559										
Jackson/Cool	11			673			60		310			545		741	825											
Southwood/VG	31		700	685	1,300		300	636	2,566			1,515		1,460												
Village Road	7		441	157	637			157	109																	
Ham/Hoyt I	14	15	750	286	61		240		312			1,735				694										
Ham/Hoyt II A	27	226	1,499	915	2,450		1,166	516	638		668	624		620	384											
Ham/Hoyt II B	24		1,101	1,691	851		528	906	292			1,044														
Ham/Hoyt II C	3		413	155	959			461																		
Harrison	3	151	66		123		271																			
School St.	59	4,330	1,696	1,400	457		1,170	486	1,345		1,052	107		929	1,562											
Sheridan Sch.	27		1,282	1,231	2,172		1,290	263	482		30	184				486										
Ohio/Barker	48			5,609	4,014	65	2,933																			
Ohio/Garfield	13		1,938	1,304	1,562			367	388			377														
Mich/Porter	13		208	434	100		124		87		1,939															
Roeske North	8	32		305	504		286	332	61																	
Roeske South	12			1,873	1,121																					
S-Side IV	31		1,430	546	2,216		2,648	466	1,144		358															
S-Side II	8		210		507			485																		
S-Side I	3		170	73			262		484								1,299									
Totals:	899	5,100	16,296	36,355	32,967		25,530	10,654	21,794		7,411	14,861		12,102	8,353	12,331			6,070							2,480

Thus, through 2002, our storm sewer inventory has identified: 899 man-holes and 213,293 feet of sewers; which equals: 40.40 miles of sewers

CITY OF MICHIGAN CITY
Riverboat-Funded Storm Sewers through 2005

System Name	No. of Man-holes	Length of Sewer in Feet										
		8"	10"	12"	15"	16"	18"	21"	24"	25"	27"	30"
Ohio/Barker	48	0	0	5,609	4,014	65	2,933	0	0	0	0	0
Ohio/Garfield	13	0	1,938	1,304	1,562	0		367	388	0	0	377
Roeske North	8	32	0	305	504	0	286	332	61	0	0	0
Roeske South	12	0	0	1,873	1,121	0	0	0	0	0	0	0
Wabash Phase I	3	40	658	347	460	0	255	0	0	0	0	0
Totals:	84	72	2,596	9,438	7,661	65	3,474	699	449	0	0	377

With Riverboat funding, Michigan City has built: 84 man-holes; and,

24,831 feet of sewers, or: **5** miles of storm sewers

by: Sanitary District of Michigan City
April 2005

APPENDIX E

SOP PM.2

Standard Operating Procedure for:

PM.2 Manhole Inspection

Date Approved:

Purpose of SOP:

To accurately inventory the assets of the collection system, to update collection system maps, to determine the structural condition of each manhole and associated piping, and to aide in the scheduling of our system maintenance and repair

PM.2.1. **Frequency:** Ten year revolving program. (10 % per year)

PM.2.2. **Safety:** Use proper Personal Protective Equipment. Use appropriate traffic safety controls.

PM.2.3. **Documentation:** Use Form MI-1 or GPS database.

PM.2.4. **Equipment needed:**

1. Camera Truck and or Envirosight Camera and associated hardware/software.
2. Trimble GeoXH Handheld GPS with Zephyr Antenna and associated hardware/ software.
3. Vehicle for portable power (generator truck)
4. Standard Hand and or power Tools
5. Jet/Vac truck to clean manhole if necessary
6. Any other equipment deemed necessary to complete the job.

PM.2.5. **Manpower:** At least one certified video person and one or more additional crew to be determined by the Foreman

PM.2.6 **Scope of Work:**

Field Operations Supervisor and Collections Foreman will make a weekly list of manholes to be inspected.

Set up the GeoXH Handheld GPS equipment at the manhole to be inspected and use according to the manufacturer's specifications.

Clean manhole if necessary to get view of walls and invert etc.

Set up the Envirosight and or Camera Truck at the manhole to be inspected and use according to the manufacturer's specifications.

Using the form MI-1, circle the appropriate box, fill in the blanks and or write applicable comments in the space available.

Using the GPS equipment, go to the manhole number in the database and enter the comments using the dropdowns and stylus.

The foreman will determine if immediate repairs are necessary. If major repairs are necessary, the Field Operations Supervisor and the Collections Foreman will meet with the Collections Superintendent to determine the next course of action.

PM.2.7
Responsibility for Collected Data:

1. Trained Video Employee: will download images from camera to storage. (weekly)
2. IT Manager will download Portable Camera video and download the GPS information. (as necessary)
3. Field Operations Supervisor and Collections Foreman will review & analyze data for future maintenance.

Appendix:

A. MI-1 Form
B. What to look for sheet (memory jogger).

MANHOLE DESCRIPTION – Form MI - 1

MANHOLE # : _____ DATE: _____

ADDRESS / LOCATION: _____

AREA AROUND ENTRANCE: _____ ACCESS: _____

RING & COVER: ALUM. CAST IRON

RISER RINGS: BRICK CONCRETE STEEL

MH TYPE: PRECAST BRICK

STEPS: PVC ALUM. CAST IRON

DOWNSTREAM PIPE TYPE: PVC CLAY CONCRETE

INVERT SIZES IN: _____ INVERT SIZES OUT: _____

DEPTH TO INVERT: _____

MANHOLE CONDITION

RING & COVER: OK BURIED CHIP OUT

RING & COVER OFFSET INCHES: _____ REPLACE: _____

RISER RINGS: OK GROUT REBUILD

MANHOLE WALLS: OK GROUT REPAIR

STEPS: OK RUSTY GONE

INVERT: OK CHIP OUT REWORK

THROUGH FLOW: SMOOTH TURBULENT SURCHARCHING

INFIL: NONE LIGHT MEDIUM HEAVY

ROOTS: NONE MEDIUM HEAVY SEVERE

CORROSION: NONE SLIGHT MODERATE SEVERE

GENERAL CONDITION: GOOD FAIR POOR CRITICAL

COMMENTS: _____

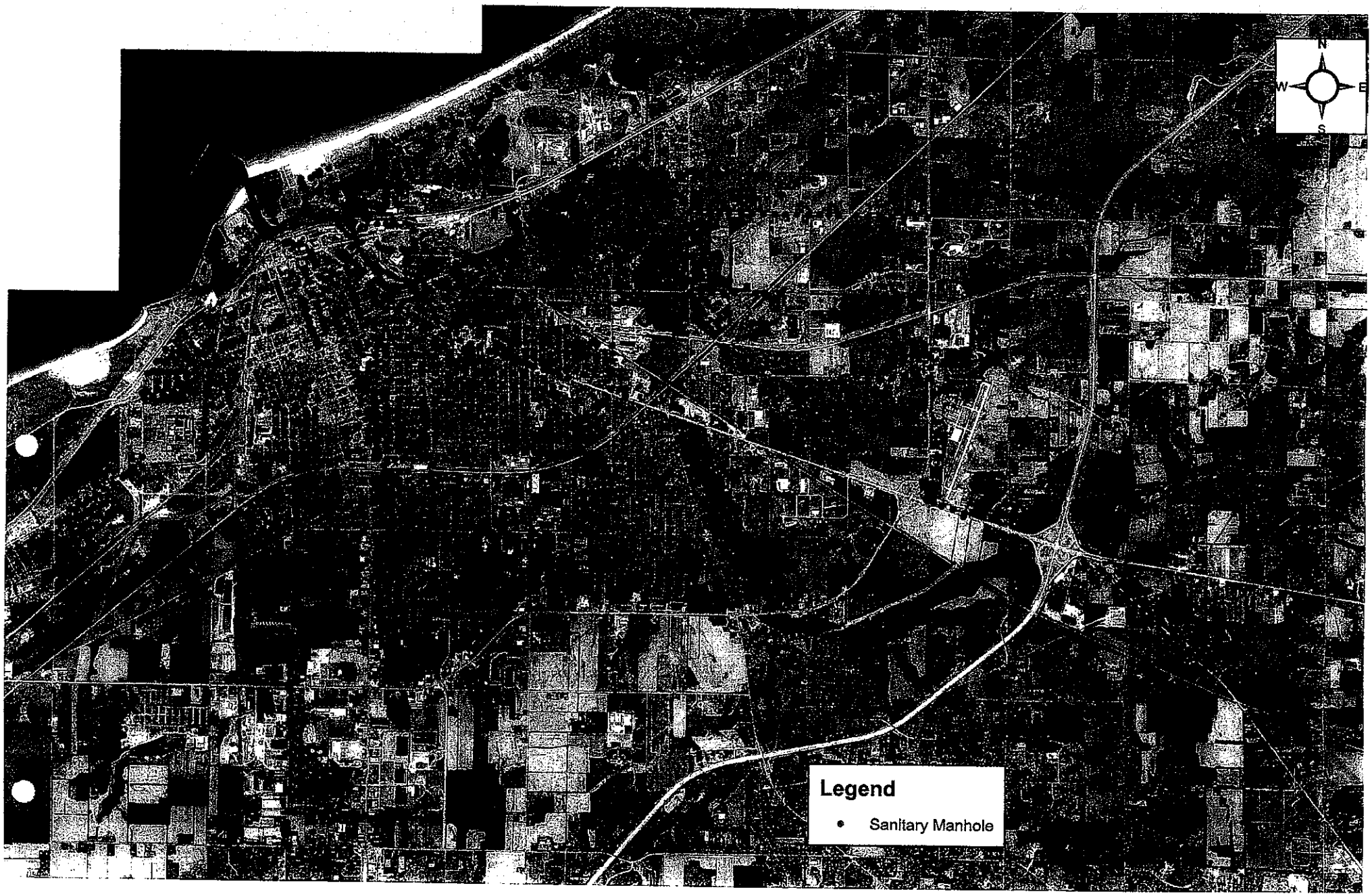
_____

_____

MEMORY JOGGER

Manhole Inspection:
What to look for

- Buried Manholes
- Accessibility
- Frame and cover setting
- Mineral deposits, infiltrations, or inflow
- Roots
- Structural problems, such as grade ring condition
- Deterioration of manhole or pipes
- Pipeline capacity
- How invert and bench affect through-flow
- Strong or unusual odors
- Rough or turbulent water surface
- Noisy wastewater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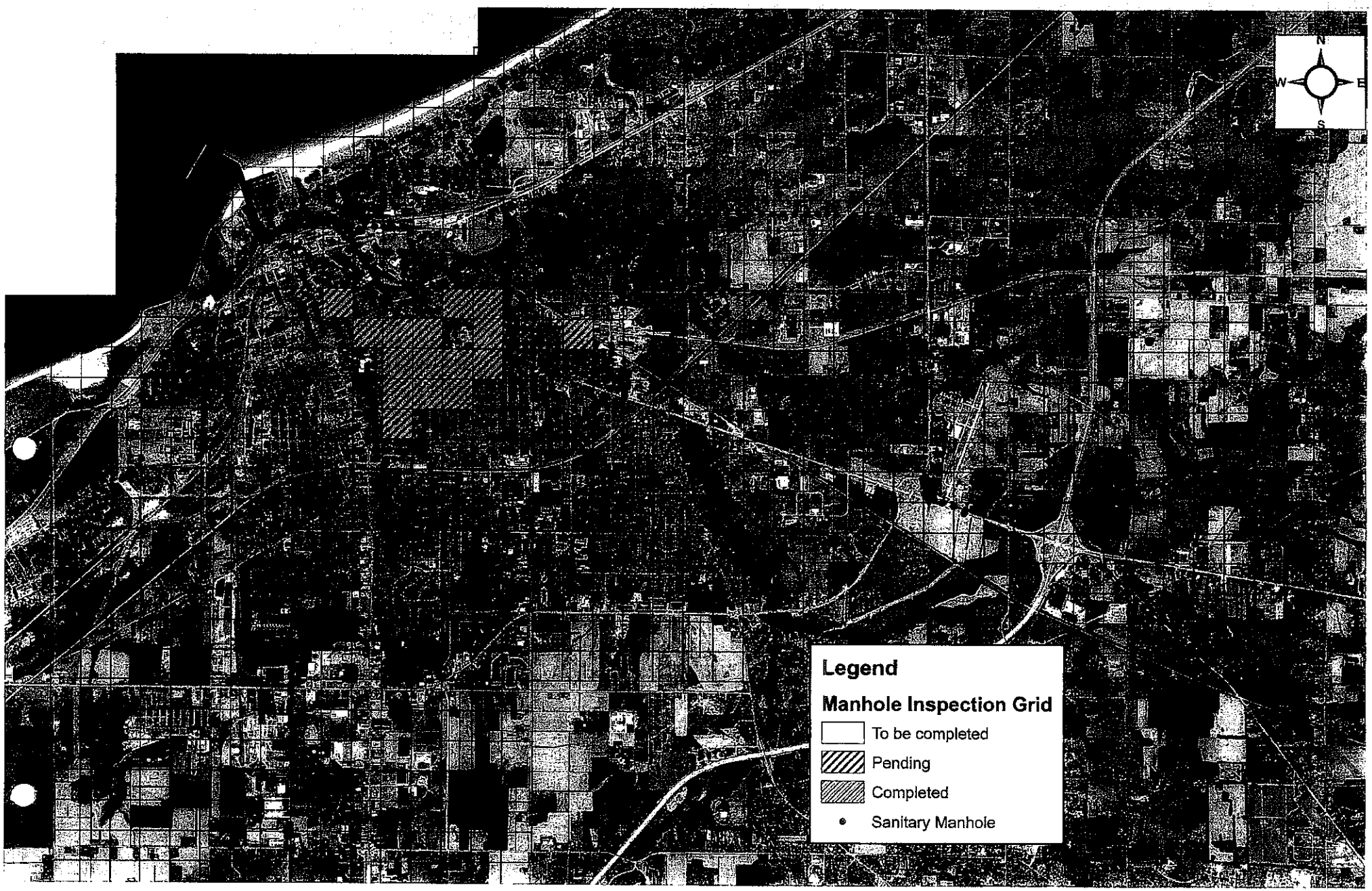
Legend
Sanitary Manhole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Manhole Inspection Grid
To be completed
Pending
Completed
Sanitary Manhole

Procedure SDMC 09-001
Reporting Spills and Overflows from Collection System or Lift Stations

1.0 Purpose(s):

1.1 To establish a uniform procedure for reporting spills and sewer system overflows to Sanitary District personnel responsible for transmitting a verbal and written notification to the Indiana Department of Environmental Management.

1.2 To remain in compliance with the reporting requirements of the Sanitary District's NPDES permit.

1.3 To ensure that said events receive the necessary priority in response and scheduling by Collection System or Lift Station Maintenance personnel.

1.4 To alert interested and affected parties of the event and potential impacts on the activities of or by the parties.

2.0 Definitions:

2.1 "Sanitary sewer overflow" (SSO) is a condition whereby untreated sewage is discharged into the environment prior to reaching treatment facilities thereby escaping wastewater treatment.

2.2 "Spill" means any unexpected, unintended, abnormal, or unapproved dumping, leakage, drainage, seepage, discharge or other loss of...

- 2.2.1 Petroleum,
- 2.2.2 Hazardous substances,
- 2.2.3 Extremely hazardous substances, or
- 2.2.4 Objectionable substances.
- 2.2.5 The term does not include releases to impermeable surfaces when the substance does not migrate off the surface or penetrate the surface and enter the soil.

2.3 "Objectionable substances" means substances that are:

- 2.3.1 of a quantity and a type; and
- 2.3.2 present for duration and in a location; so as to damage waters of the state.
- 2.3.3 This definition excludes hazardous substances, extremely hazardous substances, petroleum, and mixtures thereof.
- 2.3.4 Sewage is classified as an objectionable substance only when it causes damage as defined in 2.4.1.

2.4 "Reportable Spills", the following spills from a facility must be reported:

2.4.1 Spills that damage the waters of the state so as to cause death or acute injury or illness to humans or animals.

2.4.2 Spills from a facility that has been notified in writing by a water utility that it is located in a delineated public water supply wellhead protection area as approved by the department under 327 IAC 8-4.1 that are:

2.4.2.1 spills of hazardous substances or extremely hazardous substances when the amount spilled exceeds one hundred (100) pounds or the reportable quantity, whichever is less;
2.4.2.2 spills of petroleum when the amount spilled exceeds fifty-five (55) gallons; or
2.4.2.3 spills of objectionable substances as defined in section 2.3.

2.4.3 Spills that damage waters of the state and that:

2.4.3.1 are located within fifty (50) feet of a known private drinking water well located beyond the facility property boundary; or
2.4.3.2 are located within one hundred (100) yards of:
2.4.3.2.1 any high quality water designated as an outstanding state resource pursuant to 327 IAC 2-1-2(3), excluding Lake Michigan;
2.4.3.2.2 any water designated as exceptional use pursuant to 327 IAC 2-13(a)(6) *[sic., 327 IAC 2-1-3(a)(6)]* and 327 IAC 2-1-11(b);
2.4.3.2.3 any water designated as capable of supporting a salmonid fishery pursuant to 327 IAC 2-1-6(c)(1), except Lake Michigan; or
2.4.3.2.4 any water that is a fish hatchery, fish and wildlife area, nature preserve, or recreational water owned by the department of natural resources or the federal government.

2.4.4 For any spill which does not meet the criteria in subdivisions (1) through (3), the following must be reported:

2.4.4.1 Spills to surface waters:

2.4.4.1.1 spills of hazardous substances or extremely hazardous substances when the amount spilled exceeds one hundred (100) pounds or the reportable quantity, whichever is less;

2.4.4.1.2 spills of petroleum of such quantity as to cause a sheen upon the waters; or

2.4.4.1.3 spills of objectionable substances as defined in section 2.3.

2.4.4.2 Spills to soil beyond the facility boundary:

2.4.4.2.1 spills of hazardous substances or extremely hazardous substances when the amount spilled exceeds one hundred (100) pounds or the reportable quantity, whichever is less;

2.4.4.2.2 spills of petroleum when the amount spilled exceeds fifty-five (55) gallons; or

2.4.4.2.3 spills of objectionable substances as defined in section 2.3.

2.4.4.3 Spills to soil within the facility boundary:

2.4.4.3.1 spills of hazardous substances or extremely hazardous substances when the amount spilled exceeds the reportable quantity;

2.4.4.3.2 spills of petroleum when the spilled amount exceeds one thousand (1,000) gallons; or

2.4.4.3.3 spills of objectionable substances as defined in section 2.3.

2.4.5 Any spill for which a spill response has not been done.

3.0 Procedure:

3.1 If a service call request or complaint is received from the public, a Sanitary District user, or another City Department; or a Sanitary District employee discovers untreated sewage or wastewater exiting a manhole, or a spill, as defined above, then the following actions must take place immediately, or as soon as possible, regardless of whether a work order has been generated or not:

3.1.1 Notify the Collection System Foreman or Acting Foreman that a potential overflow or spill condition has been reported or discovered; see *Guide to Identifying Conditions in Manholes*.

3.1.2 Record the time and date of the receipt of the information and the notification of the Foreman, the location, and the informant's information.

3.1.3 Call-out or assign a crew to investigate the incident on-site as soon as possible, in accordance with established Sanitary District Procedures.

3.1.4 Upon verification of the overflow or spill condition, notify, or request immediate notification, of the Collection System Superintendent and Plant Superintendent, providing as much of the following information as possible:

- 3.1.4.1 The time the potential overflow was reported
- 3.1.4.2 The time that the crew arrived on-site
- 3.1.4.3 The exact location of the alleged overflow
- 3.1.4.4 Whether the overflow has stopped or not
- 3.1.4.5 If stopped, how long after you arrived did it take to stop the overflow?
- 3.1.4.6 If not, is it intermittent or continuous?
- 3.1.4.7 What actions have been taken or are planned to stop the overflow?
- 3.1.4.8 Did or is the overflow reaching a storm inlet (catch basin), or entering Trail Creek, or its marina's directly?
- 3.1.4.9 Did or is the overflow reaching Trail Creek or Lake Michigan indirectly, for example through a discharge from a storm sewer.

3.1.5 Record other information that may be important to understanding this incident, for example…

- 3.1.5.1 Unusual activities, festivals, tournaments, etc. upstream of the overflow point
- 3.1.5.2 Surcharge conditions in the sewers upstream and downstream of the overflow point; specify the extent of the on-site investigation.
- 3.1.5.3 Suspected failure of a lift station
- 3.1.5.4 Unusually heavy rainfall

3.2 The Superintendent shall:

3.2.1 Record the time that he/she was notified of the release.

3.2.2 Determine whether the incident is an overflow or a spill (see *Determining Whether a Release is an Overflow or a Spill*).

3.2.3 If not the person notified, contact the Plant Superintendent, or Operator in Responsible Charge, if different.

3.3 **For spills, within two (2) hours of the initial call or discovery**, the Plant Superintendent, or Collection Superintendent, shall call the Spill Report number an make an oral notification of the spill incident: (317) 233-7745 OR (888) 233-7745. Record the time and the person's name who took the call.

3.4 **For overflows, within twenty-four (24) hours of the initial call or discovery**, the Plant Superintendent, or Collection Superintendent, shall fax a Bypass/Overflow Report, State Form 48373, to (317) 232-8637 OR (317) 232-8406. Alternate oral report: the Plant Superintendent, or Collection Superintendent, shall call the Office of Water Quality, (317) 232-8670.

3.5 **For both spills and overflows**, a written report shall be completed and sent to IDEM by the Operator in Responsible Charge no later that five (5) days after the initial call or discovery of the overflow or spill condition. EXCEPTION FOR OVERFLOWS ONLY: if form 48373 was used to report an overflow, then the written report requirements were met with that form and no further written report is required.

3.6 Oral and written reports must contain the information on SDMC Spill/Overflow Report Form, SDMC-F-09-001 (see attached).

4.0 Notification of Affected Parties

4.1 The Collection or Plant Superintendent, or their designee, will ensure that affected parties downstream or adjacent to the release of an overflow or spill are notified after an oral report is given to IDEM.

4.2 Notification of affected parties shall be in accordance with SDMC Policy No. 09-002

ACKNOWLEDGMENT OF RECEIPT

I have received a copy of Procedure SDMC 09-001, which outlines the differences between an overflow and a spill and the reporting requirements for both. I understand that I may be the first Sanitary District employee to arrive at the scene of an overflow or spill and that I have a responsibility to report such incidents to my direct Supervisor and the Collection System and Plant Superintendents.

_____ _____

Employee (Print Name) Date

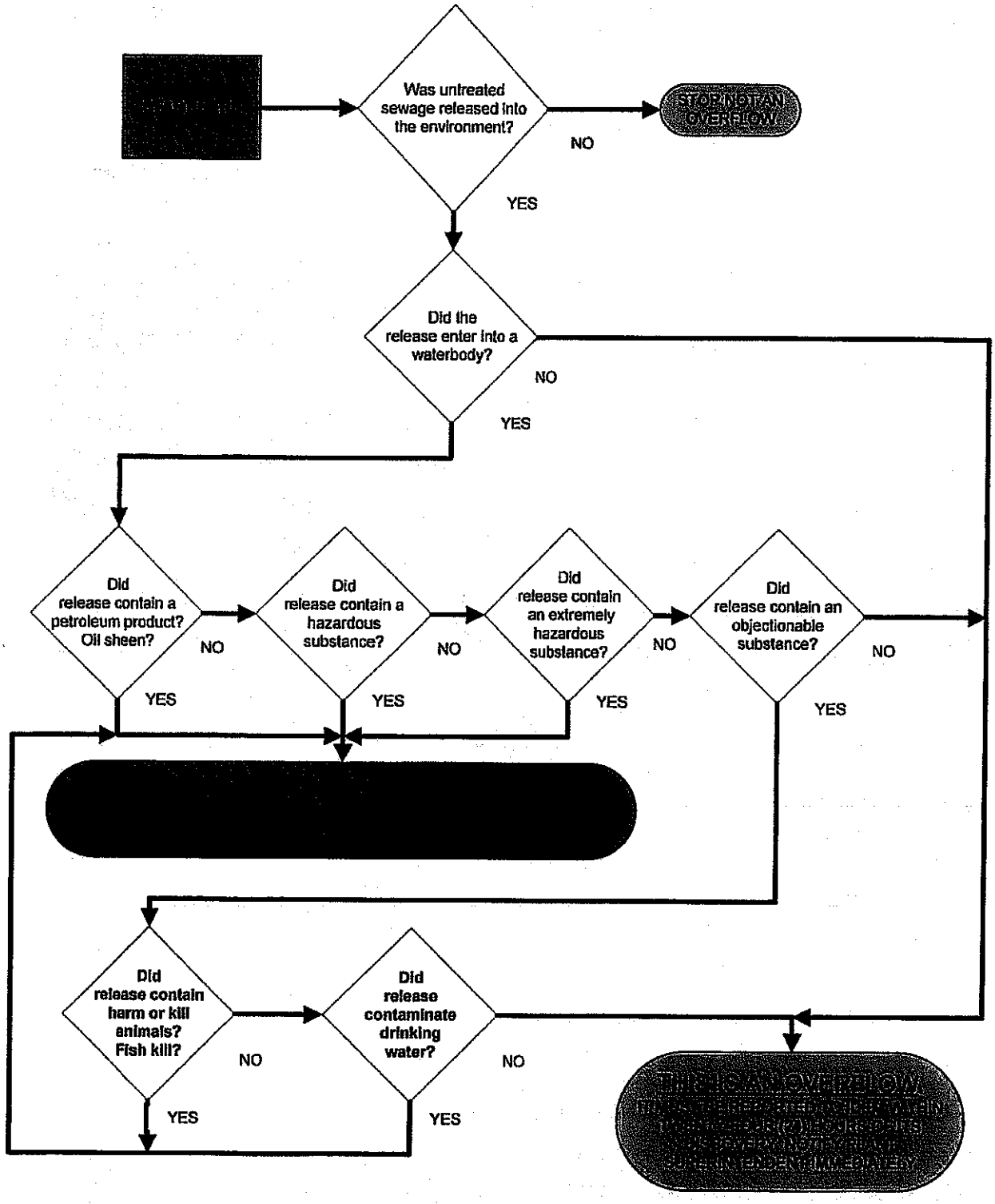
_____

Employee Signature

Guide to Identifying Conditions in Manholes
Overflows, Bypasses, and Spills – NPDES Permit Reporting Requirements

Condition	Observed Condition at Manhole	Reporting Required
Sewer Running Normal	Wastewater flowing well through sewer and normal portion of pipe is exposed.	NONE
High Flow Condition	Wastewater flowing well through sewer, pipe is full or greater than normal.	Note on Work Order and to Foreman
Surcharged Condition	Wastewater flow may be observed, pipe is submerged in manhole and water level is below the top of cover.	REPORT TO FOREMAN and SUPERINTENDENT
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Determining Whether a Release is an Overflow or a Spill



Sanitary District of Michigan City
Spill/Overflow Report Form
SDMC-F-09-001

Facility Name	Sanitary District of Michigan City
NPDES Permit No	IN0023752
County	LaPorte
Address	1100 E. Eight Street, Michigan City, IN 46360
Person Making Report	
Telephone No of Person	( )_____ - _____
Contact Person	☐ Same as above OR:
Contact Person Telephone No	☐ Same as above OR ( )_____ - _____
Name of IDEM Person Taking Report (ORAL)	
Date & Time Release BEGAN	
Date & Time Release ENDED	
Duration of Spill/Overflow	
ID of substance spilled	☐ Petroleum ☐ Hazardous Substance ☐ Extremely Hazardous Substance ☐ Objectionable Substance: _____
Location of Release	
Receiving Area/ Waterbody	
Amount of Flow Released	☐ Actual ☐ Estimated _____ Gallons ☐ Intermittent ☐ Continuous
WWTP Design Flow	12 MGD Daily Average, 15 MGD Peak Hourly
WWTP Flow During Release	_____ MG
Type of Release	☐ Untreated ☐ Partially Treated ☐ Bypass of Treatment Process ☐ Blended with Final Effluent and Samples
Describe any Damage to Aquatic Lift or Receiving Stream	
Reason for Bypass/Overflow/Spill	
Cause of Bypass/Overflow/Spill	☐ Construction Related ☐ Power Failure ☐ Equipment Failure ☐ Precipitation: _____ inches ☐ Other: _____

Sanitary District of Michigan City
Spill/Overflow Report Form
SDMC-F-09-001

Did an Outside Agency Respond to Release or Assist in Cleanup	☐ Yes ☐ No Agency:_____
Agency Contact	Name:_____ Tel. ( ) _____-_____
Describe Actions taken to prevent, minimize or mitigate damage:	
Actions taken or planned to prevent reoccurrence	

Sanitary District of Michigan City
Spill/Overflow Report Form
SDMC-F-09-001

Information for Internal Use Only	
Was Work Order Generated for This Incident?	☐ Yes ☐ No Work Order No: _____
Who Reported the Incident?	☐ Citizen/User ☐ Other Department: _____ ☐ SDMC Employee: _____ ☐ Other: _____
Who Generated Work Order?	☐ Operations: _____ ☐ Administration: _____
Crew Assigned or Called Out:	
Time Crew Arrived at Release Site:	
Foreman on-site or notified	
Time, Date, Superintendent Notified, and by Whom	Time: _____ Date: ____/____/_____ ☐ CS Supt ☐ Plant Supt Contacted by: _____
Date Written Report was Completed and Sent	Date: ____/____/_____ By: _____

NOTE: A copy of this report must be given to the Plant Superintendent, Operator in Responsible Charge, if different, the Collection System Superintendent, General Manager, and Administration for NPDES Files.

APPENDIX F

Status Report on the Lift Stations from the 2010 CSOOP

SANITARY DISTRICT OF MICHIGAN CITY

2009 Lift Station Report

The Sanitary District completed the final year for conversion from AT&T to Mission Communications in 2009. The following assesses the condition of existing lift stations and document needs and problems.

Beachwalk LS (123 Beachwalk Lane): The planned pump replacement to convert the second pump to a grinder pump was completed in 2009. The District anticipates more reliable service for this area, with less pump overloads.

Beechwood LS (Intersection of Shady Lane & Warnke Road): This lift station was converted from AT&T to Mission in 2009 and is located in generator zone 2. No major problems are experienced at this lift station.

Birch Tree Farms LS (205 Birch Tree Farms): This lift station was converted to Mission in 2007 and is located in generator zone 3. The location, behind a private residence, and accessible only from a golf cart path, is not ideal but workable. Early indications form the Mission generated data indicate that this lift station experiences wet weather influences, especially in larger storms (>1.0 inch). No corrective actions are recommended at this time.

Broadway LS (Intersection of Broadway Street and Roeske Ave): This lift station was converted to Mission in 2009 and is located in generator zone 1. Currently, the lift station is located in the roadway and the control panel is located in Water Tower Park. GAF Corporation has approached to Sanitary District to accept all once-through cooling water, currently recycled and disposed of offsite. The estimated flow is 140,000 gpd. The lift station has two pumps each rated at approximately 140,000 gpd. Current actual flow is estimated at 92,000 gpd. This means that more than one pump would be required to accommodate the anticipated extra flow from GAF. Because this removes the safety margin, should a pump fail, the Plant personnel have denied the acceptance of the additional GAF flow. While pump reliability is generally good at this lift station, the lift station has operational challenges. Access to the pumps is through a heavy duty vault cover, which is required for the traffic on Broadway Street. Access to pumps is limited, which together with traffic makes maintenance activities difficult. Based on all of these factors, we prefer that the lift station should be relocated to the Water Tower Park and upgraded to accommodate extra flow from GAF and will work towards that goal.

Clark LS (922 W. US Highway 20): This lift station was converted to Mission in 2005 and is located in generator zone 4. I/I reduction investigations have been initiated by the Collection System Department and we expect to identify and then complete priority repairs in 2010 in order to reduce the I/I impact on this lift station.

Coolspring & Roeske LS (1899 E. Coolspring): This lift station was converted to Mission in 2005 and is located in generator zone 2. The control panel for the lift station needs to be rehabilitated. Currently, the pumps cannot operate in alternating lead pump mode. Consequently, the majority of the run time is for pump 2.

Eastwood LS (418 Eastwood Road): This lift station was converted to Mission in 2008 and is located in generator zone 3. No significant problems have been experienced at this lift station.

Edgewood LS (Garrettson and Maple): This lift station was converted to Mission in 2006 and is located in generator zone 1. During dry weather, this station experiences frequent pump starts for short duration. On May 25, 2008 (seventh day without precipitation), the lift station had 144/143 starts for an average run time of 1.0/0.8 minutes for pump 1/pump 2, respectively. There are some wet weather influences observed at this lift station; but the impacts are not uniform suggesting that there is a baseline I/I problem that does not exist in colder weather.

Evergreen LS (607 Pinetree Drive): This lift station was converted to Mission in 2006 and is located in generator zone 3. The lift station needs to be replaced with a standard lift station. Currently, the pumps cannot operate in an alternating lead pump mode. Consequently, all run time is by pump #2. Wet weather influences have been observed at this lift station, but are less severe than others.

Fourth Street LS (At 4th Street, East of Michigan Blvd): This lift station is scheduled for abandonment/relocation as the Trail Creek Redevelopment Plan moves forward, under the direction of the Michigan City Redevelopment Commission.

Freyer Road LS (Intersection of Freyer Road and State Road 212): This lift station was converted to Mission in 2005 and is located in generator zone 4. Until just recently, this lift station was severely impacted by wet weather. In 2008, manholes in a marsh area were sealed and this work seems to have eliminated the major portion of the I/I. Other than past I/I problems, this list station does not have major problems. However, due to its location, a permanent standby generator should be installed at this lift station. **UPDATE**: On September 13-14, 2008 a 100-year storm hit SDMC's service area. During this storm, the lift station did experience extended pump runs on September 14th. The wet well level reached a maximum of 8.57 feet for the two day period with a total rainfall of 8.34 inches at the lift station. In comparison, for an eight day period, August 18-25, 2007, the wet well level reached 18.3 feet and remained high for days. This confirms that the I/I BMPs were effective at this lift station.

Glenbrook LS (4998 Pahs Road): This list station was converted in 2009 and is located in generator zone 4. There are very few users connected to this lift station. However, the discharge force main is currently being used by Meadowdale LS. No problems exist at this lift station that require attention. Due to the low number of connected users, this lift station does not require a standby generator at this time.

Golfview LS (307 Golfview Road): This lift station was converted to Mission in 2006 and is located in generator zone 3. In 2007, both pumps failed at the lift station and needed replacement. ITT Flygt Corporation was able to supply to comparable single-phase pumps. After extended problems with the power converter, the lift station has had no further problems. The required capacity, in conjunction with the single phase power available, makes it difficult to obtain suitable replacement pumps. The preferred power source for this lift station would be three-phase. However, due to the distance to the nearest three-phase power source, the power

converter remains the most viable option. At this time, the station is rated as guardedly adequate. Adding a generator to this lift station is under consideration.

Henry Street LS (Intersection of Henry Street and Bolka Avenue): This lift station was converted in 2009 and is located in generator zone 2. However, the lift station is located in the street and the control panel is located in the back yard of a private residence on Henry Street. Conduits between the control panel and the wet well are deteriorating. The discharge piping in the manhole that serves as a wet well is being replaced. Internal discharge piping has developed holes. Plans are under consideration to replace this lift station with a standard lift station in another location, preferably next to Monon Storm Station.

Hidden Shores LS (2501 Fairway Drive): This lift station was converted to Mission in 2007 and is located in generator zone 3. There are very few pump starts at this lift station, usually no more that 3-4 starts per pump each day, and the pumps run for 4-6 minutes each start. There doesn't appear to be any I/I problems at the lift station. The control panel does need to be replaced and updated. Otherwise, there are no significant problems as this lift station.

Jackson Street LS (3011 Jackson Street): This lift station was converted to Mission in 2009 and is located in generator zone 2. This lift station has no significant history of alarms and therefore is considered adequate for its location.

Johnson Road LS (2908 E. Michigan Boulevard): This lift station was converted to Mission in 2009 and is located in generator zone 1. This lift station has no significant history of alarms, very few connected users, and therefore is considered adequate for its location. Pump runs occur once every 2-3 days.

Kieffer Road LS (400 N and Frontage Road): This lift station was converted to Mission in 2008 and is located in generator zone 4. The elimination of this lift station via a new gravity line towards Cleveland Avenue is currently in the planning stages.

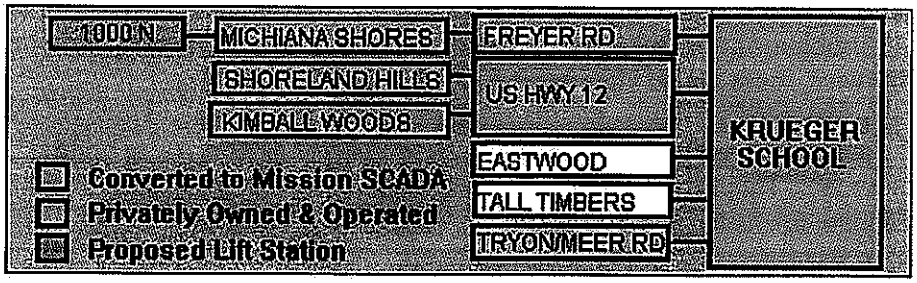
Kimball Woods LS (2406 Duneland Drive): This lift station was converted to Mission in 2005. The lift station is located in generator zone 4. The service area is seasonally impacted, but not impacted by wet weather. The Sanitary District contracted Haas & Associates LLC to design an upgrade to the pumps, controls and power equipment to permit the purchase and installation of two grinder pumps at this lift station and this engineering work has been completed.

Krueger School LS (Intersection of Karwick Road and Springland Avenue): This lift station was converted to Mission in 2005 and is located in generator zone 1. However, due to the design of the Mission M800 unit, only eight (8) digital inputs and two (2) analog inputs were available. Since the lift station has four (4) pumps, all of the DIs were used for monitoring pump status, i.e. RUNNING/OFF and NORMAL/FAIL for each pump.

The lift station's physical configuration consists of two eight (8) foot diameter wet wells, interconnected by one 24-inch diameter, four (4) foot long steel sleeve, and two 6-inch diameter pipes. The wet wells are 29.43 and 30.00 feet deep. The bottom invert of the 24-inch sleeve is

1.41 feet above the shallow wet well, and the bottom inverts of the 6-inch pipes are located at the bottom of the shallow wet well. The wet wells have an N-S orientation and pumps 1 and 2 are in the south wet well, and pumps 3 and 4 are in the north wet well. Pumps 1-3 are valved to discharge through a 14-inch ductile iron force main, while pump 4 is valved to discharge through an 8-inch transite force main. Both force mains connect at a manhole in the SE corner of the intersection of Springland Ave and Roeske Avenue, before continuing via a 24-inch ductile iron sewer to the intersection of Calumet Avenue and Holiday Street. In 2008, the 8-inch transite force main developed at leak where it crosses Trail Creek. The emergency repairs were made immediately, without any discharge to the creek.

This lift station has eight (8) existing lift stations upstream, as indicated in the following diagram.



Due to this hierarchy, in 2008 a second M800 unit was installed so that the two Mission units to receive data from each wet well separately. Additionally, there is a pressure transducer in each wet well, with separate high and low level alarms. By separating the wet wells, it allows the District to monitor power at the station directly, and to provide the status of the backup float system.

In addition, due to the upstream load, each pump has 47-50 start/stop cycles each day and the run time lasts between 2 – 3 minutes of pumps 1 - 3 and 6 – 9 minutes for pump 4 , which discharged through the old eight-inch force main. For the last twelve billing periods, the lift station averaged 357 KWH/day, at an average cost of $34.13 per day. Electrical costs were higher during wet months than dry month. This is a good indication of I/I problems upstream.

This lift station should be rehabilitated. Pumps should be operated with variable frequency drives to reduce demand costs associated with pump starts. Mission is currently developing a larger real-time unit that will permit add-on modules for additional DI and AI inputs. This should be considered in the future. Additionally, due to the size of the pumps and lift station importance, a separate standby generator should be installed at this lift station, despite its location in generator zone 1.

Lake Avenue LS (Lake Avenue and Lakeshore Drive): This lift station was converted to Mission in 2006 and is located in generator zone 1. The lift station was rehabilitated in 1984. The lift station consists of a metal can wet well and valve box in the roadway, with the control panel off to the side in a parking lot. This lift station should be relocated and built as a standard lift

station. Two lift stations are located upstream, Beachwalk and Smith Valley. Because of the hierarchy, a standby generator should be included in the relocation.

Lake Hills LS (111 Timm Ct): This is a new lift station built in 2007 and equipped with Mission telemetry from startup. The lift station is located in generator zone 1 has its own permanent standby generator due to power outage problems with the lift station that it replaced and delays is having permanent power installed by NIPSCO. The lift station operates well and no problems are experienced at this lift station.

Lakeland Triangle LS (410 Martin Luther King Drive): The lift station was converted to Mission in 2008 and is located in generator zone 2. This lift station is located in the roadway and the control panel is at the side of the road in front of a private residence. The owner of the residence complains frequently about the control panel. The wet well is six foot in diameter and has a Neenah R-1740-B cover that weighs 240 lbs. The location of the lift station and accessibility to the wet well is limited. This lift station should be relocated and replaced with a standard lift station.

Liberty Trail LS (1100 Liberty Trail): The lift station was converted to Mission in 2008 and is located in generator zone 1. The lift station needs a new control panel but otherwise is in adequate condition.

Meadowdale LS (8221 W. Pahs Road): This lift station was converted to Mission in 2005 and is located in generator zone 4. The lift station was built in 2003 to replace the old inferior lift station. I/I reduction investigations have been initiated by the Collection System Department and we expect to identify and then complete priority repairs in 2010 in order to reduce the I/I impact on this lift station.

Menke Road LS (108 Menke Road): This lift station was converted to Mission in 2005 and is located in generator zone 4. The lift station was built in 1989 with a 12-foot diameter wet well and three pumps. The size of the wet well and pumps indicates that more flow was anticipated than current levels, approximately 50-75,000 gpd. The wet well is 23 feet deep. The pumps connect to 8-inch ductile iron discharge piping through longer than normal base elbow piping. These elbows position the pumps farther away from the wet well wall and allow the three to be positioned in a line. However, the elbows also make it very difficult to remove and replace the pumps, both due to the wet well depth and the position of the pumps in the wet well. Pump 2 failed in January 2008. All attempts to remove the pump for service have failed. Removing or returning a pump requires that the wet well be pumped down as far as possible and maintenance personnel perform a confined space entry. When the wet well is emptied, the temperature difference between the ambient temperatures can create a thick fog, which obscures vision. Fortunately, the pumps are oversized and the remaining two pumps can adequately handle the current flow rates. This station receives flow from US20-US35 LS, Beechwood LS, Golfview LS and a private lift station owned by Serenity Springs. Potential future development may include up to 1 MGD from LaPorte County through US20-US35 LS. In the event that the county does connect, then the pumps and controls should be re-evaluated at that time. However, regardless of

the outcome of that connection, the lift station is located in generator zone 4 and should be equipped with a permanent standby generator.

Michiana Shores LS (107 Wildrose Drive): This lift station was converted to Mission in 2007 and is located in generator zone #4. Currently, the lift station pumps each run 2-4 times per day. The private 1000N sewer project is scheduled to discharge into this lift station's service area. When that project is complete, the lift station can be re-evaluated for upgrade needs. At this time, even though the lift station is in generator zone 4, there is no requirement for a standby generator.

Monon Ditch Stormwater LS (End of Circle on Ramion off of Henry Street): This lift station was converted to Mission in 2005 and is located in generator zone 2. The design of the lift station did not include lead pump alternation, so pump 1 is always in lead position. Pump 2 runs in moderate to heavy storms. During power outages, due to the size of the pumps the larger trailer-mounted ONAN generator is required. However, that same generator is required at the treatment plant if both power sources are lost. Thus, we are investigating adding a standby generator at this stormwater lift station.

Ohio Street LS (Corner of Ohio Street at Southwind): In 2009, the lift station was moved to west of the intersection of Ohio Street and Village Road. The new lift station's discharge was redirected to the east to a sewer system with more capacity. Additionally, the station was equipped with Mission telemetry, a permanent standby generator and a ground water monitoring well.

Pine School LS (NE corner of Intersection of US Hwy 20 and County Line Road: This lift station was built in 2009 and equipped with Mission telemetry and a permanent standby generator. The lift station design is a modified standard lift station and includes two (2) grinder pumps. Discharge is by force main to the new gravity sewer serving Palatek, west of the Clark Lift Station.

Pottawatomie Park LS (Intersection of Marquette and Warren): This lift station was converted to Mission in 2009 and is located in generator zone 1. A North Roeske sewer project, with a proposed new lift station is under development to provide sewers to the street that acts as a boundary between Michigan City and the Town of Pottawatomie Park. The design of the project would permit further sewer construction and the elimination of the existing Pottawatomie Park LS. This list station needs to be eliminated or replaced, and I/I sources need to be corrected.

Shoreland Hills LS (Intersection of Moore Road and Westwood Drive): This lift station was converted to Mission in 2007 and is located in generator zone 4. Either the pumps are oversized or the stop/start control set points need adjustment, since the average run time is 0.2-0.7 minutes (12 to 42 seconds). If the community of Duneland Beach were to install sewers, this lift station would receive the discharge. The lift station currently averages 30-34 pump starts for each pump per day. Other than the duration of run time, the lift station operation is adequate. Since the lift station is located in generator zone 4, it should have a standby generator installed, but is lower priority than other lift stations.

Sludge Lagoon LS (SDMC Sludge Lagoons): This lift station received an alarm system for the very first time, when a Mission unit was installed in 2007. The lift station is located in generator zone 1 and is low priority for response during a power outage. The lift station removes water decanted from the vactor truck debris removed from the sewers during cleaning operations, street sweepers emptying there sweepings, and removes storm water from the sludge storage lagoon to keep the storage sludge as dry as possible until removal in spring and fall. The lift station pumps are frequently plugged with debris from the vactor truck material, especially when the manual bar rack is lifted to drain the containment area. At this point no recommendations are made for the lift station, however; the District should consider a receiving station for the vactor truck material and street sweeper material.

Smith Valley LS (N end of Shawmut Drive, N of Lakeshore Drive): This lift station was converted to Mission in 2007 and is located in generator zone 1. This lift stations location makes cellular transmissions difficult, so to eliminate frequent loss of communication, a high-gain directional antenna was purchased and installed in 2008. This lift station needs to be rehabilitated, if not removed and rebuilt in the same location. Due to the location of this lift station, a package lift station with easy maintenance and standby generator may be considered.

Tall Timbers LS (922 Willow Spring Drive): This lift station was converted to Mission in 2008 and is located in generator zone 3. This lift station is located in the street with the control panel off the road in the adjacent right-of-way. The lift station has an especially heavy cover on the wet well that is difficult to remove. This lift station should be relocated out of the street.

Tinkers Dam LS (Corner of N Karwick Road and Shorewood Drive): This Lift Station was converted to Mission in 2006 and is located in generator zone 2. The discharge piping was upgraded in 2006 to gain extra capacity for the new condominiums. This lift station will require rehabilitation. With the potential for extra flow in the future, a standby generator should be considered.

Tryon-Meer Road LS (Intersection of Tryon Road and Meer Road): This is a brand new lift station, built in 2006 with a Mission unit and located in generator zone 4. A standby generator was provided as part of the project. No problems have surfaced at this lift station and no further action is required at this time.

US 12 LS (3111 E. Dunes Highway): This lift station was converted to Mission in 2007 and is located in generator zone 2. There is some wet weather influence at this lift station, especially for larger storms. However, no significant problems exist at this lift stations that warrant attention at this time.

US20-US35 LS (South of US 20 and W of US 35 off the access road to Serenity Springs): This lift station was built in 2005 and has a modified Mission controller. The lift station is located in generator zone 4, and has a generator that was supplied as part of the project. This station operates well and needs no further attention until more users are connected.

Washington Park Marina LS (Washington Park parking lot near marina): This lift station was converted to Mission in 2007 and is located in generator zone 1. This lift station has no wet weather influence, even with major storms. However, the lift station does lose power frequently during storms and often for extended periods. Because of the economic and recreational benefit of Washington Park, this lift station should have a standby generator installed. Otherwise, the lift station operation is adequate for the loading.

Woodlawn LS (2757 Mentor Avenue): This lift station is a few years old and scheduled for conversion to Mission in 2008. The lift station is located in generator zone 4 and is geographically segregated from other lift stations. For that reason and a frequent power outage history, the lift station should have a standby generator.

Summary & Prioritization:

The following chart summarizes the needs for the forty-one existing lift stations. Priority ratings are based on an ascending scale, with 0 being no need and 3 being a severe, immediate need.

2009 Lift Station Status Report

Lift Station Name	Relocation-Replacement			Force Main	Pumps	Control Panel	Infiltration / Inflow	Generator Required	Priority
	Safety	Location	Condition						
Beachwalk					1		0		0
Beechwood							?		0
Birch Tree Farms							1	3	2
Broadway	3	3	2			2	?		2
Clark				3			1		2
Coolspring & Roeske					2	2	1		2
Eastwood							?		0
Edgewood					2	2	2	3	2
Evergreen Plaza			3		2	2	1		2
Fourth Street	3	3	3		3	3	3	2	3
Freyer Road				1			2 [1]	3	2
Glen Brook							?		0
Golfview							1	3	2
Henry Street	3	3	3		3	3	?		3
Hidden Shores						2	0		2
Jackson Street							?		0
Johnson Road							?		0
Kieffer Road	3	3	3		3	3	?	3	3
Kimball Woods			2[2]		3	3	0	3	3
Krueger School	2		2	2	2	2	2	3	2
Lake Ave	3	3	3		3	3	1	3	3
Lake Hills							1		0
Lakeland Triangle	3	3	2		2	2	?		2
Liberty Trail						3	?		2
Meadowdale				3			3	3	3
Menke Road					2	1	2	3	2
Michiana Shores							0	1	1
Monon Ditch			3		3	3	NA	3	3
Ohio Street	3	3	3		2	2	3	3	3
Pottawatomie Park			3		3	3	3		3
Shoreland Hills							0	1	1
Sludge Lagoon							NA		0
Smith Valley	3	3	2		3	3	1	3	2
Tall Timbers	3	3	2		2	2	?		2
Tinkers Dam	2	2	2	1	1	2	2	2	2
Tryon-Meer							0		0
US 12							1		1
US 20-US 35							1		1
WP Marina							0	3	2
Woodlawn							?	3	2

NA = Not applicable, lift station is a storm station.

[1] I/I may have been solved; we are awaiting the next large storm to evaluate fully.
[2] The condition of this lift station is marginal, but not expected to change at this time.

APPENDIX G

An e-mail Notification Regarding the City Ordinance.

Appendix I – CSOOP Legal Review

From: David Payne [dpayne@braje-nelson.com]
Sent: Saturday, July 12, 2008 9:55 AM
To: Dan Olson
Subject: RE: CSOOP Review
Dan:

I have reviewed the CSOOP and I believe it meets the intent of the 1996 permit modification.

I note that the 1996 permit modification requires that for any new building connections to the combined sewer, storm water connections must be made separate and distinct from the sanitary connection. As I read the CSOOP, such a connection which allows storm water to the combined sewer would never be allowed. If there are exceptional circumstances which would call for such a connection, then the CSOOP should address the necessity of separate and distinct connections.

Give me a call if you wish to discuss this further.

Braje, Nelson, & Janes LLP

By: David K. Payne
126 E. 5th Street
P.O. Box 1006
Michigan City, Indiana 46361-8206
e-mail: dpayne@braje-nelson.com

APPENDIX H

Flow Evaluation for the Master Plan Study

APPENDIX K

Monthly Average Effluent Flow Vs. Design Capacity

Month-Yr	Total Monthly Rainfall (inches)	Monthly Average Effluent Flow (MGD	Percentage of Plant Design Flow (12 MGD)	Percentage of Peak Hourly Design Flow (15 MGD)	CSO Discharge Event (Outfall 002A)
Jan-07	2.25	12.68	106%	85%	0
Feb-07	0.99	9.72	81%	65%	0
Mar-07	1.61	9.65	80%	64%	0
Apr-07	4.52	9.03	75%	60%	1
May-07	2.13	9.60	80%	64%	0
Jun-07	1.58	8.56	71%	57%	0
Jul-07	5.83	9.16	76%	61%	0
Aug-07	7.29	11.47	96%	76%	1
Sep-07	1.28	8.36	70%	56%	0
Oct-07	2.31	7.48	62%	50%	0
Nov-07	1.14	6.86	57%	46%	0
Dec-07	1.90	7.74	65%	52%	0
Jan-08	3.88	11.34	95%	76%	1
Feb-08	1.92	11.43	95%	76%	0
Mar-08	1.50	10.39	87%	69%	0
Apr-08	2.05	11.22	93%	75%	0
May-08	2.63	10.41	87%	69%	0
Jun-08	2.34	8.80	73%	59%	0
Jul-08	2.65	7.85	65%	52%	0
Aug-08	1.49	7.34	61%	49%	0
Sep-08	12.04	13.15	110%	88%	1
Oct-08	2.80	11.51	96%	77%	0
Nov-08	1.16	8.70	73%	58%	0
Dec-08	2.75	9.79	82%	65%	1
Jan-09	0.63	9.64	80%	64%	0
Feb-09	2.79	12.47	104%	83%	0
Mar-09	3.99	14.22	119%	95%	1
Apr-09	3.58	13.94	116%	93%	0
May-09	3.08	12.44	104%	83%	0
Jun-09	4.10	11.79	98%	79%	1
Jul-09	4.38	10.01	83%	67%	1
Aug-09	3.23	9.61	80%	64%	0
Sep-09	1.59	7.96	66%	53%	0
Oct-09	6.22	9.61	80%	64%	1
Nov-09	1.07	10.34	86%	69%	0
Dec-09	0.91	7.83	65%	52%	0
2007 Total	**32.83**				**2**
2007 Avg.		**9.19**	**77%**	**61%**	
2008 Total	**37.19**				**3**
2008 Avg.		**10.16**	**85%**	**68%**	
2009 Total	**35.57**				**4**
2009 Avg.		**10.82**	**90%**	**72%**	

APPENDIX I

Work Order System

All Streets: Work Order Summary Report

12/1/2007

From: 12/31/2007 To:

Cleaned	Jetted/ Cleaned	Vacuum/ Running	Down and Cut	Line Notified	Party Event	Left Card	Backup	Rain Water	Standing Basin	Cave In	MH	Catch Insp.	Tap Req.	Video
E 10th Street														
Total Calls for Block: 1	***Block No.***	***700***												
W 10th Street	0	1	0	1	0	0	0	0	1	0	0	0	0	0
Total Calls for Block: 1	***Block No.***	***1100***												
Total Calls for Street: 2	1	0	0	1	1	0	1	0	0	0	0	0	0	0
	1	1	0	2	1	0	1	0	1	0	0	0	0	0
E 11th Street	***Block No.***	***300***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
W 8th Street	***Block No.***	***1000***												
Total Calls for Block: 1	1	1	0	1	1	0	0	0	0	0	0	0	0	0
Total Calls for Street: 1	1	1	0	1	1	0	0	0	0	0	0	0	0	0
E 9th Street	***Block No.***	***300***												
Total Calls for Block: 2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Total Calls for Street: 2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Benton Street	***Block No.***	***600***												
Total Calls for Block: 1	0	1	0	0	1	0	0	0	1	0	0	0	0	0
Total Calls for Street: 1	0	1	0	0	1	0	0	0	1	0	0	0	0	0
Broadway Street	***Block No.***	***400***												
Total Calls for Block: 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Calls for Street: 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Butler Street	***Block No.***	***200***												
Total Calls for Block: 1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Total Calls for Street: 1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Calumet Avenue	***Block No.***	***0***												
Total Calls for Block: 2	0	0	0	0	0	0	0	0	0	0	2	0	0	0
N Calumet Avenue	***Block No.***	***100***												
Total Calls for Block: 1	1	0	0	1	0	0	1	0	0	0	0	0	0	0

All Streets: Work Order Summary Report

12/1/2007 From: 12/31/2007 To:

Cleaned	Jetted/ Cleaned	Vacuum/ Running	Down and Cut	Line Notified	Party Event	Left Card	Backup	Rain Water	Standing Basin	Cave In	MH	Catch Insp.	Tap Req.	Video
Total Calls for Street: 3	1	0	0	1	0	0	1	0	0	0	2	0	0	0
N Carroll Avenue	***Block No.***	***0***												
Total Calls for Block: 1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Total Calls for Street: 1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Cleveland Avenue	***Block No.***	***0***												
Total Calls for Block: 1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Total Calls for Street: 1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Columbia Street	***Block No.***	***200***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Decatur Street	***Block No.***	***600***												
Total Calls for Block: 1	1	1	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	1	0	1	1	0	1	0	0	0	0	0	0	0
Dunlap Street	***Block No.***	***100***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Dupage Street	***Block No.***	***600***												
Total Calls for Block: 1	1	0	0	1	0	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	0	0	1	0	0	0	0	0	0	0
Franklin Street	***Block No.***	***400***												
Total Calls for Block: 2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Franklin Street	***Block No.***	***600***												
Total Calls for Block: 1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Total Calls for Street: 3	2	0	0	2	2	0	2	0	0	0	1	0	0	0
Hayes Avenue	***Block No.***	***400***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0

All Streets: Work Order Summary Report

12/1/2007

From: 12/31/2007 To:

Cleaned	Jetted/ Cleaned	Vacuum/ Running	Down and Cut	Line Notified	Party Event	Left Card	Backup	Rain Water	Standing Basin	Cave In	MH	Catch Insp.	Tap Req.	Video
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Holliday Street	***Block No.***	***0***												
Total Calls for Block: 1	1	1	0	1	1	0	0	0	0	0	0	1	0	0
Holliday Street	***Block No.***	***500***												
Total Calls for Block: 2	2	1	1	2	1	0	2	0	0	0	0	0	0	0
Total Calls for Street: 3	3	2	1	3	2	0	2	0	0	0	0	1	0	0
Karwick Road	***Block No.***	***100***												
Total Calls for Block: 2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Total Calls for Street: 2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Maple Street	***Block No.***	***500***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
McClelland Avenue	***Block No.***	***100***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
E Michigan Boulevard	***Block No.***	***800***												
Total Calls for Block: 2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Total Calls for Street: 2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Pearl Street	***Block No.***	***400***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Pine Street	***Block No.***	***700***												
Total Calls for Block: 1	0	1	0	1	1	0	0	0	0	0	0	0	0	0
Total Calls for Street: 1	0	1	0	1	1	0	0	0	0	0	0	0	0	0
Pleasant Avenue	***Block No.***	***500***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0

All Streets: Work Order Summary Report

12/1/2007 From: 12/31/2007 To:

Cleaned		Jetted/ Cleaned	Vacuum/ Running	Down and Cut	Line Notified	Party Event	Left Card	Backup	Rain Water	Standing Basin	Cave In	MH	Catch Insp.	Tap Req.	Video
Total Calls for Street:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Poplar Street		***Block No.***		***0***											
Total Calls for Block:	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Total Calls for Street:	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0
N Porter Street		***Block No.***		***300***											
Total Calls for Block:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
S Porter Street		***Block No.***		***400***											
Total Calls for Block:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street:	2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
N Ridgeland Avenue		***Block No.***		***500***											
Total Calls for Block:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Salem Court		***Block No.***		***1000***											
Total Calls for Block:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Southwood Drive		***Block No.***		***200***											
Total Calls for Block:	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Total Calls for Street:	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Spring Street		***Block No.***		***1100***											
Total Calls for Block:	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0
Total Calls for Street:	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0
Springland Avenue		***Block No.***		***300***											
Total Calls for Block:	2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Total Calls for Street:	2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Tennessee Street		***Block No.***		***1300***											
Total Calls for Block:	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0

All Streets: Work Order Summary Report

12/1/2007

From: 12/31/2007 To:

Cleaned	Jetted/ Cleaned	Vacuum/ Running	Down and Cut	Line Notified	Party Event	Left Card	Backup	Rain Water	Standing Basin	Cave In	MH	Catch Insp.	Tap Req.	Video
Tennessee Street														
Total Calls for Block: 1	***Block No.***	***1700***												
Total Calls for Street: 2	1	0	0	1	1	0	1	0	0	0	0	0	0	0
	2	0	0	2	1	1	2	0	0	0	0	0	0	0
Union Street	***Block No.***	***500***												
Total Calls for Block: 1	1	0	0	1	1	1	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	1	1	0	0	0	0	0	0	0
E US Hwy 20	***Block No.***	***700***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
E US Hwy 20	***Block No.***	***800***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 2	2	0	0	2	2	0	2	0	0	0	0	0	0	0
Wabash Street	***Block No.***	***2500***												
Total Calls for Block: 1	1	0	0	1	0	1	1	0	0	0	0	0	0	0
Wabash Street	***Block No.***	***2800***												
Total Calls for Block: 1	0	1	0	1	0	0	0	0	1	0	0	0	0	0
Total Calls for Street: 2	1	1	0	2	0	1	1	0	1	0	0	0	0	0
Walker Street	***Block No.***	***800***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Wayne Street	***Block No.***	***100***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
White Oak Drive	***Block No.***	***600***												
Total Calls for Block: 1	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Total Calls for Street: 1	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Windsor Road	***Block No.***	***3500***												
Total Calls for Block: 1	1	0	0	1	1	0	1	0	0	0	0	0	0	0

APPENDIX L

All Streets: Work Order Summary Report

12/1/2007 — From: 12/31/2007 — To:

Cleaned		Jetted/ Cleaned	Vacuum/ Running	Down and Cut	Line Notified	Party Event	Left Card	Backup	Rain Water	Standing Basin	Cave In	MH	Catch Insp.	Tap Req.	Video
Total Calls for Street:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
N ***Woodland Avenue***		***Block No.***		***100***											
Total Calls for Block:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Total Calls for Street:	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Woodrow Avenue		***Block No.***		***3000***											
Total Calls for Block:	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Total Calls for Street:	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Total Calls for Report:	56	39	9	1	43	36	3	38	0	4	2	6	3	0	0

All Streets: Work Order Summary Report

From: **To:** 12/1/2007 12/31/2007

Block #		Address – Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
10th Street													
700	E	707.0	12/11/2007 12:47 PM	Downs, D Regular Business Hours	3279	12/11/2007 2 :15 PM	22						
		Problem: Standing water											
1100	W	1108.0	12/25/2007 11:30 PM	Bostater, D After Regular Hours	3304	12/25/2007 12:40 AM	22						
		Problem: Backup. Go to back door.											
Total Calls for Street: 2													
11th Street													
300	E	319.0	12/13/2007 7 :35 AM	Downs, D Regular Business Hours	3283	12/13/2007 8 :22 AM	14						
		Problem: Needs a jet out because sewage backing up in basement and washer. Also, would like to know if he could find out how many times this has happened in the past 5 years?											
Total Calls for Street: 1													
8th Street													
1000	W	1005.0	12/17/2007 2 :44 PM	Downs, D Regular Business Hours	3293	12/19/2007 10:36 AM	14						
		Problem:											
Total Calls for Street: 1													
9th Street													

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block	#	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
300	E	315.0	12/17/2007 9 :35 AM	Downs, D Regular Business Hours	3292	12/17/2007 10:25 AM	04,14						
		Problem:											
300	E	315.0	12/21/2007 10:56 AM	Downs, D Regular Business Hours	3303	12/21/2007 11:26 AM	14						
		Problem:											

Total Calls for Street: 2

Benton Street

600		609.0	12/11/2007 9 :03 AM	Downs, D Regular Business Hours	3275	12/11/2007 9 :39 AM	22						
		Problem:	Has standing water by vehicle in street due to leaves piled up from street dept. Standing water										

Total Calls for Street: 1

Broadway Street

400		418.0	12/30/2007 8 :10 PM	Hines, P After Regular Hours	3384	12/30/2007 3 :00 PM	09						
		Problem:	Road very icey. Called Street Department at 0812pm and left message. Then called Bob Sutherlin. He said to send crew with salt out there.										

Total Calls for Street: 1

Butler Street

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block #		Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
200		206.0	12/21/2007 7 :00 AM	Regular Business Hours	3382	12/21/2007 7 :33 AM	09						
		Problem:	Bob Sutherlin(foreman) sent crew. Inspect manhole for roots and debris.										
Total Calls for Street:	1												

Calumet Avenue

0		0.0	12/13/2007 7 :00 AM	Sutherlin, B Regular Business Hours	3369	12/13/2007 8 :08 AM	09						
		Problem:	Manhole Missing. Foreman sent out crews.										
0		0.0	12/13/2007 7 :15 AM	Sutherlin, B Regular Business Hours	3373	12/13/2007 8 :08 AM	09						
		Problem:	Manhole missing.										
100	N	125.0	12/7/2007 1 :50 PM	Collier, M Regular Business Hours	3269	12/7/2007 3 :25 PM	14						
		Problem:											
Total Calls for Street:	3												

Carroll Avenue

0	N	0.0	12/4/2007 1 :16 PM	Tabisz, T Regular Business Hours	3264	12/4/2007 1 :50 PM	09						
		Problem:	CB grate at NW corner of Carroll Ave. and Michigan Blvd. missing some rungs. Rick's Sewer service called. CB grate-broken.										

All Streets: Work Order Summary Report

From: To: 12/1/2007 12/31/2007

Block #	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
Total Calls for Street: 1												
Cleveland Avenue												
0	0.0	12/14/2007 8 :05 AM	Sutherlin, B Regular Business Hours	3381	12/14/2007 8 :05 AM	09						
	Problem: Big hole by the manhole, heard transmit over radio.											
Total Calls for Street: 1												
Columbia Street												
200	206.0	12/11/2007 12:49 PM	Downs, D Regular Business Hours	3280	12/11/2007 1 :14 PM	14						
	Problem:											
Total Calls for Street: 1												
Decatur Street												
600	607.0	12/26/2007 9 :58 AM	Downs, D Regular Business Hours	3306	12/26/2007 11:35 AM	04,09,14						
	Problem: Standing water in basement.											
Total Calls for Street: 1												
Dunlap Street												

All Streets: Work Order Summary Report

From: **To:**12/1/2007 12/31/2007

Block #	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
100	102.0	12/5/2007 1 :30 PM	Downs, D Regular Business Hours	3266	12/5/2007 2 :00 PM	14						
	Problem:											

Total Calls for Street: 1

Dupage Street

600	609.0	12/26/2007 8 :57 AM	Downs, D Regular Business Hours	3305	12/26/2007 9 :55 AM	14						
	Problem: Standing water in basement.											

Total Calls for Street: 1

Franklin Street

400	411.0	12/19/2007 4 :20 PM	Hines, P After Regular Hours	3296	12/19/2007 5 :48 PM	14						
	Problem:											
400	411.0	12/20/2007 9 :10 AM	Tabisz, T Regular Business Hours	3297	12/20/2007 9 :25 AM	04,06,13,14						
	Problem: Had District crew out last night but still having problem. Contractor says there was a problem with city main last night.											
600	601.0	12/10/2007 1 :17 PM	Downs, D Regular Business Hours	3274	12/10/2007 1 :53 PM	04,09						
	Problem: Missing manhole cover in sidewalk at corner of building on the 6th St. side of street. Apparently a sewer clean out. Missing M.H. cover/											

All Streets: Work Order Summary Report

From: **To:**12/1/2007 12/31/2007

Block #	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
Total Calls for Street: 3												
Hayes Avenue												
400	439.0	12/27/2007 12:18 PM	Downs, D Regular Business Hours	3307	12/27/2007 12:56 PM	14						
	Problem:											
Total Calls for Street: 1												
Holliday Street												
0	0.0	12/13/2007 11:26 AM	Bates, C Regular Business Hours	3286	11/13/2007 12:57 PM	22						
	Problem:	Says there is dirt and debris in a drain. Causing water to stand. CB Plugged										
500	538.0	12/18/2007 11:43 AM	Tabisz, T Regular Business Hours	3295	12/18/2007 1 :03 PM	14						
	Problem:	Needs jet call.										
500	538.0	12/21/2007 9 :04 AM	Downs, D Regular Business Hours	3300	12/21/2007 10:50 AM	13,22						
	Problem:											
Total Calls for Street: 3												
Karwick Road												

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block #	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
100	102.0	12/7/2007 8 :00 AM	Downs, D Regular Business Hours	3368	12/7/2007 9 :10 AM	09,13,25						
	Problem: Foreman sent out crews. Possible cave-in.											
100	102.0	12/7/2007 9 :00 AM	Regular Business Hours	3380	12/7/2007 9 :10 AM	09,13,25						
	Problem: Possible cave-in. Bob Sutherlin(foreman) sent crew.											

Total Calls for Street: 2

Maple Street

500	501.0	12/4/2007 11:15 AM	Sanders, D Regular Business Hours	3265	12/4/2007 12:50 PM	14						
	Problem:											

Total Calls for Street: 1

McClelland Avenue

100	103.0	12/28/2007 12:17 PM	Downs, D Regular Business Hours	3309	12/28/2007 2 :10 PM	04,14						
	Problem:											

Total Calls for Street: 1

Michigan Boulevard

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block #		Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
800	E	826.0	12/13/2007 11:26 AM	Bates, C Regular Business Hours	3285	12/13/2007 12:58 PM	14						
		Problem: Backup in basement.											
800	E	826.0	12/28/2007 10:47 AM	Downs, D Regular Business Hours	3308	12/28/2007 11:38 AM	13,14						
		Problem: Says landlord had rotorooter guy out within last 2 weeks and still having problem with bad smell. Says she checked basement of this bldg. and found standing sewage. Says she spoke with a gentleman here last week or early this week, but no return call. Needs to know what to do. I had crew go out to service line.											

Total Calls for Street: 2

Pearl Street

400		413.0	12/21/2007 9 :50 AM	Collier, M Regular Business Hours	3302	12/21/2007 10:28 AM	14						
		Problem: Continuely having backup.											

Total Calls for Street: 1

Pine Street

700		715.0	12/11/2007 12:30 PM	Bates, C Regular Business Hours	3277	12/11/2007 1 :00 PM	22						
		Problem: Dry-Wells in the alley are like ice skating rinks. Dry well iced up.											

Total Calls for Street: 1

Pleasant Avenue

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block #		Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
500		518.0	12/29/2007 11:00 AM	Bostater, D After Regular Hours	3310	12/29/2007 12:05 PM	14						
		Problem:											

Total Calls for Street: 1

Poplar Street

0		0.0	12/11/2007 12:10 PM	Sanders, D Regular Business Hours	3276	12/11/2007 12:23 PM	22						
		Problem:	Plugged CB- Poplar St. and Tremont St. Per Helen from Refuse Dept., Call came to their office. Plugged CB.										

Total Calls for Street: 1

Porter Street

300	N	304.0	12/3/2007 6:35 AM	Barnett, T After Regular Hours	3263	12/3/2007 7:32 AM	14						
		Problem:											
400	S	404.0	12/16/2007 11:52 AM	Milatovic, M After Regular Hours	3290	12/15/2007 12:42 PM	06,22						
		Problem:	Jet call										

Total Calls for Street: 2

Ridgeland Avenue

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block #		Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
500	N	516.0	12/13/2007 9 :25 AM	Downs, D Regular Business Hours	3284	12/13/2007 10:05 AM	14,22						
		Problem:											
Total Calls for Street: 1													

Salem Court

1000		1037.0	12/7/2007 2 :20 PM	Collier, M Regular Business Hours	3270	12/7/2007 3 :04 PM	14						
		Problem:											
Total Calls for Street: 1													

Southwood Drive

200		233.0	12/12/2007 2 :45 PM	Downs, D Regular Business Hours	3282	12/12/2007 3 :00 PM	04						
		Problem: Some standing water. Hoffman will assess. Radiod and stated not enough water to worry about. Will check in morning again. 12-13-07 Hoffman checked residence and says there is not enough water to vac. If anything, less water today than yesterday.											
Total Calls for Street: 1													

Spring Street

1100		1100.0	12/21/2007 8 :00 AM	Regular Business Hours	3383	12/21/2007 8 :05 AM	22						
		Problem: Bob Sutherlin(foreman)sent crew.											

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

Block #	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
Total Calls for Street: 1												
Springland Avenue												
300	325.0	12/9/2007 8 :50 PM	Barnett, T After Regular Hours	3272	12/9/2007 4 :47 PM	14						
	Problem:											
300	325.0	12/15/2007 7 :12 PM	Dietz, T After Regular Hours	3289	12/15/2007 8 :00 PM	14						
	Problem: Church member of parsonage called. Jet call											
Total Calls for Street: 2												
Tennessee Street												
1300	1302.0	12/21/2007 9 :04 AM	Downs, D Regular Business Hours	3301	12/21/2007 9 :38 AM	14						
	Problem:											
1700	1711.0	12/13/2007 9 :36 PM	Hines, P After Regular Hours	3287	12/13/2007 10:30 PM	14						
	Problem:											
Total Calls for Street: 2												
Union Street												

All Streets: Work Order Summary Report

From: **To:**12/1/2007 12/31/2007

Block	#	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
500		515.0	12/12/2007 12:40 PM	Sanders, D Regular Business Hours	3281	12/12/2007 2 :13 PM	14						
		Problem: Says there has been fumes in home since Monday.											

Total Calls for Street: 1

US Hwy 20

700	E	756.0	12/29/2007 2 :52 PM	Bostater, D After Regular Hours	3312	12/29/2007 3 :20 PM	14						
		Problem:											
800	E	802.0	12/29/2007 2 :20 PM	Sanders, S After Regular Hours	3311	12/29/2007 3 :20 PM	14						
		Problem:											

Total Calls for Street: 2

Wabash Street

2500		2501.0	12/7/2007 1 :05 PM	Collier, M Regular Business Hours	3268	12/7/2007 2 :12 PM	14						
		Problem: Gene's was out 3 weeks ago and pulled back roots at about 75' believing to be in city line. Please check.											
2800		2809.0	12/11/2007 12:40 PM	Downs, D Regular Business Hours	3278	12/11/2007 1 :55 PM	09,22						
		Problem: standing water because of leaves and debris. Standing water.											

All Streets: Work Order Summary Report

From: To:12/1/2007 12/31/2007

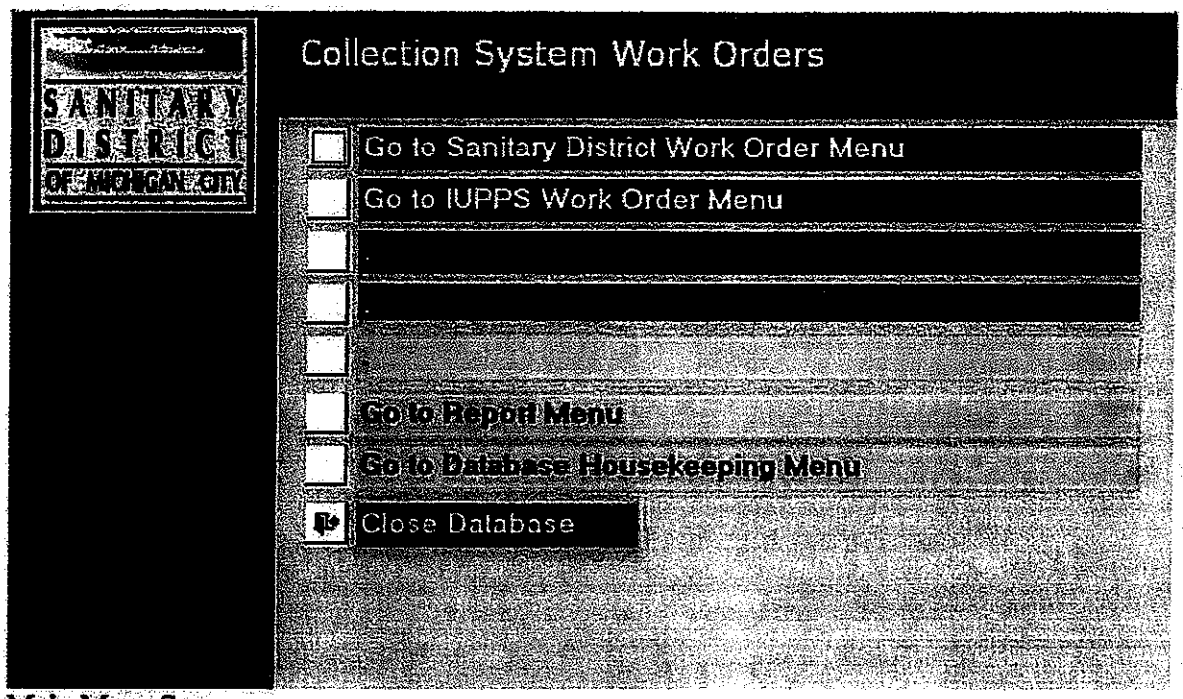
Block #	Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved TimeResolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
Total Calls for Street: 2												
Walker Street												
800	806.0	12/20/2007 5 :17 PM	Richey, J After Regular Hours	3298	12/20/2007 5 :55 PM	14						
	Problem:											
Total Calls for Street: 1												
Wayne Street												
100	106.0	12/14/2007 10:48 AM	Tabisz, T Regular Business Hours	3288	12/14/2007 11:11 AM	14						
	Problem: Says he has been having a problem with his toilet backing up since the Water Dept. shut off water service to neighbor's house at 110 Wayne St,											
Total Calls for Street: 1												
White Oak Drive												
600	632.0	12/31/2007 12:45 PM	Barnett, T After Regular Hours	3313	12/31/2007 1 :55 PM	22						
	Problem: Jet call. 1/3 tile both manhole to manhole.											
Total Calls for Street: 1												
Windsor Road												

All Streets: Work Order Summary Report

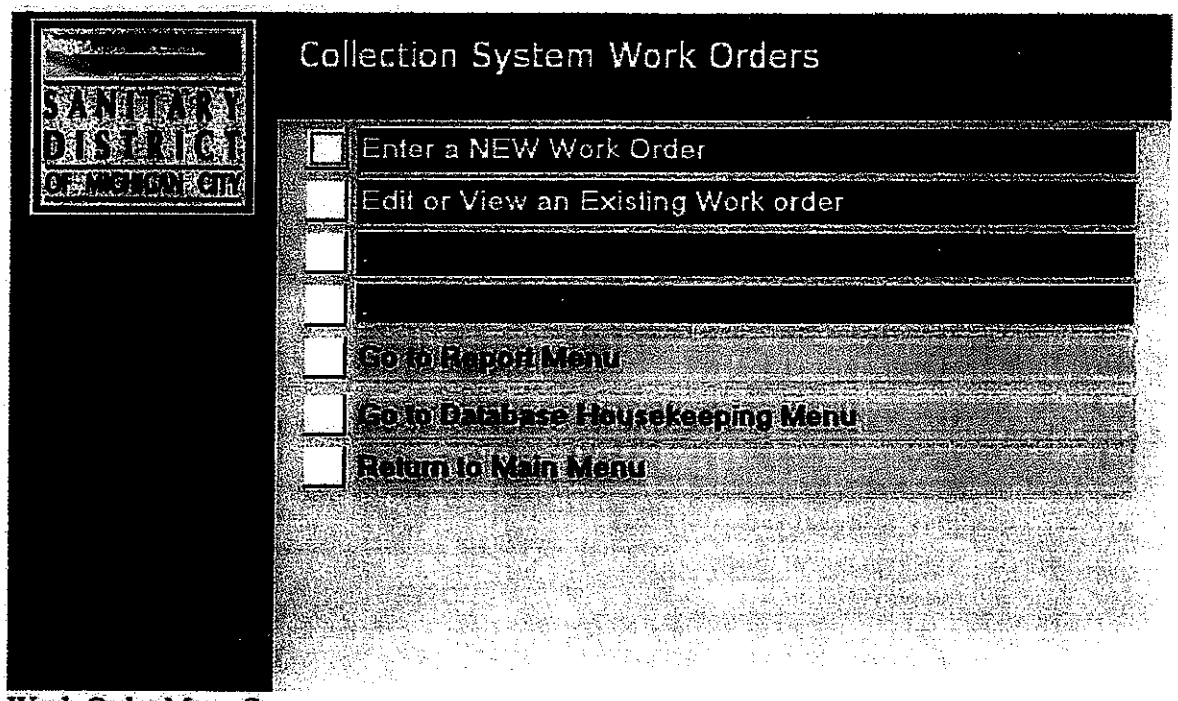
From: **To:**12/1/2007 12/31/2007

Block #		Address - Alley?	Date/ Time	Received by... When...	Work Order No:	Date Resolved Time Resolved	Equipment Used	Jetted/ Cleaned	Vacuum/ Cleaned	Down and Down and Running	Line Line Cut	Party Party Notified	Left Left Card
3500		3518.0	12/17/2007 8 :12 AM	Downs, D Regular Business Hours	3291	12/17/2007 8 :44 AM	14						
		Problem:											
Total Calls for Street: 1													
Woodland Avenue													
100	N	126.0	12/20/2007 6 :55 PM	Hines, P After Regular Hours	3299	12/20/2007 7 :57 PM	14						
		Problem:											
Total Calls for Street: 1													
Woodrow Avenue													
3000		3027.0	12/14/2007 8 :00 AM	Regular Business Hours	3363	12/14/2007 9 :08 AM	9,13						
		Problem: Ed Gonzalez found this in historical work orders and sent crew to fix it. Manhole too high-fill around manhole with black top.											
Total Calls for Street: 1													
Total Calls for Period: 56													

APPENDIX L
Collection System Work Order Database

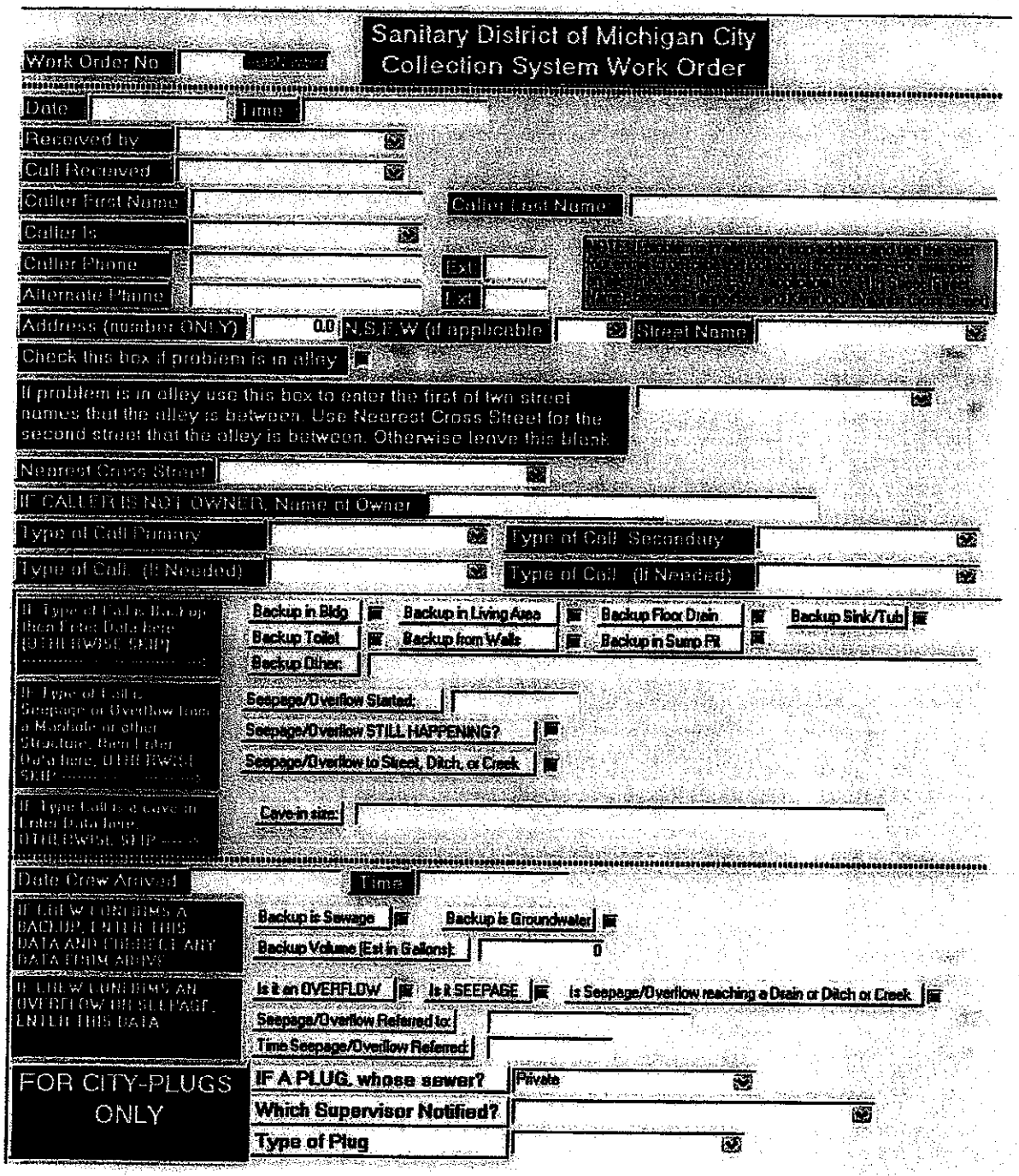


Main Menu Screen

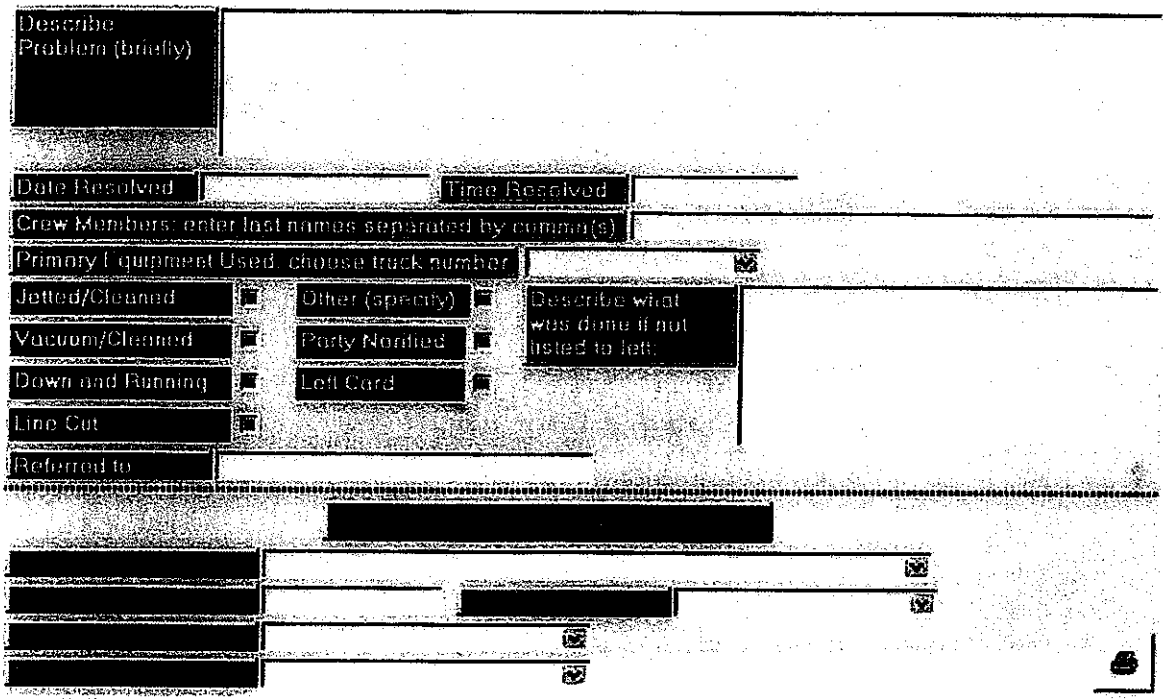


Work Order Menu Screen

APPENDIX L
Collection System Work Order Database

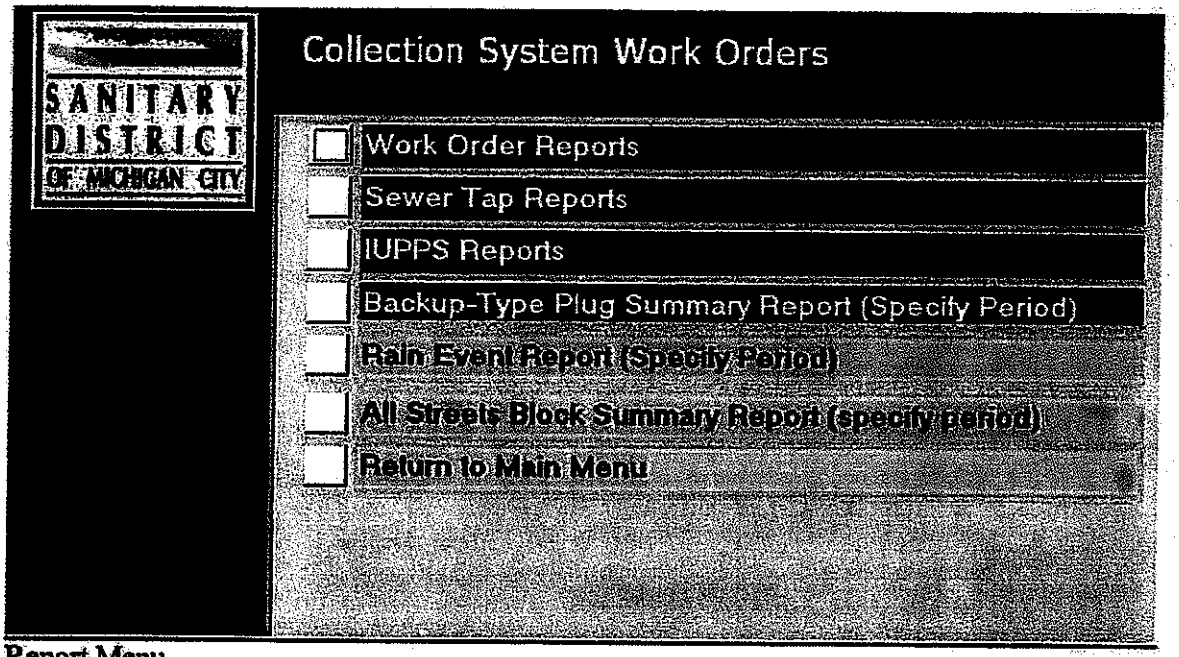


APPENDIX L
Collection System Work Order Database

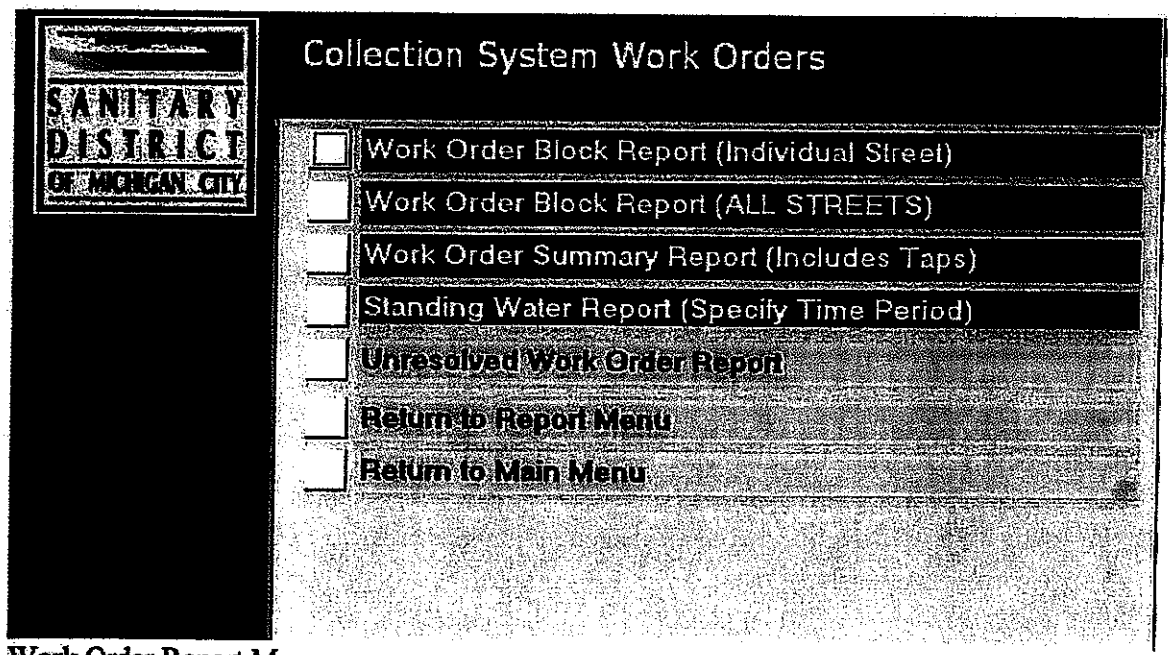


Work Order Entry Screen

APPENDIX L
Collection System Work Order Database



Report Menu



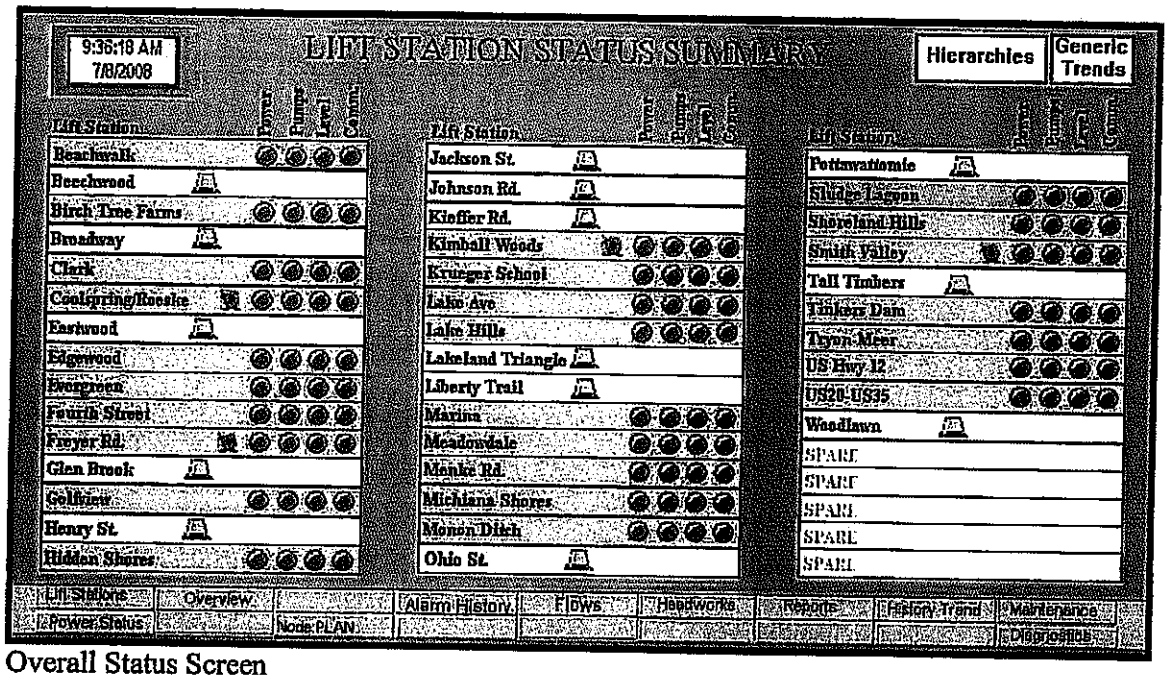
Work Order Report Menu

Examples of ALL STREETS SUMMARY BLOCK SUMMARY REPORT (specify period), Report Menu, and WORK ORDER BLOCK REPORT (ALL STREETS), Work Order Report Menu, follow.

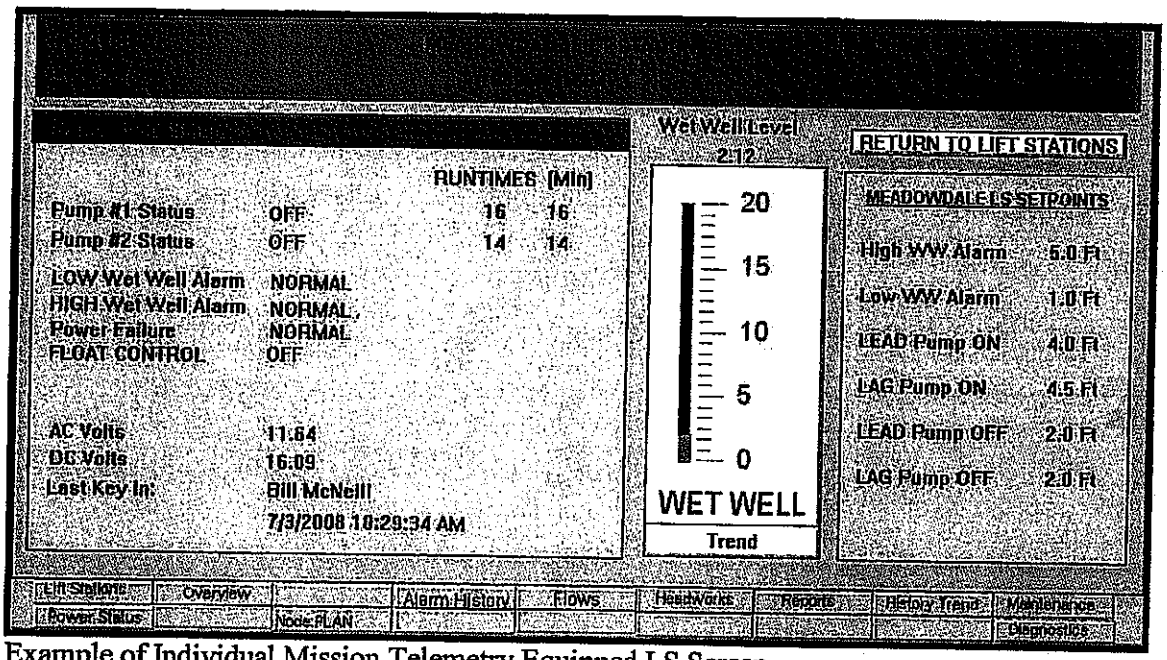
APPENDIX J

Example of an Individual Lift Station Screen

APPENDIX M
Lift Station Alarm Screens from Wonderware SCADA



Overall Status Screen



Example of Individual Mission Telemetry Equipped LS Screen

APPENDIX K

Listing of wet weather events for 2006 through 2007 that resulted in a significant use of the storm basins and/or a discharge from Outfall 002A

APPENDIX N

Sanitary District of Michigan City

2006-09 Rain Events with Significant Storm Basin Use

EVENT #	Time Storm Began (24-Hr Clock)	Time Storm Ended (24-Hr Clock)	Duration of Storm (Hr:Min:Sec)	Total Rainfall for Storm (Inches)	Bulletin 71 Storm Rating (Yr Return - Hrs)	Began Filling Basins (24-Hr Clock)	Time Basins Empty (24-Hr Clock)	Time Elapsed from End of Storm to Empty Basins (Hr:Min:Sec)	CSO Event?
2006 Storms									
1	1/20/06 15:15	1/21/06 1:15	10:00:00	0.52	<1 Yr - 1 Hr	1/20/06 12:39	1/22/06 14:44	37:29:00	
2	2/16/06 15:15	2/16/06 18:15	3:00:00	0.33	<1 Yr - 1 Hr	2/16/06 18:00	2/17/06 2:00	7:45:00	
3	3/9/06 1:00	3/9/06 2:15	1:15:00	0.61	<1 Yr - 1 Hr	3/9/06 2:24			
	3/9/06 18:30	3/10/06 0:30	6:00:00	0.62	<1 Yr - 1 Hr		3/10/06 3:00	2:30:00	
4	3/13/06 0:15	3/13/06 3:15	3:00:00	1.32	<1 Yr - 1 Hr	3/13/06 1:31	3/14/06 10:00	30:45:00	
5	4/2/06 20:15	4/2/06 21:00	0:45:00	0.27	<1 Yr - 1 Hr	4/2/06 22:30			
	4/3/06 3:45	4/3/06 7:00	3:15:00	0.22	<1 Yr - 1 Hr		4/3/06 7:30	0:30:00	
6	4/16/06 13:30	4/17/06 1:15	11:45:00	1.35	<1 Yr - 1 Hr	4/16/06 17:58	4/17/06 13:00	11:45:00	
7	5/10/06 21:30	5/11/06 18:00	20:30:00	1.60	<1 Yr - 1 Hr	5/11/06 19:00	5/12/06 2:00	8:00:00	
8	5/24/06 8:30	5/24/06 13:45	5:15:00	0.51	<1 Yr - 1 Hr	5/24/06 15:35			
	5/24/06 22:15	5/24/06 23:00	0:45:00	0.32	<1 Yr - 1 Hr		5/26/06 10:00	44:15:00	
9	6/10/06 2:15	6/10/06 9:30	7:15:00	0.75	<1 Yr - 1 Hr	6/10/06 5:49	6/11/06 10:05	24:35:00	
10	6/21/06 16:30	6/21/06 17:00	0:30:00	0.44	<1 Yr - 1 Hr	6/21/06 6:18	6/21/06 22:58	5:58:00	
11	6/27/06 19:30	6/27/06 20:45	1:15:00	0.50	<1 Yr - 1 Hr	6/27/06 21:40	6/28/06 5:00	8:15:00	
12	7/11/06 4:45	7/11/06 14:45	10:00:00	0.73	<1 Yr - 1 Hr	7/11/06 12:56	7/11/06 22:36	7:51:00	
13	7/14/06 5:15	7/14/06 13:30	8:15:00	1.30	<1 Yr - 1 Hr	7/14/06 7:50	7/15/06 23:35	34:05:00	
14	7/18/06 0:45	7/18/06 1:45	1:00:00	0.68	2 Yr - 30 Min	7/18/06 1:40	7/18/06 16:10	14:25:00	
15	7/20/06 5:15	7/20/06 10:00	4:45:00	0.67	<1 Yr - 1 Hr	7/20/06 7:00	7/21/06 14:15	28:15:00	
16	**7/27/06 16:15**	**7/27/06 20:15**	**4:00:00**	**2.84**	**10 Yr - 3 Hr**	**7/27/06 17:42**	**7/31/06 4:45**	**80:30:00**	**Yes**
17	8/2/06 21:45	8/3/06 1:15	3:30:00	1.01	<1 Yr - 1 Hr	8/2/06 0:00			
	8/3/06 5:45	8/3/06 11:45	6:00:00	0.52	<1 Yr - 1 Hr		8/4/06 20:15	32:30:00	
18	8/18/06 23:00	8/19/06 3:15	4:15:00	1.60	<1 Yr - 1 Hr	8/19/06 0:30	8/20/06 5:00	25:45:00	
19	8/23/06 18:00	8/24/06 20:30	26:30:00	2.40	10 Yr - 2 Hr	8/23/06 18:00	8/26/06 12:00	39:30:00	
20	8/28/06 11:00	8/28/06 16:45	5:45:00	1.19	<1 Yr - 1 Hr	8/28/06 11:50	8/30/06 9:40	40:55:00	
21	**9/12/06 20:00**	**9/12/06 22:00**	**2:00:00**	**1.29**	**1 Yr - 1 Hr**	**9/12/06 21:02**			
	9/13/06 7:00	**9/13/06 9:00**	**2:00:00**	**1.87**	**2 yr - 2 Hr**		**9/19/06 4:30**	**139:30:00**	**Yes**
22	9/23/06 18:30	9/23/06 20:00	1:30:00	0.28	<1 Yr - 1 Hr	9/23/06 19:39	9/24/06 3:02	7:02:00	
23	9/28/06 4:00	9/28/06 14:30	10:30:00	0.77	<1 Yr - 1 Hr	9/28/06 9:58	9/29/06 18:01	27:31:00	
24	10/2/06 22:15	10/3/06 1:45	3:30:00	1.02	<1 Yr - 1 Hr	10/2/06 16:15	10/5/06 15:09	**61:24:00**	
25	10/16/06 15:45	10/17/06 4:45	13:00:00	0.96	<1 Yr - 1 Hr	10/17/06 0:00	10/17/06 20:58	16:13:00	
26	11/10/06 17:40	11/10/06 21:20	3:40:00	0.53	<1 Yr - 1 Hr	11/10/06 20:19	11/11/06 4:15	6:55:00	
27	11/29/06 21:55	11/30/06 1:35	3:40:00	0.58	<1 Yr - 1 Hr	11/29/06 16:12	12/3/06 22:13	**92:38:00**	
28	12/22/06 5:10	12/22/06 10:10	5:00:00	0.69	<1 Yr - 1 Hr	12/22/06 6:58	12/23/06 14:41	28:31:00	

Data Compiled and Storm Evaluated by Daniel R. Olson, Plant Superintendent

APPENDIX N
Sanitary District of Michigan City
2006-09 Rain Events with Significant Storm Basin Use

EVENT #	Time Storm Began (24-Hr Clock)	Time Storm Ended (24-Hr Clock)	Duration of Storm (Hr:Min:Sec)	Total Rainfall for Storm (Inches)	Bulletin 71 Storm Rating (Yr Return - Hrs)	Began Filling Basins (24-Hr Clock)	Time Basins Empty (24-Hr Clock)	Time Elapsed from End of Storm to Empty Basins (Hr:Min:Sec)	CSO Event?
2007 Storms									
1	1/4/07 14:30	1/4/07 22:05	7:35:00	1.35	<1 Yr - 1 Hr	1/4/07 17:16	1/7/07 7:16	**57:11:00**	
2	1/14/07 4:25	1/14/07 6:35	2:10:00	0.47	<1 Yr - 1 Hr	1/14/07 22:19			
	1/14/07 19:30	1/15/07 3:05	7:35:00	0.19	<1 Yr - 1 Hr		1/16/07 1:40	22:35:00	
3	2/24/07 19:00	2/25/07 3:25	8:25:00	0.47	<1 Yr - 1 Hr	2/25/07 11:02			
	2/25/07 9:00	2/25/07 14:50	5:50:00	0.40	<1 Yr - 1 Hr		2/26/07 11:07	20:17:00	
4	3/19/07 3:00	3/19/07 4:55	1:55:00	0.27	<1 Yr - 1 Hr	3/19/07 5:18	3/19/07 6:07	1:12:00	
5	3/21/07 3:05	3/21/07 5:45	2:40:00	0.29	<1 Yr - 1 Hr	3/21/07 5:21	3/21/07 10:09	4:24:00	
6	3/22/07 4:15	3/22/07 9:15	5:00:00	0.38	<1 Yr - 1 Hr	3/22/07 6:16	3/22/07 18:15	9:00:00	
7	4/11/07 2:25	4/11/07 14:30	12:05:00	0.56	<1 Yr - 1 Hr	4/11/07 11:11	4/11/07 22:32	8:02:00	
8	**4/25/07 0:10**	**4/25/07 8:05**	**7:55:00**	**2.46**	**1 Yr - 1 Hr**	**4/25/07 3:25**			
	4/26/07 15:25	**4/26/07 17:25**	**2:00:00**	**1.17**	**<1 Yr - 1 Hr**		**5/3/07 1:59**	**152:34:00**	**Yes**
9	5/25/07 0:00	5/25/07 4:30	4:30:00	0.40	<1 Yr - 1 Hr	5/25/07 2:38	5/25/07 5:49	1:19:00	
10	5/26/07 17:30	5/26/07 18:30	1:00:00	0.45	<1 Yr - 1 Hr	5/26/07 18:26	5/27/07 4:24	9:54:00	
11	6/19/07 3:45	6/19/07 5:30	1:45:00	0.90	<1 Yr - 1 Hr	6/19/07 4:59	6/19/07 17:42	12:12:00	
12	7/18/07 19:45	7/19/07 1:45	6:00:00	1.93	2 Yr -1 Hr	7/18/07 21:24			
	7/19/07 4:45	7/19/07 6:45	2:00:00	0.65	<1 Yr - 1 Hr		7/20/07 20:03	37:18:00	
13	7/25/07 14:30	7/25/07 19:00	4:30:00	0.26	<1 Yr - 1 Hr				
	7/25/07 23:45	7/26/07 5:30	5:45:00	2.23	5 Yr - 1 Hr	7/26/07 0:45	7/27/07 22:59	41:29:00	
14	8/5/07 0:15	8/5/07 9:45	9:30:00	1.27	25 Yr -1 Hr	8/5/07 2:51	8/5/07 18:25	8:40:00	
15	8/6/07 20:15	8/6/07 21:15	1:00:00	0.19	<1 Yr - 1 Hr	8/6/07 21:34	8/7/07 2:05	4:50:00	
16	8/7/07 2:00	8/7/07 6:45	4:45:00	0.37	<1 Yr - 1 Hr	8/7/07 5:50	8/7/07 7:54	1:09:00	
17	8/9/07 4:15	8/9/07 6:15	2:00:00	0.33	<1 Yr - 1 Hr	8/9/07 5:58	8/9/07 11:28	5:13:00	
18	8/15/07 20:30	8/15/07 21:15	0:45:00	0.62	<1 Yr - 1 Hr	8/15/07 21:14	8/16/07 11:42	14:27:00	
19	8/20/07 0:15	8/20/07 6:30	6:15:00	0.70	<1 Yr - 1 Hr	8/20/07 3:44	8/20/07 20:26	13:56:00	
20	**8/22/07 23:00**	**8/23/07 1:45**	**2:45:00**	**0.54**	**<1 Yr - 1 Hr**				
	8/23/07 16:00	**8/23/07 23:00**	**7:00:00**	**1.66**	**<1 Yr - 1 Hr**	**8/23/07 0:20**			
	8/24/07 0:45	**8/24/07 4:30**	**3:45:00**	**0.22**	**<1 Yr - 1 Hr**				
	8/25/07 5:30	**8/25/07 9:30**	**4:00:00**	**0.55**	**<1 Yr - 1 Hr**		**8/29/07 19:38**	**106:08:00**	**Yes**
21	9/25/07 19:45	9/25/07 20:15	0:30:00	0.46	<1 Yr - 1 Hr	9/25/07 20:36			
	9/25/07 23:30	9/26/07 4:45	5:15:00	0.20	<1 Yr - 1 Hr		9/26/07 6:45	2:00:00	

Data Compiled and Storm Evaluated by Daniel R. Olson, Plant Superintendent

APPENDIX N

Sanitary District of Michigan City

2006-09 Rain Events with Significant Storm Basin Use

EVENT #	Time Storm Began (24-Hr Clock)	Time Storm Ended (24-Hr Clock)	Duration of Storm (Hr:Min:Sec)	Total Rainfall for Storm (Inches)	Bulletin 71 Storm Rating (Yr Return - Hrs)	Began Filling Basins (24-Hr Clock)	Time Basins Empty (24-Hr Clock)	Time Elapsed from End of Storm to Empty Basins (Hr:Min:Sec)	CSO Event?
2008 Storms									
1	**1/7/08 18:30**	**1/7/08 21:15**	**2:45:00**	**1.09**	**<1 Yr - 1 Hr**	**1/7/08 19:17**			
	1/7/08 22:00	**1/8/08 10:00**	**12:00:00**	**1.68**	**12Hr - 2 Yr**				
	1/10/08 16:15	**1/10/08 20:00**	**3:45:00**	**0.61**	**<1 Yr - 1 Hr**		**1/15/08 2:27**	**102:27:00**	**Yes**
2	1/29/08 16:00	1/29/08 19:00	3:00:00	0.37	<1 Yr - 1 Hr	1/29/08 17:14	1/30/08 5:17	10:17:00	
3	2/5/08 15:30	2/5/08 21:30	6:00:00	0.33	<1 Yr - 1 Hr	2/5/08 19:14			
	2/6/08 0:00	2/6/08 17:45	17:45:00	0.36	<1 Yr - 1 Hr		2/8/08 3:38	33:53:00	
4	2/17/08 4:00	2/17/08 17:00	13:00:00	0.46	<1 Yr - 1 Hr	2/17/08 6:34	2/18/08 4:28	11:28:00	
5	3/3/08 6:15	3/3/08 10:45	4:30:00	0.42	<1 Yr - 1 Hr	3/3/08 19:27	3/4/08 17:06	30:21:00	
6	3/31/08 12:30	3/31/08 17:00	4:30:00	0.48	<1 Yr - 1 Hr	3/31/08 13:26	4/1/08 2:53	9:53:00	
7	4/8/08 18:45	4/8/08 23:30	4:45:00	0.55	<1 Yr - 1 Hr	4/8/08 20:19	4/9/08 8:09	8:39:00	
8	4/10/08 11:30	4/10/08 15:30	4:00:00	0.63	<1 Yr - 1 Hr	4/10/08 13:32	4/10/08 18:06	2:36:00	
9	4/10/08 19:00	4/10/08 22:45	3:45:00	0.08	<1 Yr - 1 Hr	4/10/08 19:53	4/11/08 10:20	11:35:00	
10	4/28/08 14:15	4/28/08 21:45	7:30:00	0.43	<1 Yr - 1 Hr	4/28/08 4:36	4/28/08 23:17	1:32:00	
11	5/2/08 8:30	5/2/08 21:30	13:00:00	0.73	<1 Yr - 1 Hr	5/2/08 20:50	5/3/08 14:59	17:29:00	
12	5/7/08 8:00	5/7/08 13:15	5:15:00	0.51	<1 Yr - 1 Hr	5/7/08 11:31	5/7/08 23:03	9:48:00	
13	5/11/08 6:15	5/11/08 15:48	9:33:00	0.52	<1 Yr - 1 Hr	5/11/08 9:22	5/12/08 0:53	9:05:00	
14	5/17/08 11:34	5/18/08 1:32	13:58:00	0.40	<1 Yr - 1 Hr	5/17/08 10:19	5/18/08 5:13	3:41:00	
15	6/6/08 14:00	6/6/08 14:30	0:30:00	0.34	<1 Yr - 1 Hr	6/6/08 14:59	6/6/08 14:58	0:28:00	
16	6/8/08 13:45	6/8/08 15:00	1:15:00	0.76	<1 Yr - 1 Hr	6/8/08 14:37	6/9/08 9:37	18:37:00	
17	8/4/08 20:45	8/4/08 21:15	0:30:00	0.63	<1 Yr - 1 Hr	8/4/08 21:27	8/5/08 10:29	13:14:00	
18	9/4/08 6:12	9/5/08 1:00	18:48:00	2.68	<1 Yr - 1 Hr	9/4/08 6:12	9/6/08 6:06	29:06:00	
19	9/8/08 12:45	9/9/08 0:45	12:00:00	1.18	<1 Yr - 1 Hr	9/8/08 14:07	9/9/08 9:15	8:30:00	
20	**9/12/08 20:15**	**9/13/08 9:15**	**13:00:00**	**5.76**		**9/13/08 4:06**			
	9/13/08 15:15	**9/14/08 16:30**	**25:15:00**	**3.30**	**>100 Yr - 72 Hr**		**9/29/08 6:01**	**349:31:00**	**Yes**
21	10/7/08 16:00	10/7/08 23:15	7:15:00	1.26	<1 Yr - 1 Hr	10/7/08 19:27	10/10/08 1:48	50:33:00	
22	12/9/08 5:15	12/9/08 12:00	6:45:00	0.69	<1 Yr - 1 Hr	12/9/08 7:42	12/10/08 1:12	13:12:00	
23	**12/26/08 3:45**	**12/26/08 4:45**	**1:00:00**	**0.06**	**<1 Yr - 1 Hr**	**12/26/08 23:45**			
	12/27/08 6:30	**12/27/08 21:15**	**14:45:00**	**0.94**	**<1 Yr - 1 Hr**		**1/2/09 15:13**	**137:58:00**	**Yes**

Data Compiled and Storm Evaluated by Daniel R. Olson, Plant Superintendent

APPENDIX N

Sanitary District of Michigan City

2006-09 Rain Events with Significant Storm Basin Use

EVENT #	Time Storm Began (24-Hr Clock)	Time Storm Ended (24-Hr Clock)	Duration of Storm (Hr:Min:Sec)	Total Rainfall for Storm (Inches)	Bulletin 71 Storm Rating (Yr Return - Hrs)	Began Filling Basins (24-Hr Clock)	Time Basins Empty (24-Hr Clock)	Time Elapsed from End of Storm to Empty Basins (Hr:Min:Sec)	CSO Event?
2009 Storms									
1		2/6/09 11:15		SNOW THAW		2/7/09 10:00			
	2/9/09 19:30	2/9/09 22:30	3:00:00	0.12	<1 Yr - 1 Hr		2/10/09 2:45	87:30:00	
2	2/11/09 4:30	2/11/09 19:00	14:30:00	1.01	<1 Yr - 1 Hr	2/11/09 7:12	2/16/09 23:06	124:06:00	
3	2/18/09 5:30	2/18/09 10:15	4:45:00	0.50	<1 Yr - 1 Hr	2/18/09 7:06	2/19/09 11:44	25:29:00	
4	2/26/09 12:15	2/27/09 0:45	12:30:00	1.00	<1 Yr - 1 Hr	2/26/09 14:07	2/27/09 15:55	15:10:00	
5	**3/7/09 4:45**	**3/8/09 16:45**	**36:00:00**	**1.81**	**<1 Yr - 1 Hr**	**3/7/09 17:07**			
	3/10/09 1:15	**3/10/09 21:15**	**20:00:00**	**1.16**	**<1 Yr - 1 Hr**		**3/23/09 10:42**	**301:27:00**	**Yes**
6	3/31/09 14:45	3/31/09 18:00	3:15:00	0.24	<1 Hr - 1 Yr	3/31/09 15:41	4/1/09 3:00	9:00:00	
7	4/5/09 9:15	4/6/09 1:30	16:15:00	0.77	<1 Hr - 1 Yr	4/5/09 12:56	4/11/09 15:10	133:40:00	
8	4/27/09 16:15	4/27/09 19:00	2:45:00	0.86	<1 Hr - 1 Yr	4/27/09 17:03	5/6/09 12:17	209:17:00	
9	5/15/09 13:30	5/15/09 23:15	9:45:00	0.84	<1 Hr - 1 Yr	5/15/09 15:27	5/17/09 17:49	42:34:00	
10	5/26/09 15:45	5/26/09 16:45	1:00:00	0.39	<1 Hr - 1 Yr	5/26/09 16:45	5/26/09 19:03	2:18:00	
11	6/1/09 4:30	6/1/09 5:45	1:15:00	0.79	<1 Hr - 1 Yr	6/1/09 5:22	6/3/09 13:40	55:55:00	
12	6/11/09 5:15	6/11/09 10:45	5:30:00	1.30	<1 Hr - 1 Yr	6/11/09 6:02	6/13/09 19:40	56:55:00	
13	**6/15/09 13:45**	**6/15/09 18:15**	**4:30:00**	**0.57**	**<1 Hr - 1 Yr**	**6/16/09 17:43**			
	6/16/09 21:30	**6/17/09 0:00**	**2:30:00**	**0.37**	**<1 Hr - 1 Yr**				
	6/19/09 1:30	**6/19/09 7:30**	**6:00:00**	**1.36**	**<1 Hr - 1 Yr**				
	6/19/09 19:30	**6/20/09 0:15**	**4:45:00**	**0.36**	**<1 Hr - 1 Yr**		**6/30/09 2:31**	**344:16:00**	**Yes**
14	7/11/09 5:15	7/11/09 6:30	1:15:00	0.94	<1 Hr - 1 Yr	7/11/09 11:53	7/19/09 0:00	185:30:00	
15	**7/28/09 16:45**	**7/28/09 21:00**	**4:15:00**	**2.85**	**>3 Hr - 2 Yr**	**7/28/09 17:57**	**8/2/09 20:00**	**119:00:00**	**Yes**
16	8/7/09 12:35	8/7/09 17:30	4:55:00	0.21	<1 Hr - 1 Yr	8/7/09 17:08	8/8/09 0:35	7:05:00	
17	8/27/09 2:15	8/27/09 9:00	6:45:00	0.66	<1 Hr - 1 Yr	8/27/09 5:15			
	8/27/09 16:30	8/27/09 18:15	1:45:00	0.27	<1 Hr - 1 Yr				
	8/27/09 23:00	8/28/09 5:30	6:30:00	0.57	<1 Hr - 1 Yr		8/28/09 20:25	35:25:00	
18	10/1/09 16:00	10/2/09 2:30	10:30:00	1.16	<1 Hr - 1 Yr	10/1/09 21:31	10/2/09 19:52	17:22:00	
19	10/22/09 16:30	10/23/09 11:15	18:45:00	1.23	<1 Hr - 1 Yr	10/23/09 6:16	10/24/09 16:15	29:00:00	
20	**10/29/09 21:15**	**10/30/09 15:00**	**17:45:00**	**2.62**	**<1 Hr - 1 Yr**	**10/30/09 1:28**	**11/7/09 2:51**	**179:51:00**	**Yes**
21	11/24/09 18:00	11/24/09 22:45	4:45:00	0.43	<1 Hr - 1 Yr	11/24/09 20:06	11/25/09 6:41	7:56:00	

Data Compiled and Storm Evaluated by Daniel R. Olson, Plant Superintendent

APPENDIX L

Data collected for Outfall 002A discharges

from 2000 through 2009.

APPENDIX O

Sanitary District of Michigan City

CSO Events 2006 through 2009

CSO Events January 2006 through December 31, 2009

CSO EVENT No.	Date	Rainfall or Precip. Inches	Flow to WWTP MGD	Peak Influent Flow MGD	CSO Discharge from 002A (Basin) MGD	CSO Discharge Time Discharge Started	CSO Discharge Time Discharge Ended	Basin Outfall 002 DO mg/l	Basin Outfall 002 pH Std Units	Basin Outfall 002 TSS mg/l	Basin Outfall 002 CBOD mg/l	Basin Outfall 002 Total Phosphorus mg/l	Basin Outfall 002 Ammonia-Nitrogen mg/l	Basin Outfall 002 Cl2 Res. mg/l	Disinfection Chamber Outfall Cl2 Res. Lb/day	Basin Outfall 002 E. coli Col/100 mls	Basin Outfall 002 T. Flow Mgal
1	07/27/06	2.84	10.14	35.00	4.50	6:55 PM			6.5	108	39	1.10	2.04	0.02	0.75	780	5.17
	07/28/06		15.24	26.97	0.67	On going	8:09 AM	10.9	5.4	4	17	0.80	1.39	0.07	0.39		
2	09/13/06	1.67	15.70	40.00	3.68	1:02 PM		8.9	6.7	53	29	0.85	3.21	0.02	0.61	32,400	6.30
	09/14/06		13.79	26.62	2.04	On going		5.6	5.1	12	12	0.37	1.20	0.02	0.34	4,950	
	09/15/06		10.06	17.90	0.58	On going	4:30 AM										
3	04/25/07	2.46	17.79	>40.00	2.48	5:37 PM								0.04	0.63		5.13
	04/26/07	1.17	17.34	>40.00	1.82	On going		11.2	6.6	17	54	0.40	1.86	0.02	0.30	100	
	04/27/07	0.04	16.52	30.02	0.49	On going								1.49	6.09		
	04/28/07		15.39	29.35	0.34	On going	9:30 PM							0.21	0.60		
4	08/25/07	0.55	17.31	30.70	0.63	4:35 PM		10.8	7.5	149	13	1.20	2.56	0.02	0.11	31,000	0.88
	08/26/07		15.52	15.82	0.25	On going	6:00 AM										
5	1/8/2008	1.68	23.74	45.50	1.00	7:45 AM		10.4	7.6	46	25	0.88	4.00	0.02	0.17	456	1.30
	1/9/2008		17.29	28.16	0.28	On going		13.1	7.6	12	12	0.58	3.87	0.02	0.06	TNTC	
	1/10/2008	0.61	17.90	44.55	0.02	On going	4:00 AM	8.6	7.4	12	8	0.46	5.18	0.02	0.00	No Disinfection	
6	1/10/2008	0.61	17.90	44.55	0.44	11:00 AM											0.49
	1/11/2008	0.01	16.34	26.34	0.05	On going	8:00 AM	7.4	7.8	6	11	0.42	5.68	0.02	0.08	No Disinfection	
7	9/13/2008	5.54	18.20	46.25	4.26	6:50 AM		11.1	7.3	42	14	0.55	1.90	0.02	0.71	1,130	34.39
	9/14/2008	3.30	27.28	31.90	12.80	On going		12.0	7.4	33	7	0.42	1.77	0.03	3.20	26,200	
	9/15/2008	0.03	26.90	29.83	6.56	On going		12.9	7.5	26	8	0.41	1.46	0.14	7.66	1,440	
	9/16/2008		26.05	44.48	3.63	On going		14.2	7.4	20	28	0.34	1.84	0.02	0.61	1,735	
	9/17/2008		22.27	25.38	2.84	On going		8.0	7.6	15	13	0.57	2.65	0.02	0.47	445	
	9/18/2008		20.36	24.86	1.77	On going		14.1	7.9	28	25	0.66	3.90	0.02	0.29	1,760	
	9/19/2008		18.27	30.30	0.96	On going		13.5	7.8	2	10	0.54	3.82	0.04	0.32	120	
	9/20/2008		17.78	25.23	0.79	On going		7.3	7.6	12	39	0.64	5.30	0.02	0.13	14	
	9/21/2008		16.05	29.79	0.36	On going		7.0	7.8	10	18	0.55	3.83	3.94	12.59	2	
	9/22/2008		16.15	24.73	0.40	On going		5.2	7.2	5	19	0.64	4.79	0.02	0.07	184	
	9/23/2008		16.02	29.55	0.01	On going	2:00 AM										
8	12/27/2008	0.94	19.92	43.21	0.07	12:00 AM	5:00 AM	11.7	7.5	48	31	1.20	4.80				0.07
9	3/8/2009	1.81	20.61	29.36	0.60	5:30 PM		11.2	8.1	38	24	0.80	4.68				9.76
	3/9/2009		18.14	26.72	0.81	On going		11.1	7.8	14	20	0.55	4.86				
	3/10/2009	1.01	23.84	44.90	3.46	On going		10.2	7.8	18	8	0.54	4.80				
	3/11/2009		20.41	24.15	1.50	On going		9.9	8.0	24	14	0.50	3.95				
	3/12/2009		18.97	30.34	1.05	On going		10.2	7.6	14	16	0.65	4.05				
	3/13/2009		18.65	30.11	0.90	On going		10.0	7.8	13	14	0.95	4.00				
	3/14/2009		17.47	30.06	0.72	On going		8.2	7.9	22	22	0.42	3.70				
	3/15/2009		16.63	27.04	0.44	On going		8.1	7.9	18	24	0.44	3.90				
	3/16/2009		16.18	25.77	0.19	On going		6.5	7.7	20	28	0.44	10.20				
	3/17/2009		15.02	28.15	0.07	On going		5.5	7.6	8	15	0.39	9.30				
	3/18/2009		14.63	17.69	0.02	On going	11:45 PM	5.8	7.5	10	8	0.70	4.20				
10	6/19/2009	1.43	16.00	44.27													1.66
	6/20/2009	0.15	15.28	28.29	0.89	5:00 AM		7.9	6.8	22	7.4	0.66	3.10	<0.02		3250	
	6/21/2009		13.60	15.47	0.59	On going		6.3	6.5	6	4.8	0.32	0.55	<0.02		2	
	6/22/2009	0.03	13.81	15.80	0.35	On going		6.2	7.4	4	5.0	0.30	1.72	<0.02		< 1	
	6/23/2009		13.56	15.58	0.03	On going	12:00 PM										
11	7/28/2009	2.85	12.94	31.87	0.43	9:00 PM		6.0	6.7	84	50	2.40	3.19			1,010	1.13
	7/29/2009	0.01	15.06	28.69	0.70	On going		5.6	6.8	12	35	0.60	2.23	0.02		>16,000	
	7/30/2009		13.74	17.72	0.01	On going	8:00 AM	5.7	6.6	<1.8	10	1.00	1.80	<0.02		35,800	
	10/30/09	2.04	26.19	43.82	1.39	11:20 AM		8.6	7.1	42	41	0.72	2.50	<0.02		670	1.89
	10/31/09	0.01	16.16	28.40	0.60	On going		6.1	6.3	17	16	0.44	2.89	<0.02		6800	
12	11/01/09		14.47	23.39	0.01	On going	4:00 AM										

Compiled by Daniel R. Olson, Plant Superintedent

Updated: 02/23/2010