

**TERRE HAUTE SANITARY DISTRICT
CITY OF TERRE HAUTE, INDIANA**

**COMBINED SEWER OVERFLOW
OPERATIONAL PLAN**

JUNE 2006
Project: 5152-004

**MALCOLM
PIRNIE**

Executive Summary

Terre Haute's National Pollutant Discharge Elimination System (NPDES) permit, effective as of July 1, 2005, requires that the Combined Sewer Overflow Operational Plan (CSO OP) be updated and submitted to IDEM annually, beginning 12 months from the effective date of the NPDES permit (by July 1, 2006). The CSO OP provides formal documentation of how the City is implementing the designated nine minimum controls (NMCs). The NMCs are non-capital intensive type control strategies as listed below.

- Proper operation and regular maintenance programs.
- Procedures that will maximize the use of the collection system for wastewater storage.
- Pretreatment program.
- Maximization of WWTP operation during wet weather conditions.
- Dry weather overflow elimination.
- Measures to control solid and floatable materials in CSO discharges.
- Pollution prevention program.
- Public notification process.
- Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

In addition to meeting regulatory requirements, the CSO OP will allow current and future staff to easily find information to assist in performing required tasks. The intent is to document written programs and procedures used by the wastewater utility to operate and maintain the many facets of the combined sewer system.

A. Combined Sewer System

Section 2 provides an inventory of the combined sewer system. Currently, the City's collection system consists of over 400 miles of gravity sewers and force mains, 75 pumping stations, and a WWTP designed to treat 24 million gallons per day (MGD). Both combined and separate sanitary sewers make up the Terre Haute collection system.

The combined sewer service areas are centrally located in the older sections of the City and total to approximately 5,100 acres. The combined system contains 10 combined sewer overflow points, including one at the main lift station. All CSOs discharge to the Wabash River. In addition to the overflow points, the combined sewer system contains the following.

- Nine regulator structures, each with a corresponding overflow weir, discharge pipe, and outfall.
- One regulator structure at Poplar Street, which does not have its own outfall. The Poplar Street regulator structure overflows to the Walnut Street CSO.

- Main interceptor sewer, which starts at the north end of the combined sewer area and ends at the main lift station.
- Nine major trunk sewers that flow west towards the Wabash River. The trunk sewers range from 24-inch to 132-inch diameter.
- 75 lift stations, all of which pump sanitary only flow, with exception of the main lift station and one storm water pump station. A majority of the flow received by the WWTP is pumped through the main lift station, which has a peak capacity of 48 MGD and on average pumps 10 MGD.
- WWTP with 24 MGD design flow and 36 MGD peak capacity. Two equalization basins at the plant are used when needed during storm events, with a combined storage volume of 5.2 million gallons (MG).

A schematic of the combined sewer system is shown in Figure E.1.

B. CSO Control Efforts

A number of CSO control measures have been implemented by the wastewater utility in an effort to reduce CSO events. Regulator structure weirs have been reconstructed at higher elevations, which has increased the amount of flow through the interceptor, ultimately decreasing overflow volume. The wastewater utility has been working to maximize flows from the main lift station by finding the lowest point for the wet well while still allowing enough room for the pumps to run safely; more flow pumped from the main lift station equates to less overflow volume upstream of the main lift station. Other initiatives the utility has implemented that control CSO include various lift station upgrades, sewer separation projects, sewer lining projects, and storm water improvement projects.

C. Operation and Maintenance Practices

Section 3 addresses proper operation and regular maintenance programs. The wastewater utility is taking steps to develop new and improve existing procedures, and continues to make progress on several issues. Recent improvements include:

- Management-driven work order process.
- Budget projections.
- Moving toward preventative maintenance rather than reactive practices.
- Construction and installation of a river gauge to better predict high river levels.
- Improvements with City engineering department coordination.

All wastewater utility departments, including plant operations, maintenance, sewer crew, building and grounds, and pretreatment departments, work together with the wastewater utility director, office manager, and safety director to operate and maintain the combined sewer system. Procedures undertaken by each department are outlined in Section 3, and

copies of checklists and forms are located in Appendix D. Potential improvements to operation and maintenance practices are also discussed in Section 3.

D. Collection System Storage

Section 4 outlines procedures that have been taken to maximize the use of the collection system for wastewater storage. The wastewater utility has implemented various measures to take advantage of the collection system storage potential, including adjustment of regulator weir heights, adjustment of the main lift station pump settings during wet weather, and combined system cleaning and inspection. These measures, while relatively simple, help greatly to reduce the magnitude, frequency, and duration of CSOs. Future practices that can improve collection system storage include infiltration and inflow reduction measures.

Although the collection system is very complicated, the utility staff is dedicated to learn how it functions in order to maximize its use. Through monitoring, die testing, CCTV recording, and confined space entries, the staff has learned how the combined sewer pipes are connected and how they function. These studies, along with the collection system model recalibration, may influence the CSO LTCP recommendations.

E. Pretreatment Program

Section 5 describes the pretreatment program. The City of Terre Haute currently operates under the 2005 amended Sewer Usage and Industrial Pretreatment ordinance and has 23 permitted industries discharging into the combined sewer system. Procedures taken by the Pretreatment Department are outlined with respect to how new industries are surveyed, how existing industries are evaluated, how local limits are assessed, and the department's monitoring and tracking system. Future improvements to the pretreatment program include enforcing the Sewer Use and Industrial Pretreatment ordinance, organizing/purging documentation, continuing to optimize current practices, and possibly requiring a permit for Terre Haute's numerous food service operations.

F. Flow Maximization at WWTP

Section 6 addresses the maximization of wastewater conveyance to the WWTP, and how the WWTP is operated during normal and during wet weather conditions to maximize flow. The interceptor directs wastewater from the trunk sewers to the main lift station, where flow is pumped to the WWTP. Regulator weir heights have been raised, increasing the volume of flow through the interceptor. The main lift station, which conveys the majority of flow to the WWTP, has a maximum pumping capacity of 48 MGD. The WWTP has a rated average design capacity of 24 MGD, and normally receives an average flow of 10 MGD. The WWTP provides full treatment up to 30 MGD, at which point primary effluent is diverted to equalization basins. Daily provisions are implemented by the operations department to maximize treatment ability, and a standard operating procedure is followed during high flow conditions.

Improvements to the WWTP are recommended to further maximize wet weather treatment. As listed in the CSO LTCP recommended plan, these improvements include

hydraulics rehabilitation, new preliminary treatment facility, new control administration building, primary clarifier equipment replacement, and expanded SCADA system.

G. Elimination of Dry Weather Overflows

Section 7 addresses dry weather overflows. Dry weather overflow is prohibited by the wastewater NPDES permit. Any occurrences are reported to IDEM as soon as possible, and always within 24 hours. The wastewater utility has implemented daily inspection procedures and standard corrective measures to minimize, if not eliminate, dry weather overflow occurrences. Dry weather overflows have decreased in number in the past few years as improvements have been made to the system.

H. Floatables Control

Section 8 identifies the various options that are applicable to Terre Haute's combined sewer system for floatables control. A floatables control technology evaluation study was conducted in 2005 and recommended the following:

- CSO 010 Spruce Street – In-line netting
- CSO 009 Chestnut Street – In-line netting
- CSO 007 Walnut Street – Mechanically cleaned bar screen
- CSO 004/011 Hulman/Idaho Street – Mechanically cleaned bar screen
- CSO 003 Turner Street – Mechanically combed horizontal bar screen

Detailed design and construction of the facilities will occur after the CSO LTCP is finalized. Until then, the wastewater utility and its community partners have implemented various source control measures including regular inlet cleaning, street cleaning, and litter reduction programs.

I. Pollution Prevention Program

Section 9 describes the City's pollution prevention program, which has been implemented to reduce the amount of pollutants that enter the combined sewer system. The program includes storm sewer inlet cleaning, street cleaning, water conservation, public education, storm water management, multiple Solid Waste Management District programs, recycling programs, and various contracted services.

J. Public Notification Process

Section 10 outlines actions taken by the wastewater utility to notify the public of the locations of CSO outfalls, actual occurrences of CSOs, possible health and environmental effects of CSOs, and recreational or commercial activities curtailed as a result of CSOs. All CSO structures in Terre Haute have public warning signs. In addition, the wastewater

utility runs a CSO advisory as a legal ad in the Terre Haute newspaper the day following a CSO event. The advisory describes effects of CSOs and who to call with questions.

K. Monitoring Program

Section 11 describes the history of monitoring activities and the current monitoring program. All nine CSO locations have been electronically monitored with an ultrasonic flow meter since 2001. The sensors are checked regularly and information is downloaded once per month. In addition, four rain gauges are positioned throughout the City which record rainfall levels and times. The detailed CSO flow monitoring and rain gauge data is collected, assessed, and kept on file. The data is used to complete monthly discharge monitoring reports.

2 Combined Sewer System

The City of Terre Haute is located in Vigo County in western central Indiana. The population is 59,614 according to the 2000 Census. The City's WWTP treats wastewater from Terre Haute, surrounding rural areas, and the Town of Seelyville, which is located to the east of Terre Haute and has a population of 1,182 according to the 2000 Census.

Many of the combined trunk sewers, which originally drained directly to the Wabash River, were installed in the late 1800's and early 1900's. In 1965, the City constructed an interceptor, main lift station, and primary WWTP to treat dry weather wastewater flow. Currently, the City's collection system consists of over 400 miles of gravity sewers and force mains, 75 pumping stations, and a WWTP designed to treat 24 million gallons per day (MGD). Both combined and separate sanitary sewers make up the Terre Haute collection system. The complete storm and sanitary collection system is illustrated in Figure 2.1.

2.1 Combined Sewer Service Areas

The combined sewer service areas are centrally located in the older sections of the City and total to approximately 5,100 acres. The combined system contains 11 combined sewer overflow points, including one each at the main lift station and WWTP. All CSOs discharge to the Wabash River.

The City is served by both combined and separate sanitary sewers. The sanitary sewer drainage areas contribute flow to one of the seven combined sewer service areas. The combined sewer service area boundaries are shown in Figure 2.2. The service areas are named by their corresponding trunk sewers and the outfall they contribute to. The outfall numbers are as designated in the wastewater NPDES permit.

Outfall 010 Spruce Street is the northernmost combined sewer service area and is served by the 108-inch diameter Spruce Street trunk sewer. It covers approximately 1,260 acres. The land use in the area consists mostly of residential with some commercial areas and a portion of Indiana State University. The trunk line, which extends northeast on Lafayette Avenue, picks up sanitary flows from the separated area to the north. Flows are conveyed through the trunk sewer to the regulator structure, which diverts dry weather flow to the interceptor sewer through a 36-inch diameter pipe.

Outfall 009 Chestnut Street service area is located directly south of the Spruce Street service area and is served by a 66-inch diameter trunk sewer that flows from the old Canal Sewer. It covers approximately 320 acres. The land use in the area consists mostly of Indiana State University.

Outfall 008 Ohio Street service area is located between the Chestnut and Walnut Street service areas and is served by the 42-inch Ohio Street trunk sewer. It covers

approximately 78 acres. This area serves most of the downtown area, so the land use is mostly commercial with some industry and a portion of Indiana State University.

Outfall 007 Walnut Street service area is located immediately south of the Ohio Street service area. It covers approximately 1,080 acres. The land use is mostly residential with some commercial areas. The separated area to the east of this service area is the Town of Seelyville; this town's wastewater is conveyed in a separate sewer to the Walnut Street combined trunk sewer.

Outfall 006 Oak Street service area is located south of the Walnut Street service area. It covers approximately 108 acres. The land use is mostly residential and commercial. The outfall is located in Fairbanks Park.

Outfall 005 Crawford Street service area is located immediately south of the Oak Street service area. It covers approximately 162 acres. The land use is mostly residential and commercial. The outfall is located in Fairbanks Park.

Outfall 004 Hulman Street and 011 Idaho Street service area is the largest area in the City covering approximately 1,500 acres. It is served by the 114-inch diameter Hulman Street trunk sewer and the 96-inch diameter Idaho Street trunk sewer. The land use is mostly residential with some commercial and industrial areas. The Idaho Street trunk sewer is referred to as the Central Relief Sewer because the two trunk lines contain several cross connections. The two trunk lines also collect sanitary flow from the separated area to the east and convey it to the interceptor.

Outfall 003 Turner Street service area is the southernmost service area and is served by an 84-inch diameter trunk sewer. It covers approximately 610 acres. The land use is mostly residential. The trunk sewer picks up sanitary flows from the separated areas to the south and east, and conveys all flow to the main lift station.

Outfall 002 has been permanently gated at the main lift station. Prior to permanently closing the gate, the outfall served as an overflow to the interceptor and was activated when the capacity of the main lift station was exceeded and the interceptor sewer was surcharged. Although not used, Outfall 002 remains on the NPDES permit outfall list and therefore must be monitored as required in the permit.

2.2 Regulator Structures and Outfalls

During dry weather, flow from the combined sewer service areas enters the regulator structures and is directed to the interceptor. During large storm events, flow enters the regulator structures and upon reaching a level higher than the overflow weir, flow goes over the weir and into the overflow pipe leading to the outfall at the Wabash River. The combined sewer system contains the following.

- Nine regulator structures, each with a corresponding overflow weir, discharge pipe, and outfall.

- One regulator structure at Poplar Street, which does not have its own outfall. The Poplar Street regulator structure overflows to the Walnut Street CSO.
- Ten outfalls. This includes Outfall 002 as described above.

Each outfall has a flap gate to prevent river water from entering the system. The regulator structures vary in design. Figures 2.3 through 2.13 detail each regulator structure's location and features including top of weir elevation. Since the original CSO OP timeframe, the weirs have been reconstructed to higher levels. A description of the weir reconstruction projects is contained in Section 4.1. Table 2.1 summarizes the regulator structure features, and photographs of each regulator structure and outfall are contained in Appendix C.

2.3 Interceptor

The interceptor was constructed in 1965 to direct flow from the trunk sewers to the WWTP. Generally, the interceptor starts at the north end of the combined sewer area and ends at the main lift station. The interceptor begins as a 36-inch diameter pipe from the Spruce Street regulator structure, then immediately increases to 48-inch diameter just south of Spruce Street. It then increases to a 54-inch diameter sewer just south of Ohio Street and increases again to a 60-inch diameter sewer at Oak Street. Lastly, it increases to a 66-inch diameter sewer at Idaho Street and proceeds to the main lift station where flow is pumped to the WWTP.

Figure 2.14 shows the size and location of the interceptor.

2.4 Trunk Sewers

The combined sewer system has nine major trunk sewers that flow west towards the Wabash River. The trunk sewers range from 24-inch to 132-inch diameter and are named corresponding to their respective street/combined sewer service area names.

The Spruce Street trunk sewer runs from its connection to the interceptor east to 3rd Street. It consists of 108 and 72-inch diameter pipes, and has a full pipe capacity of approximately 225 MGD.

The Chestnut Street trunk sewer runs from its connection to the interceptor east to 3rd Street, then northeast to Elm Street. Running east along Elm Street, the pipe sizes range from 48 to 96-inch diameter. The 96-inch diameter pipe has a full capacity of approximately 210 MGD. The Chestnut and Spruce Street trunk sewers are interconnected.

The Ohio Street trunk sewer runs from its connection to the interceptor east to 7th Street. Pipe sizes range from 24 to 42-inch diameter, with a full pipe capacity of approximately 63 MGD.

**Table 2.1
CSO Regulator Structure Features**

Regulator Structure	Regulator Structure Location	Regulator Structure Description	Outfall Pipe Size	Throttle Pipe Size	Influent Pipe Invert Elevation	Weir Elevation
010	Spruce St.	108" trunk sewer from Spruce St. enters weir chamber and is diverted into a 36" throttle pipe which is the start of the interceptor.	108"	36"	468.92	476.96
009	Chestnut St.	66" trunk sewer conveys flow from the Canal Sewer and flow that is diverted over the weir at Lafayette St. and Spruce St. into a weir chamber that is located near Third St. The flow is diverted into a 30" throttle pipe into the 48" interceptor.	96"	30"	469.11	472.81
008	Ohio St.	42" trunk sewer from Ohio St. enters weir chamber and is diverted into an 8" throttle pipe and then into a 15" throttle pipe to the 54" interceptor.	42"	8" - 15"	468.25	473.06
007	Walnut St.	96" trunk sewer from Walnut St. enters weir chamber and is diverted into an 18" throttle pipe to the 54" interceptor.	96"	18"	463.92	470.25
006	Oak St.	54" trunk sewer from Oak St. enters weir chamber and is diverted into an 8" throttle pipe to the 60" interceptor.	54"	8"	469.50	473.83
005	Crawford St.	63" trunk sewer from Crawford St. enters weir chamber and is diverted into a 12" throttle pipe to the 60" interceptor.	66"	12"	471.08	473.22
004	Hulman St.	114" trunk sewer on Hulman St. conveys flow from Hulman St. and flow relieved from Idaho St. through the 84" cross connection at Prairieton Rd. Flow enters the diversion structure and is diverted to the 60" interceptor through a 56" x 64" orifice.	96"	Orifice opening 56" x 64"	459.18	461.79
011	Idaho St.	96" trunk sewer on Idaho St. enters the diversion structure and is diverted to the 66" interceptor through a 65" x 72" orifice.	96"	Orifice opening 65" x 72"	458.75	464.00
003	Turner St.	84" trunk sewer from Turner St. enters weir chamber and is diverted into a 20" throttle pipe to the 66" interceptor which flows into the Main Lift Station which is then pumped to the WWTP.	84"	20"	459.47	465.30
002	Main Lift Station	Flow enters the wet well of the Main Lift Station and when the capacity of the lift station is reached, the flow goes over a weir and out the outfall.	48"	N/A	N/A	461.0 (closed)

The Walnut Street trunk sewer runs from its connection to the interceptor along Walnut Street to Gilbert Avenue. The full pipe capacity of this 96-inch diameter trunk sewer is approximately 155 MGD.

The Oak Street trunk sewer runs east from the interceptor to 7th Street. It has an elliptical cross section, with an estimated full pipe capacity of approximately 22 MGD.

The Crawford Street trunk sewer runs east from the interceptor to 7th Street. It has a full pipe capacity of approximately 136 MGD.

The Hulman Street and Idaho Street trunk sewer sizes range from 48 to 114-inch diameter and are interconnected at several places. They convey combined sewage from large portions of the central and east parts of the City to the interceptor. The full pipe capacity of Hulman Street trunk sewer is 294 MGD and Idaho Street trunk sewer is 213 MGD.

The Turner Street trunk sewer runs east from the interceptor along Turner Street, and is connected to the southernmost separate sanitary sewer system. Pipe sizes range from 60 to 84-inch diameter with a full pipe capacity of approximately 113 MGD.

Figure 2.14 shows size and location of the major trunk sewers.

2.5 Lift Stations

The wastewater utility operates and maintains 75 lift stations throughout the sewer service area. All pump sanitary only flow, with exception of the main lift station and a storm water pump station at 26th and Maple. Table 2.2 lists current lift station locations, discharge location, and pumping rate. The map number corresponds to those shown in the collection system site plan, Figure 2.1.

A majority of the flow received by the WWTP is pumped through the main lift station as discussed in Section 2.5.1. The WWTP also receives flow from the following lift stations:

- Southside Lift Station
- Honey Creek Lift Station
- Penitentiary Lift Station

The current average dry weather flow from these three lift stations is estimated to be 1.5 MGD, with a peak of 5.0 MGD. Although these lift stations serve areas with separate sanitary sewers, there are subbasins within those separate sewer areas that have peak flows during rain events. This is due to illegal clear water connections and infiltration/inflow in the subbasins.

Table 2.2
Lift Stations – North Route

Collection System Map No.	Lift Station Location	Connection to Collection System	No. of Pumps	Capacity per Pump (GPM)
1	Woodridge	Int. of Woodbine Dr. & Circle Dr.	2	75
2	Wyndham	Just off of Hwy. 46 going on to Gardendale Rd.	2	35
3	Burgon Subivision	At Burgon Ave. & US 40	2	32
4	Glenn & Maple	Manhole on US 40	2	100
5	Glenn Dell	Int. of Chamberlain & US 40	2	100
6	Seelyville	2400' from PS SW on US 40	2	500
7	Woodvale	Manhole in US 40	2	22
8	Country Walk	Just N. of entrance to Sub. on Chamberlain	2	90
9	Glenn North	300' N. of Penn Central RR	2	500
10	Gospel Grove	At int. of Chamberlain Rd. & Sharon Rd.	2	30
11	Glenn South	315' N. of pump station on Chamberlain Rd.	2	500
12	Dobbs Park	473' off Poplar St.	2	20
13	Fruitridge & Riley	On Riley between Fruitridge & Alley	2	30
14	29 th & 8 th Ave.	29 th & 8 th Ave.	2	550
15	27 th & Maple	Maple Ave. between 22 nd & 23 rd Streets	2	3,680
16	Storm Water 26 th & Maple		2	1,500
17	Blaine & Grand	Int. of Grand & 24 th St.	2	100
18	Maplewood	Int. of Maple Ave. & N. entrance of Center St.	2	2,240
19	1 st & Linden		2	
20	4 th & Florida	Int. of 6 th St. & Florida Ave.	2	550
21	Ft. Harrison & River	Int. of Ft. Harrison & 4 th St.	2	500
22	12 th & Prairie	11 th St., South of Prairie Ave.	2	250
23	11 th & Florida	On Florida & 10 th St. going East	2	100
24	Lost Creek	Just NE of 15 th St. & Lafayette	3	4,000
25	16 th & Florida	50' S. of SE corner of 16 th St. & Florida	2	25
26	Visqueen	Along Fort Harrison	2	3,000
27	Brighton & Hall	Int. of Haythorne Ave. and Brighton Ave.	2	32
28	23 rd & Berne Ave.	East of 23 rd on Berne Ave.	2	600
29	Park Ave. & Lafayette	At int. of Lafayette & Haythorne	2	400
30	Morris Mobile Home Park	1 st MH on Morris off of Tuttle Ave.	2	20
31	Imperial Gardens	19' S. of PS on Sandalwood	2	100
32	Grouseland	On Evans, just W. of Raintree Ct.	2	300
33	Northwood	Evans Ave. between Clinton St. and Raintree Ct.	2	175
34	Howard Subdiv.	On N. 13th St. just N. of L&N Railroad	2	100
35	Hawthorne Woods			
36	Fairbanks Park			

Table 2.2
Lift Stations – South Route

Map Number	Lift Station Location	Connection to Collection System	No. of Pumps	Capacity per Pump (GPM)
37	Honey Creek	Lift Station at waste water treatment plant	2	500
38	Jonesy's Park	On Johnson Ave. & Union Dr. by Fairgrounds	2	20
39	Prison Lift		2	550
40	Southside Lift Station	Southside Road	2	6,100
41	Dowden Acres	Located 400' E. of Royce Rd. & US 41	2	166
42	Richland Manor	Vigo Rd. & New Carlisle Rd.	2	75
43	Colonial South	Located in bend on Monticello Dr.	2	20
44	Industrial Park West	Off Harlan Road, next to the odor ditch	2	2,200
45	Industrial Park East	Manhole on Carlisle Road	2	250
46	Dallas Road & U.S. 41	1140' N. of pump	2	75
47	Deerfield	At Crossover to Allendale & US 41	2	750
48	Youngstown	Just N. of Int. of Bono Rd. & Eaton Rd.	2	130
49	Woodgate South	On US 41 S. of Canter Dr., 1 st MH on W. side	2	175
50	Woodgate North	Just S. of Woodsdale Rd. on Edgemoore	2	100
51	Halt Road	East of Ion St., by paved & curbed turnaround	2	100
52	Hospital Lane	275' S. of int. of Hospital Ln. & Hospital Rd.	2	80
53	Willa Villa	S. of 19 1/2 St.	2	300
54	Idle Creek West (Cart Path)	Manhole on Southside of entrance to sub.	2	175
55	Idle Creek East (Feree)	Manhole near on north side of lake	2	80
56	Eldridge Road		2	25
57	Garden & Prospect	Edge of Prospect, center line of Garden	2	26
58	10 th & Pugh	N. of Int., 125' from MH in Int.	2	25
59	10 1/2 & Voorhees	Int. of 9th St. and Voorhees	2	524
60	Kensington	Int. of 21 st & Helen Ave.	2	100
61	Ellen Woods		2	
62	Dutch Acres	Manhole in 25 th St.	2	100
63	30 th & Crawford	20' West of Pump	2	550
64	CDI Apartments	Manhole North of College	2	40
65	Birch Run	Manhole in Hulman near Subdivision Entrance	2	80
66	Blumberg Estates	Manhole in Hulman Street	2	80
67	Hulman Dam	Manhole to Fruitridge	2	30
68	Watertree	288' W. of Watertree Rd. & Hulman St.	2	125
69	46 & 1-70	350' from Int. of 46 & Margaret Ave.	2	900
70	Lexington Farms	1400' N. of PS	2	35
71	46 & Moyer Rd.	At SR 46 & 1-70	2	130
72	46th & Margaret	On N. side of Margaret Ave. near int. of 46 th	2	75
73	46 th & Hulman	900' North on 46	2	60
74	Airport	350' from main entrance to airport on Poplar	2	100
75	Poplar West of 46 th	500' W. of PS	2	800
76	The Woods	1st. MH NE of Pump on Forest Dr. in Village	2	40
M	Main Lift	Wastewater Treatment Plant	4	11,100 (16 MGD)

2.5.1 Main Lift Station

The main lift station consists of two buildings connected at the upper level. The first building houses the screening facilities. The original bar screens were designed to handle 60 MGD. The improvement project of 1997 replaced the mechanically operated screens with same type equipment and rated capacity. In 1999, the bar screens were replaced with automatic step screens. The second building houses four raw sewage pumps and controls. The station was originally designed to pump 40 MGD with three vertical shaft pumps operating. In 1997, the pumps were changed to dry pit submersibles and designed to pump 48 MGD with three pumps operating. The main lift station is programmed to run with one lead pump, and two lag pumps. The fourth pump is never in sequence. The operations department has found that one pump operating alone can process almost 19 MGD. On average, the main lift station pumps 10 MGD to the WWTP.

The force main to the plant is 48-inch diameter in size. To prevent solids from settling out in the pipe, a velocity of 2 to 3 feet per second (fps) is required. However, at the average daily flow of 10 MGD, the velocity in the force main is approximately 1.2 fps. The buildup of solids in the force main has caused problems at the headworks of the WWTP when a surge of storm flow flushes solids through the pipes. The buildup of solids in the grit chamber lowers the holding capacity and sends more solids to the primary clarifiers to be removed when pumping sludge. Other concerns regarding the main lift station include:

- Vehicle access is limited.
- The automatic step screens have a tough time keeping up with leaves in the fall.
- Valves and gates are not operational, so the wet well cannot be isolated for maintenance.
- The septage receiving station manhole lid pops off during flood events, even though it is mechanically locked down.

2.6 Wastewater Treatment Plant

The WWTP was constructed in 1965 as a primary treatment facility. At that time, the plant included pretreatment and primary treatment facilities, chlorination and digestion facilities, the administration/control building, and the main lift station. In 1971, the WWTP was expanded to include secondary treatment. Additional sludge handling facilities and fine bubble diffusers were added in 1989. The two flow equalization basins were added in 1990, and the main lift station was upgraded in 1997. The WWTP layout is shown in Figure 2.15, and a schematic of the WWTP processes is shown in Figure 2.16. Wastewater treatment facility capacities per unit process are shown in Table 6.1.

2.6.1 Preliminary Treatment

Preliminary treatment takes place at the WWTP headworks, constructed in 1965. It consists of two aerated grit tanks, three channel type grinders, and four preaeration tanks. The facilities were originally designed with a treatment capacity rating of 48 MGD. The grit is removed from the aerated grit tank with a clamshell bucket.

Preliminary treatment capacity is limited to 40 MGD partially because of hydraulic problems with one of the grinders. This 16-inch diameter grinder will be replaced in 2006 with a 20-inch diameter channel type grinder. Present equipment removes only a small portion of the grit; the remaining grit passes through the process, which causes downstream equipment to degrade, creates odors, and causes sludge handling difficulties.

2.6.2 Primary Treatment

The primary clarifiers were part of the original 1965 WWTP construction and were designed to treat 48 MGD. There are four clarifier tanks with three channels per tank. Longitudinal collectors move sludge to one end and cross collectors move sludge at the end of the channels to a common hopper for wasting. The effluent channel from the primary clarifiers was altered with a side channel weir in 1990 to discharge to the equalization (EQ) basins during high flow periods. This discharge to the EQ basins occurs at 30 MGD. However, in the future, the primary clarifier effluent channel bypass weir will be raised such that bypass events do not occur until the primary clarifiers see 36 MGD flow. The south end of the effluent channel has a sluice gate which is opened manually to act as a bypass when the EQ tanks are full and the flow rate exceeds the secondary treatment capacity. The primary clarifiers have the ability to treat 48 MGD under normal conditions.

2.6.3 Secondary Treatment

The aeration tanks and secondary clarifiers were built in 1971, and are rated for 24 MGD. The four aeration tanks are comprised of three passes each, and can be operated in step feed mode. There are four 100-foot diameter clarifiers with 12-foot side water depth. The clarifiers have been operated up to the equivalent of 36 MGD during field testing. Field testing in January 2002 showed that the flow distribution between the aeration tanks and the clarifiers is not balanced; the maximum flow when run individually was:

- Aeration/clarifier #1 – 12 MGD
- Aeration/clarifier #2 and #4 – 10 MGD
- Aeration/clarifier #3 – 7.5 MGD

Better flow splitting capability would help to balance the flow to all tanks and thereby increase performance and efficiency.

2.6.4 Disinfection

Secondary clarifier effluent is disinfected by utilizing gas chlorination and dechlorination with sulphur dioxide. Disinfection occurs only during the recreation season (April through October) in accordance with the NPDES permit. The disinfection system is sized for 15 minutes of chlorine contact time at 48 MGD.

2.6.5 EQ Basins

The two EQ basins were constructed in 1990 and have a total volume of 5.2 million gallons (MG). The basins receive primary effluent when flow surpasses 30 MGD. Once the basins are full, approximately 30 MGD continues to be sent to secondary treatment and the balance is bypassed from the primary effluent channel to the chlorine contact tank. When raw sewage flows subside, sewage from the basins can be pumped back into the preaeration tanks.

2.7 CSO Control Efforts

Since construction of the EQ basins at the WWTP, plant bypasses have been significantly reduced. In addition the EQ basin construction, a number of CSO control measures have been implemented in an effort to further reduce bypasses and combined sewer overflow events. For a current list projects affecting CSO, see Table 2.3.

2.7.1 Regulator Weir Height Adjustments

Regulator structure weirs have been reconstructed at higher elevations over a three-year period, as discussed in Section 4. See Appendix C for photos.

2.7.2 Main Lift Station Flow Optimization

As discussed in Section 4, the wastewater utility has been working to maximize flows from the main lift station by finding the lowest point for the wet well while still allowing enough room for the pumps to run safely.

2.7.3 Lift Station Upgrades

Terre Haute has upgraded numerous lift stations throughout the sewer service area. For a current list of lift station projects, see Table 2.3.

2.7.4 Sewer Separation

Terre Haute has separated various combined sewers in outlying areas, particularly in the north and northeast corners. Current sewer separation projects are listed in Table 2.3.

2.7.5 Sewer Lining

Current sewer lining projects are listed in Table 2.3.

2.7.6 Storm Water Projects

The Hulman Street flood retention reservoir is located on the east side of Terre Haute along Hulman Street. It has a surface area of 93 acres and a storage capacity of about 510 acre-feet. The reservoir retains a portion of storm water runoff in the southeastern part of the City. Storm water in the reservoir is released to the Wabash River through Thompson Ditch after each rainfall event.

Both Thompson Ditch and Lost Creek are presently maintained for storm water drainage and flood control.

The City's Department of Redevelopment has placed new curbs and gutters as well as new storm sewers in the area between 8th Avenue to the south and Florida Avenue to the north, and 25th Street to the west and Lost Creek to the east. Redevelopment projects such as this have been going on continuously for the past few years. It is important to note that all new developments are required to retain their storm water on site or provide an outlet to a separated storm sewer. Discharging storm water to a combined sewer is not allowed.

Current storm water projects are summarized in Table 2.3.

**Table 2.3
CSO Control Projects**

Project Description	Project Type	Estimated Construction	
		Start Date	Completion Date
4 th Street sewer replacement from Oak Avenue to Washington Avenue	LTCP Phase I Sewer replacement		
Construction of 1 st Street large diameter sewers, sizes range from 48-inch to 78-inch diameter	LTCP Phase I Sewer construction		
Reinforcement of Hulman Street sewer from 1 st Street to 14 th Street	LTCP Phase I Sewer reinforcement		
Glenn North Lift Station	Lift Station Upgrade		
Thompson Ditch Sewer Project: Project will take an interceptor that serves the east side of the county and relocate its flow around the City, eliminating it from contributing to the combined sewer area.	Sewer construction	2006	
Youngstown Subdivision sewer lining project: Involves lift station rehabilitation and sewer lining for the entire subdivision. Project will greatly reduce I/I contributions and SSOs in the subdivision.	Sewer lining		
13 th Street sewer separation – Phase I: Separated sanitary and storm sewers along 13 th Street from Poplar Street to Hulman Street. Storm water was directed to the Hulman Street trunk sewer.	Sewer separation		Spring 2002
Hulman Street Storm Outlet Project: Involves removing a large southeastern area of the City (including that separated in the 13 th Street sewer separation) from the combined sewer system. Includes a new storm pump station, a 1.9 acre pond, and all new separate storm sewers from 13 th and Hulman Street to Hulman Street and Thompson Ditch area. The lift station and pond will be located at 14 th and Hulman Streets.	Storm water relief	Spring 2006	
1 st Street storm sewer from Locust to Maple	Storm sewer construction		Aug. 2005
Central East Site Redevelopment (Edgewood Grove/Oakland Avenue Storm Separation): Will include separate storm and a new storm lift station in the Oakland/Schall area, which has had combined sewer backup issues for a long time. The storm water will be pumped to Thompson Ditch. The Edgewood area will also get new storm and updated inlets.	Storm sewer separation	2006/2007	

**MALCOLM
PIRNIE**

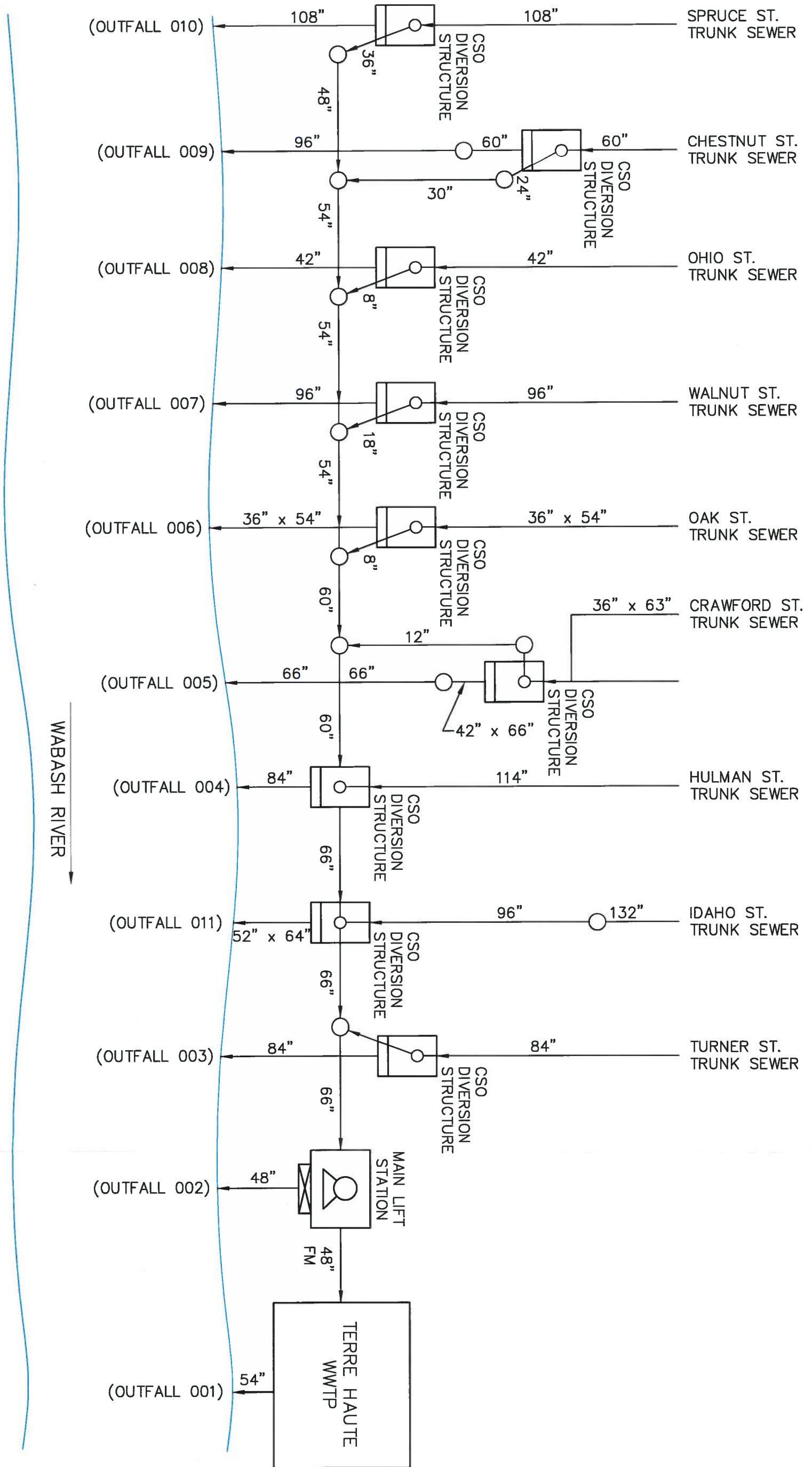
CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

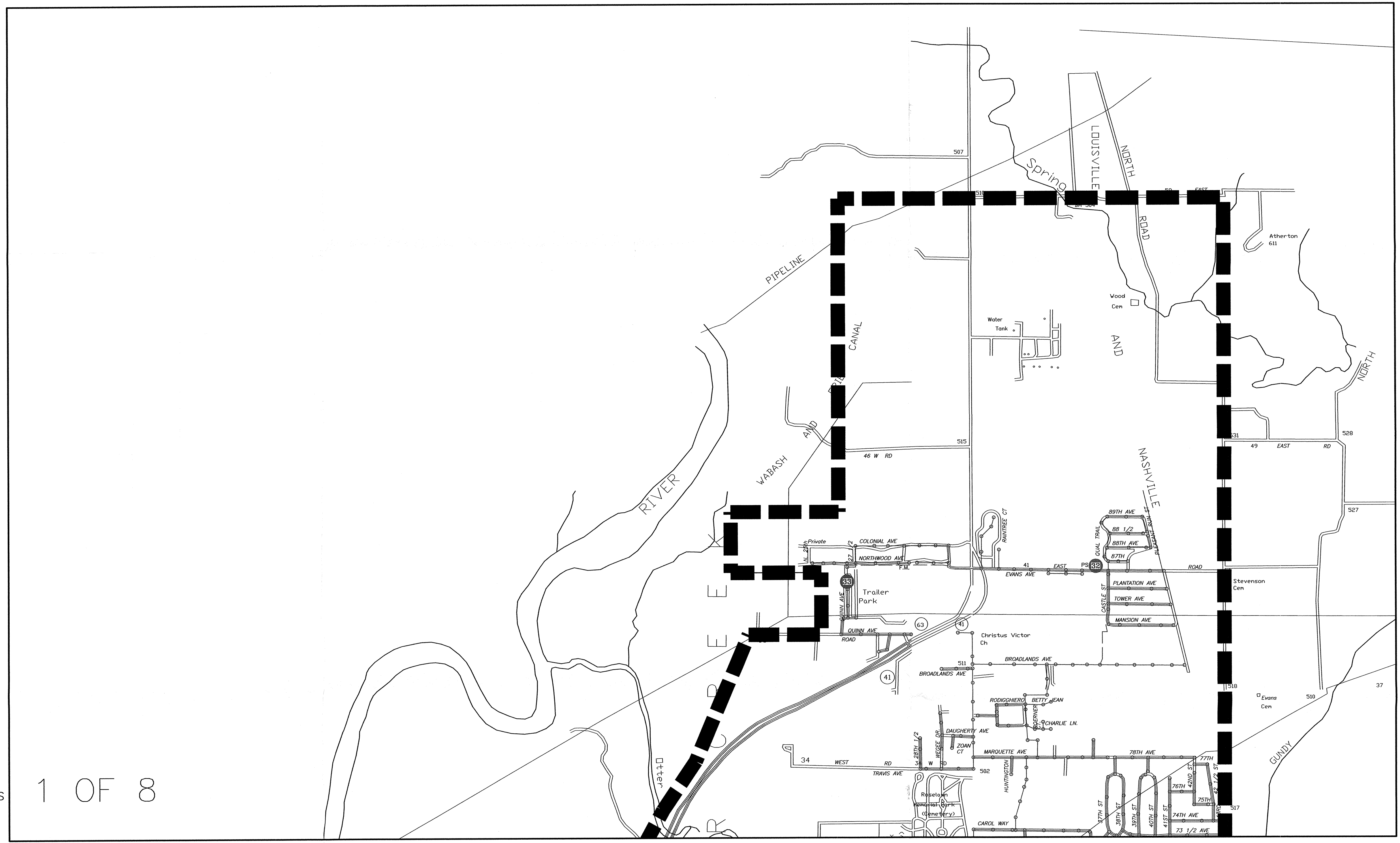
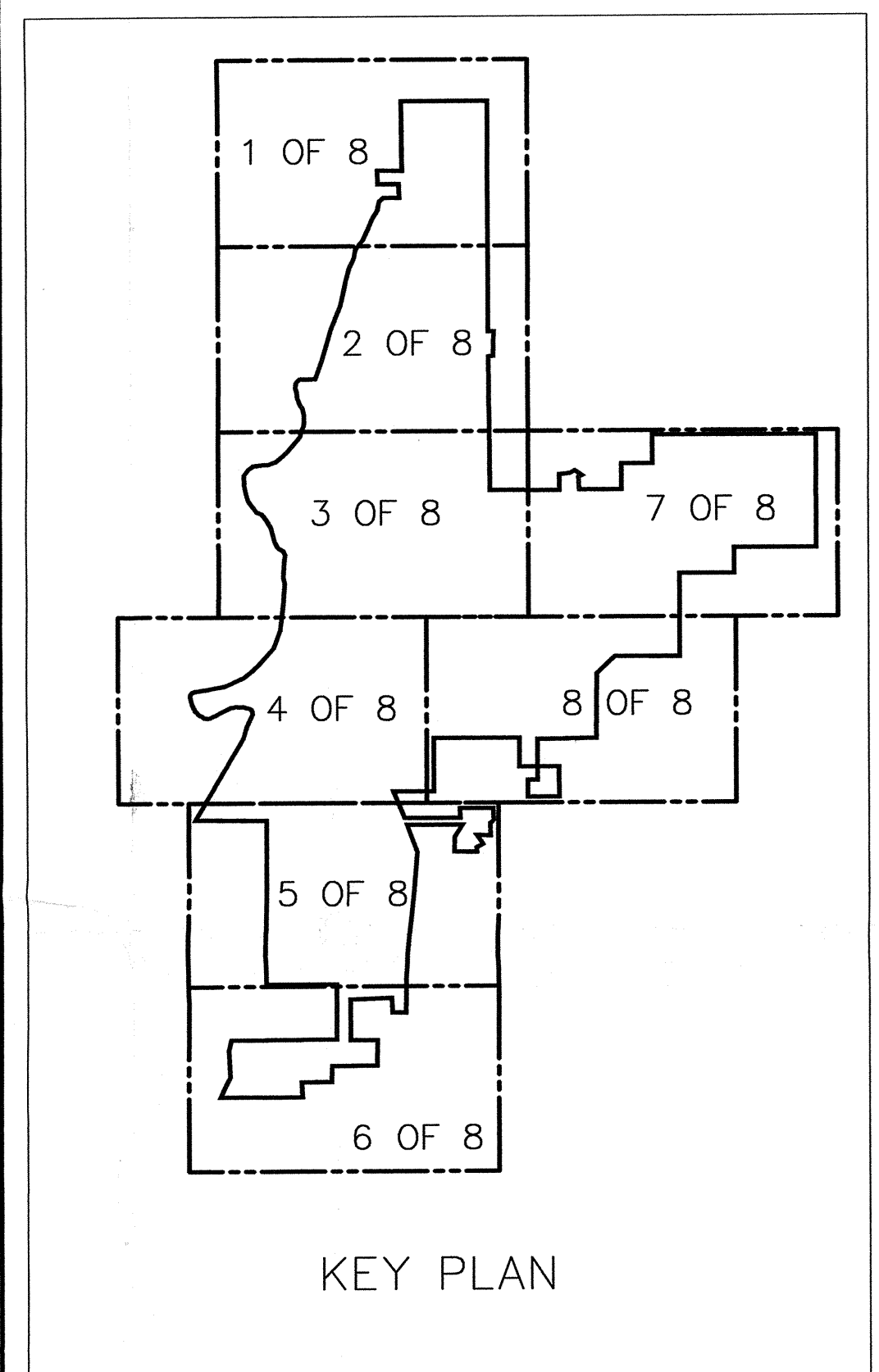
**COMBINED SEWER SYSTEM
SCHEMATIC**

SCALE: NOT TO SCALE


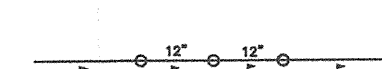
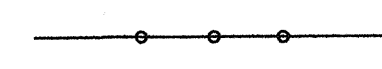

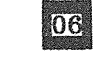
MALCOLM PIRNIE, INC.
JUNE 2006

FIGURE E.1





LEGEND

-  SANITARY DISTRICT LIMITS
-  SANITARY SEWER
-  STORM SEWER
-  PUMP STATION
-  INDUSTRIAL DISCHARGER

**MALCOLM
PIRNIE**

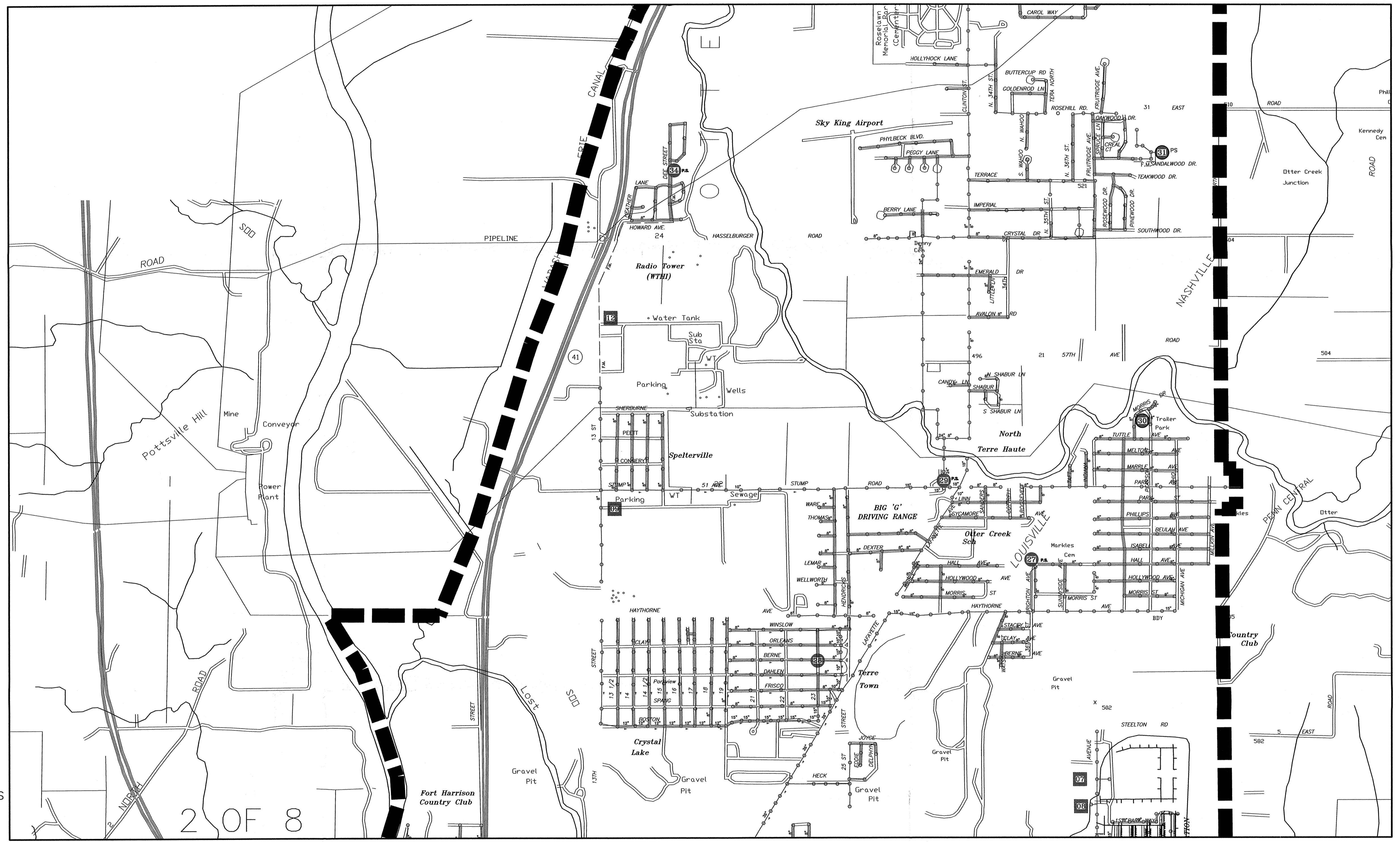
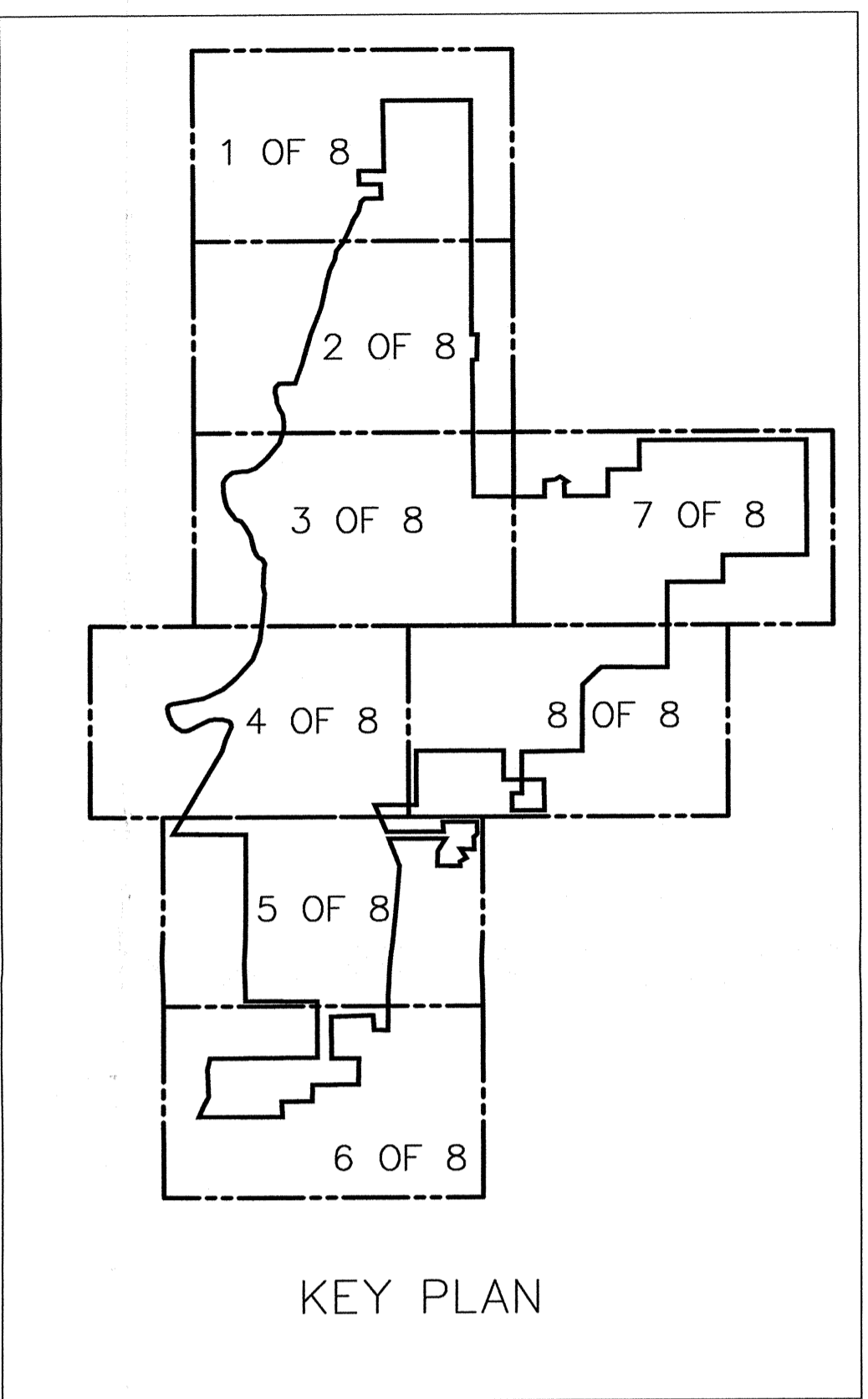
REVISIONS			
NO.	BY	DATE	REMARKS

DES AER
DWN FCT
CKD JUL

CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

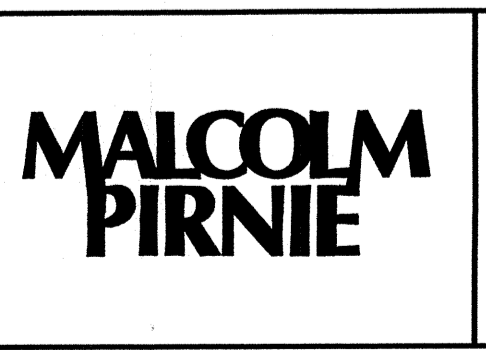
COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIE, INC.
DATE JUNE 2006
SHEET 1 OF 8
CAD REF. NO. 5152004-3



LEGEND

	SANITARY DISTRICT LIMITS
	SANITARY SEWER
	STORM SEWER
	PUMP STATION
	INDUSTRIAL DISCHARGER



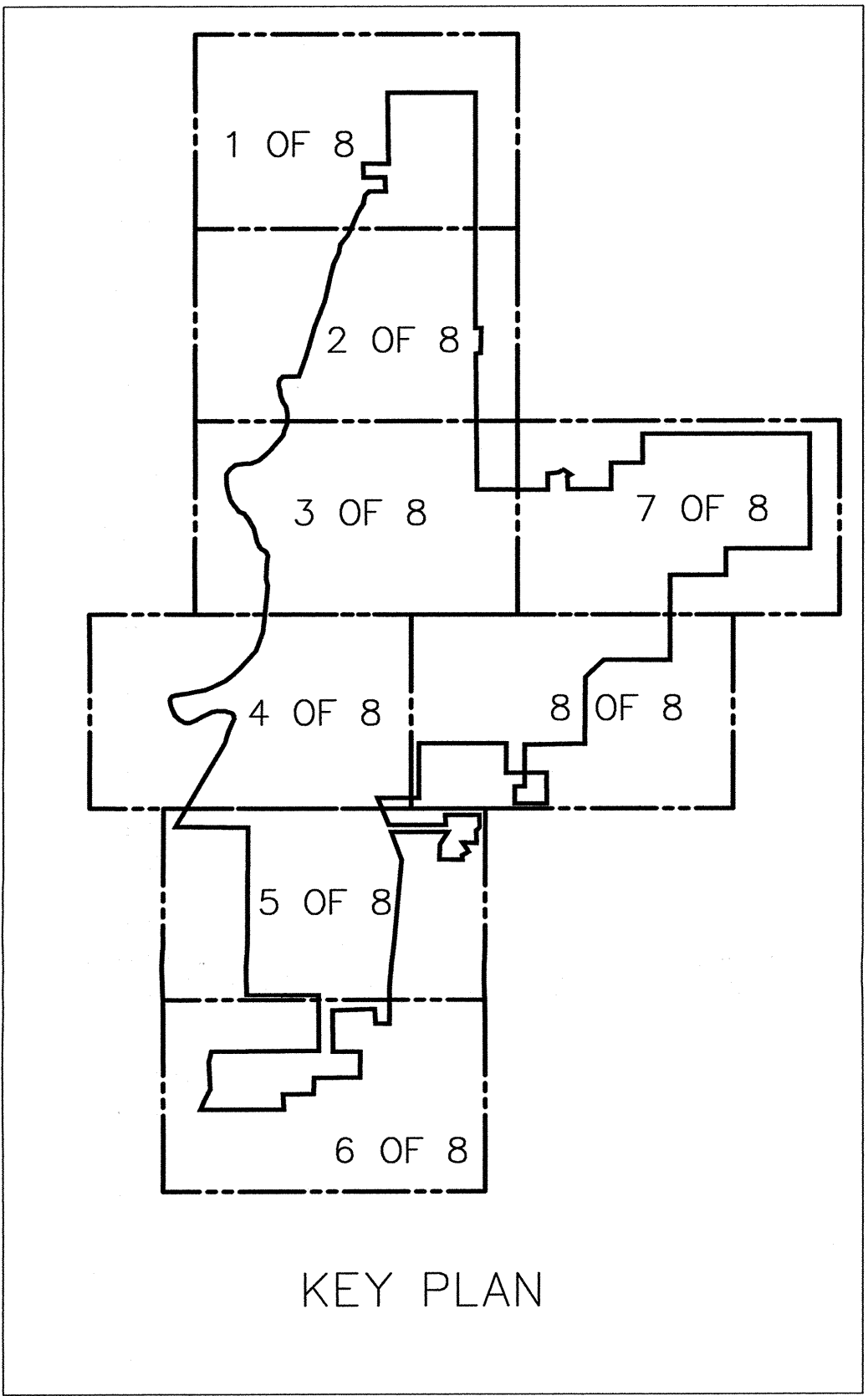
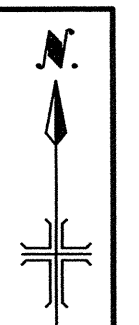
REVISIONS				
NO.	BY	DATE	REVISIONS	REMARKS

DES	AER
DWN	FCT
CKD	JJL


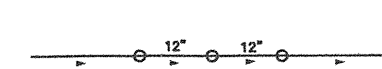
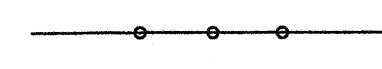

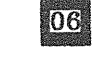
CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
 MALCOLM PIRNIE, INC.
 DATE JUNE 2006
 SHEET 2 OF 8
 CAD REF. NO. 5152004-4



LEGEND

-  SANITARY DISTRICT LIMITS
-  SANITARY SEWER
-  STORM SEWER
-  PUMP STATION
-  INDUSTRIAL DISCHARGER

**MALCOLM
PIRNIE**

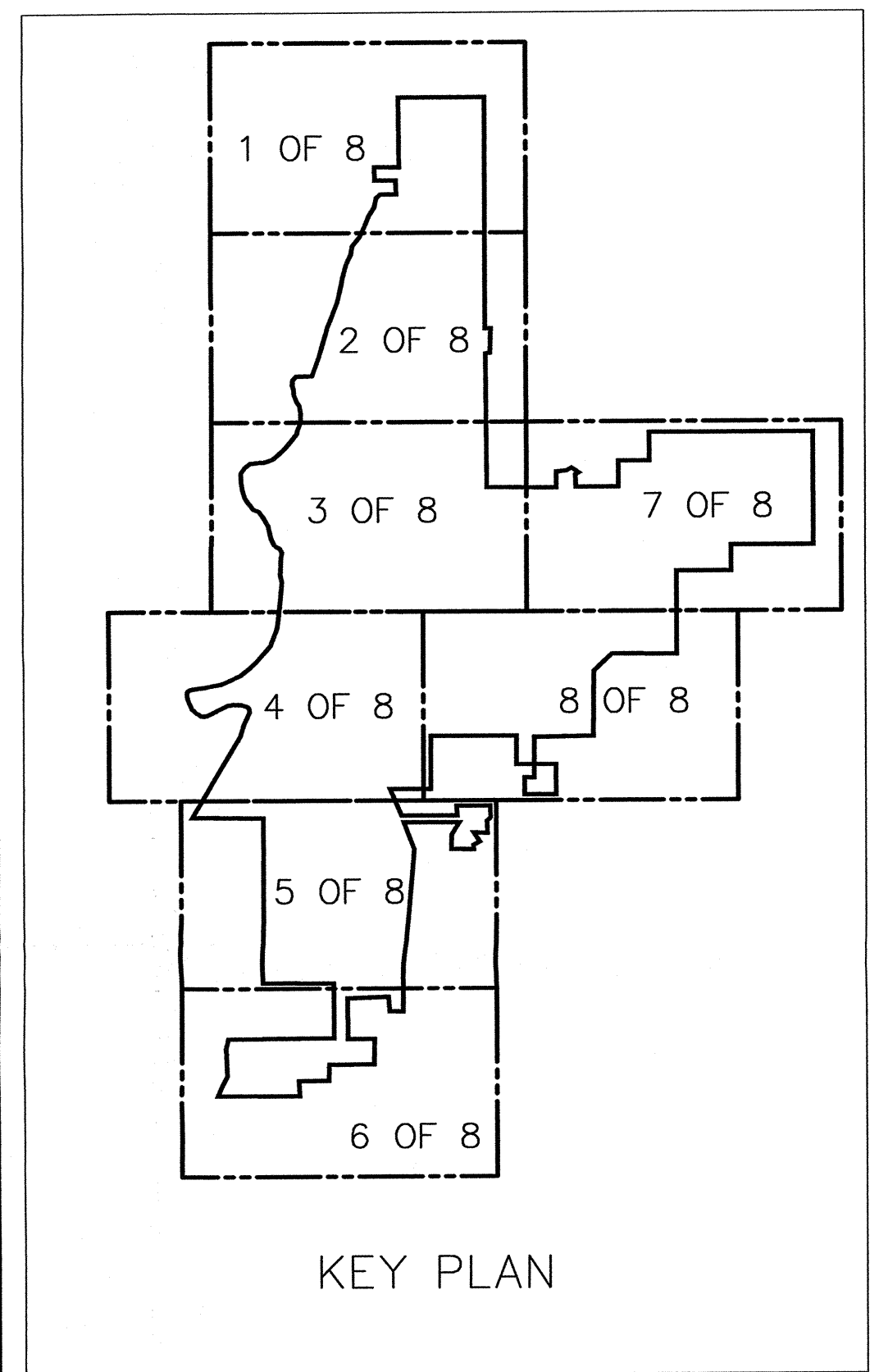
REVISIONS			
NO.	BY	DATE	REMARKS

DES AER
DWN FCT
CKD JLL

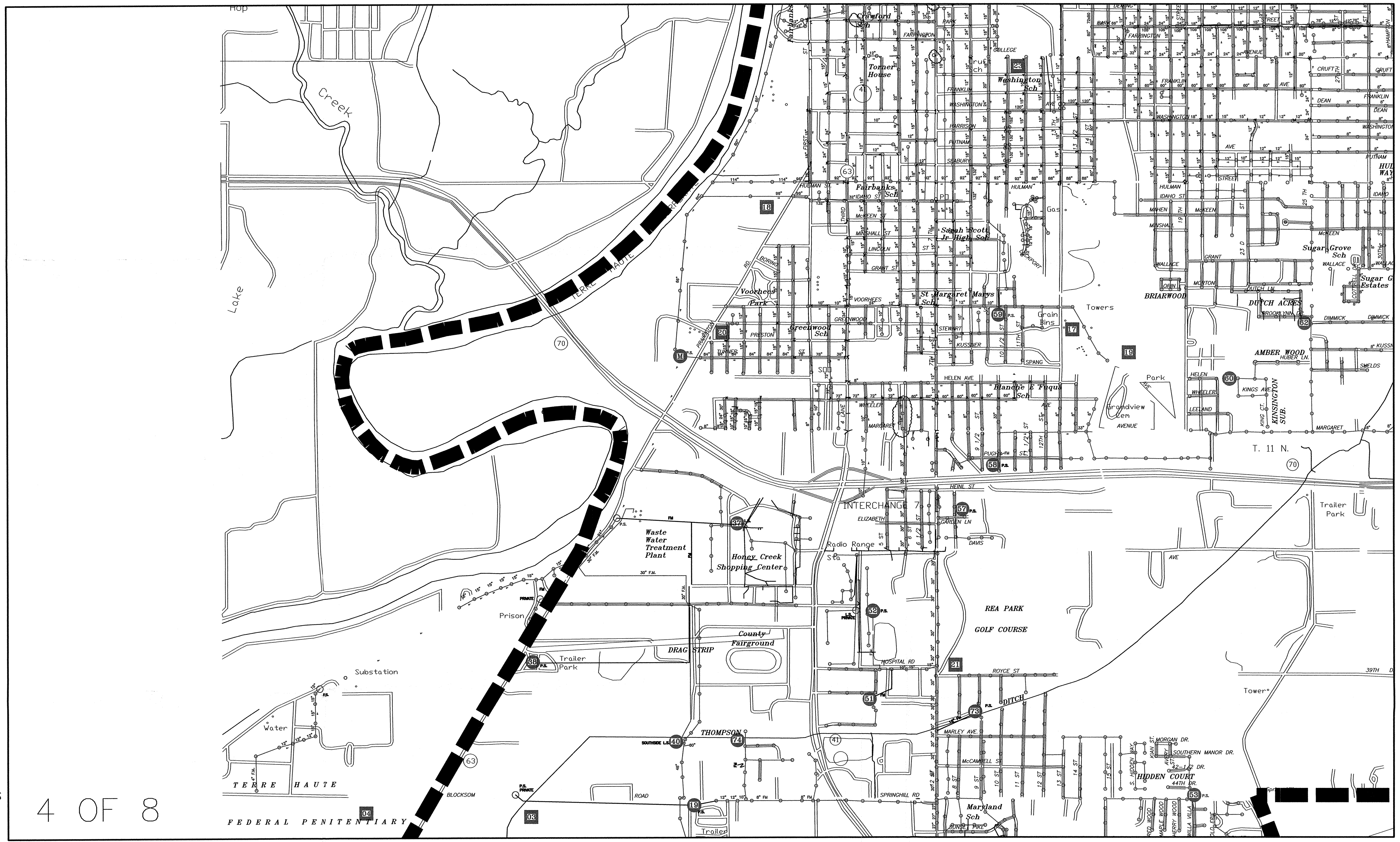
CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIE, INC.
DATE JUNE 2006
SHEET 3 OF 8
CAD REF. NO. 5152004-5


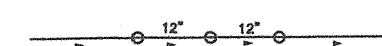
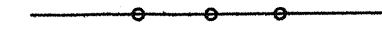




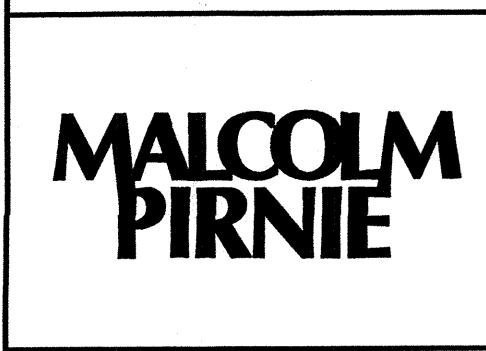
KEY PLAN



4 OF 8

LEGEND

-  SANITARY DISTRICT LIMITS
-  SANITARY SEWER
-  STORM SEWER
-  PUMP STATION
-  INDUSTRIAL DISCHARGER



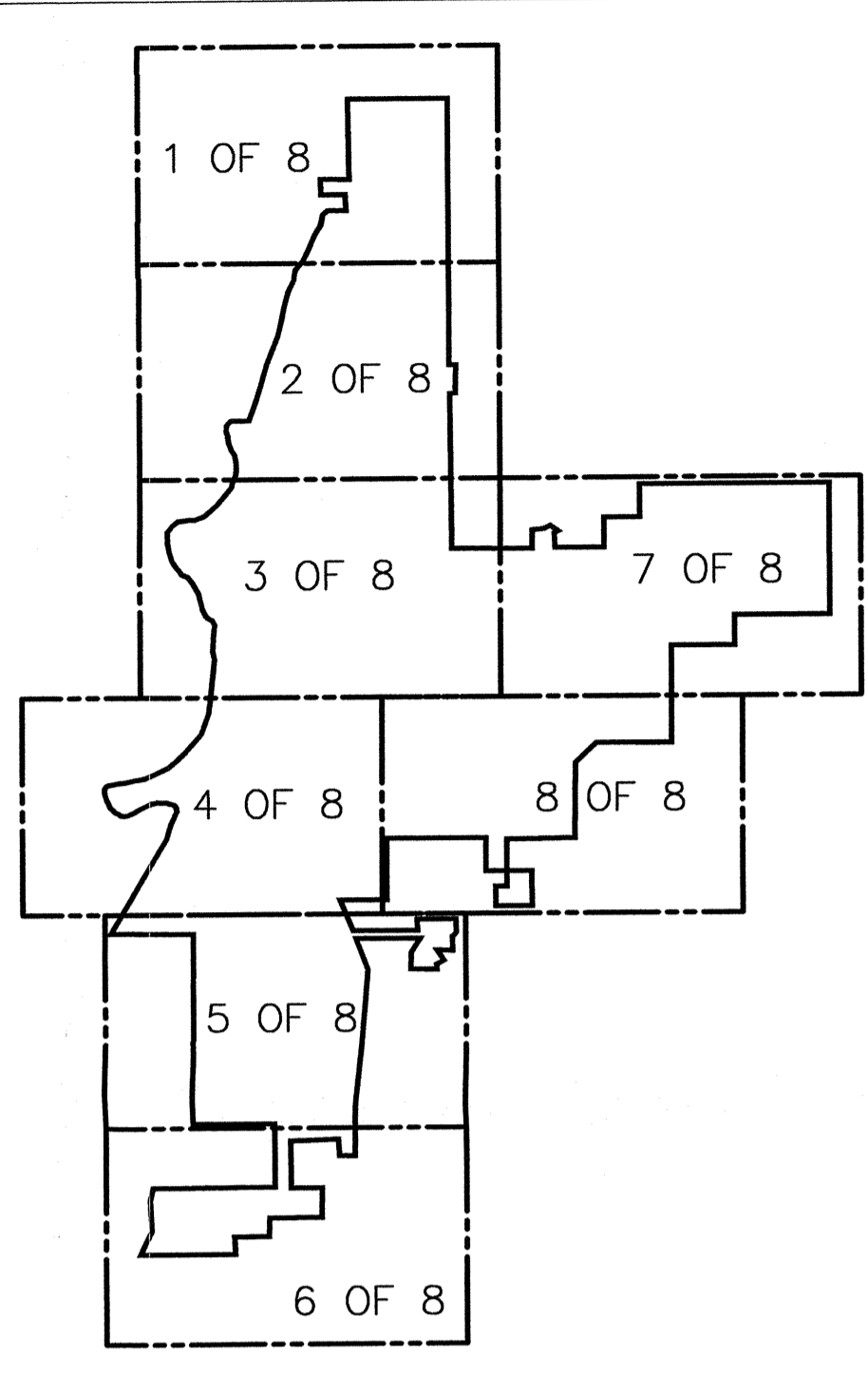
REVISIONS				
NO.	BY	DATE	REVISIONS	REMARKS

DES	AER
DWN	FCT
CKD	JJL

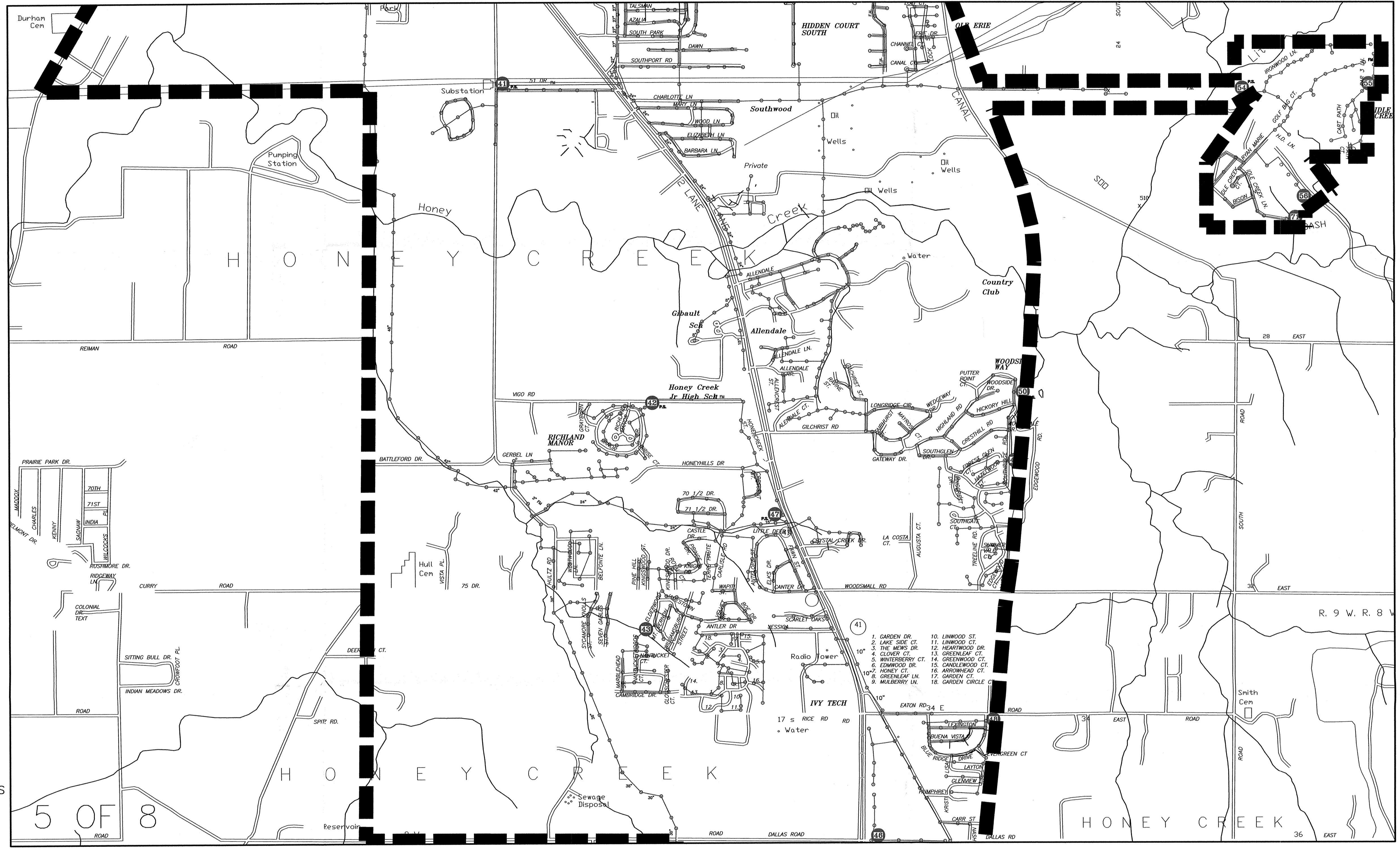
CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIE, INC.
DATE: JUNE 2006
SHEET 4 OF 8
CAD REF. NO. 5152004-6



KEY PLAN



LEGEND

- SANITARY DISTRICT LIMITS
- SANITARY SEWER
- STORM SEWER
- PUMP STATION
- INDUSTRIAL DISCHARGER



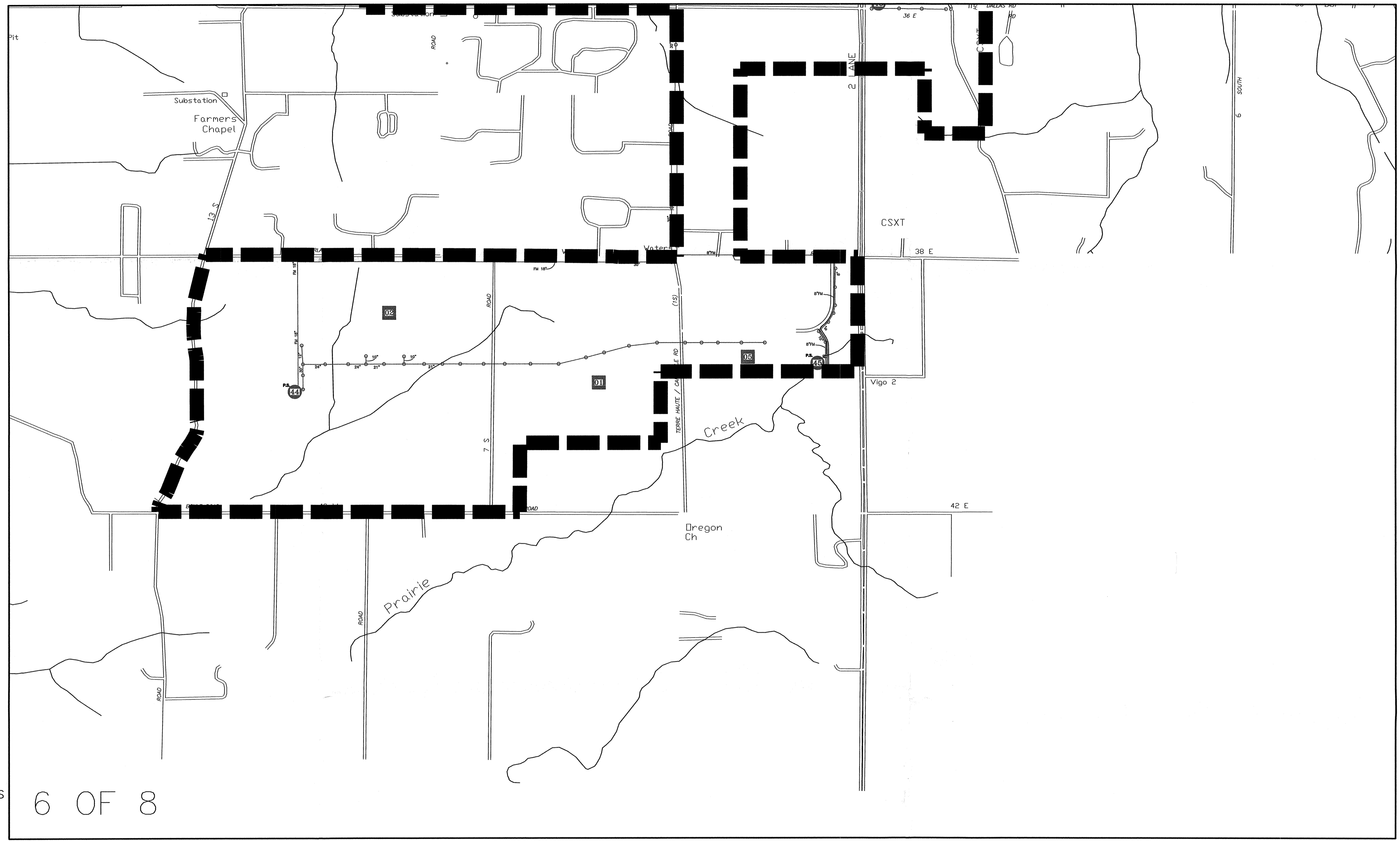
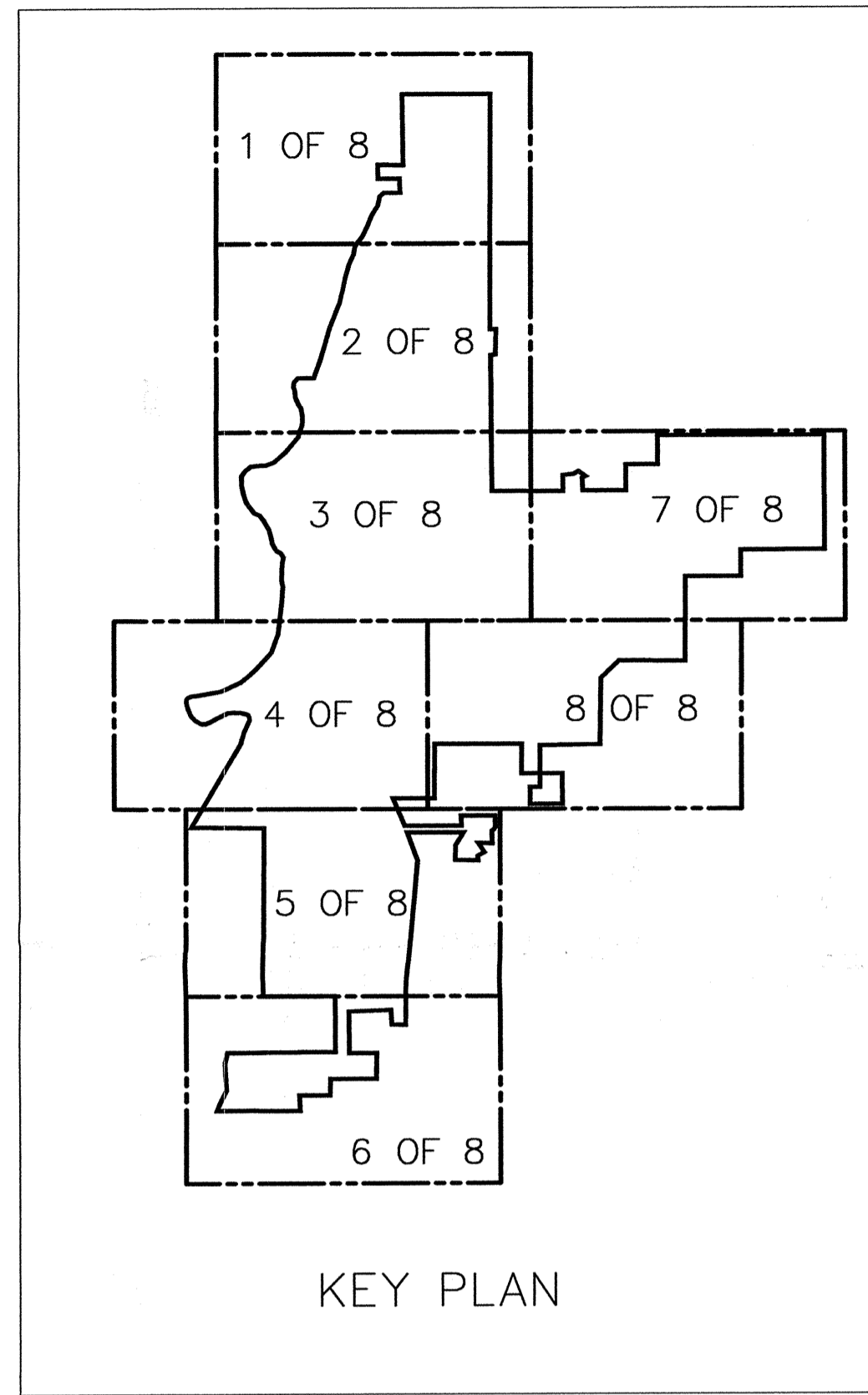
NO.		BY	DATE	REVISIONS	REMARKS

DES AER
DWN FCT
OKD JUL

CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN


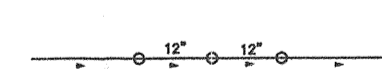
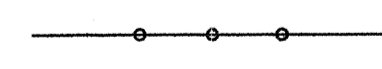

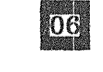
COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIE, INC.
DATE JUNE 2006
SHEET 5 OF 8
CAD REF. NO. 5152004-7



6 OF 8

LEGEND

-  SANITARY DISTRICT LIMITS
-  SANITARY SEWER
-  STORM SEWER
-  PUMP STATION
-  INDUSTRIAL DISCHARGER



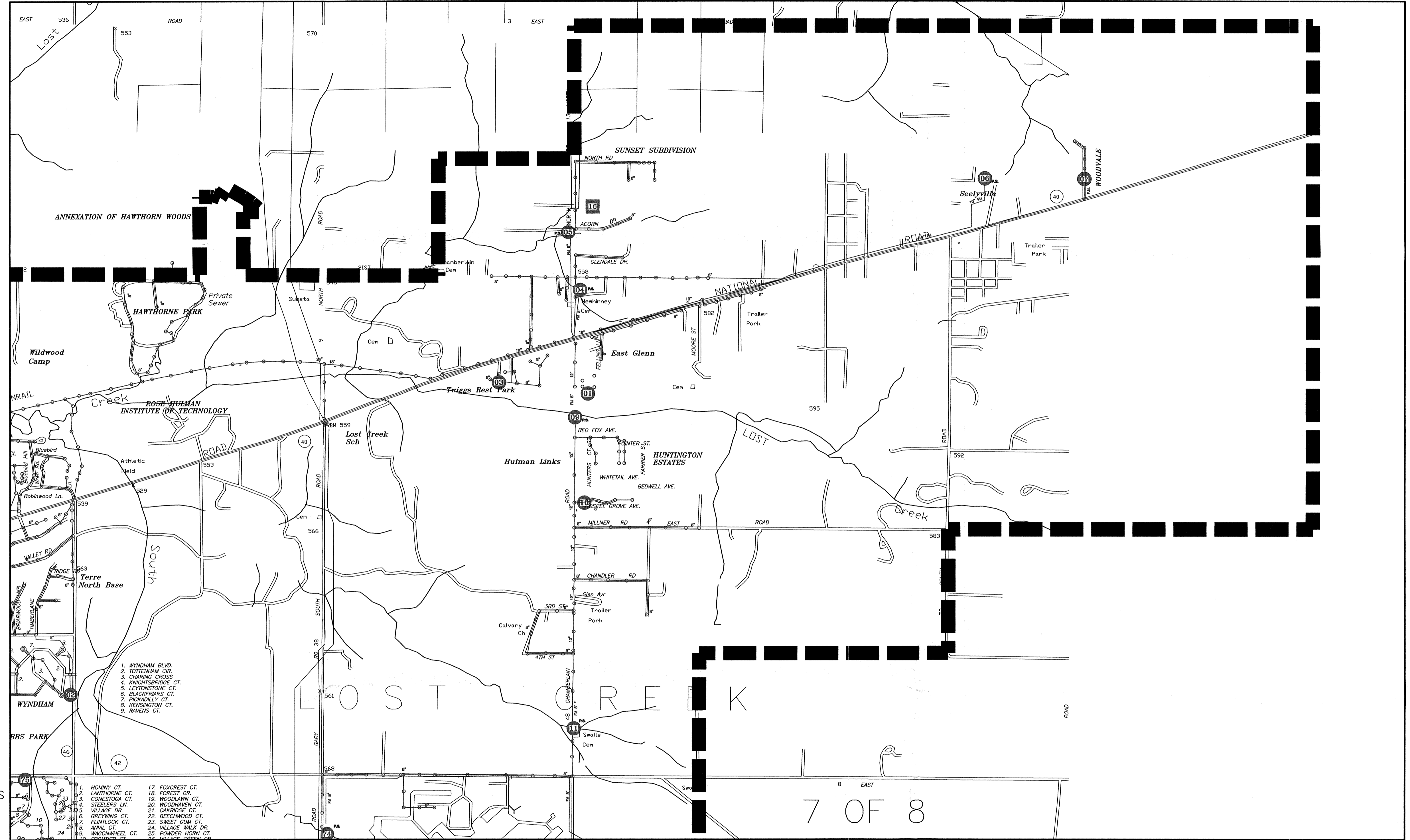
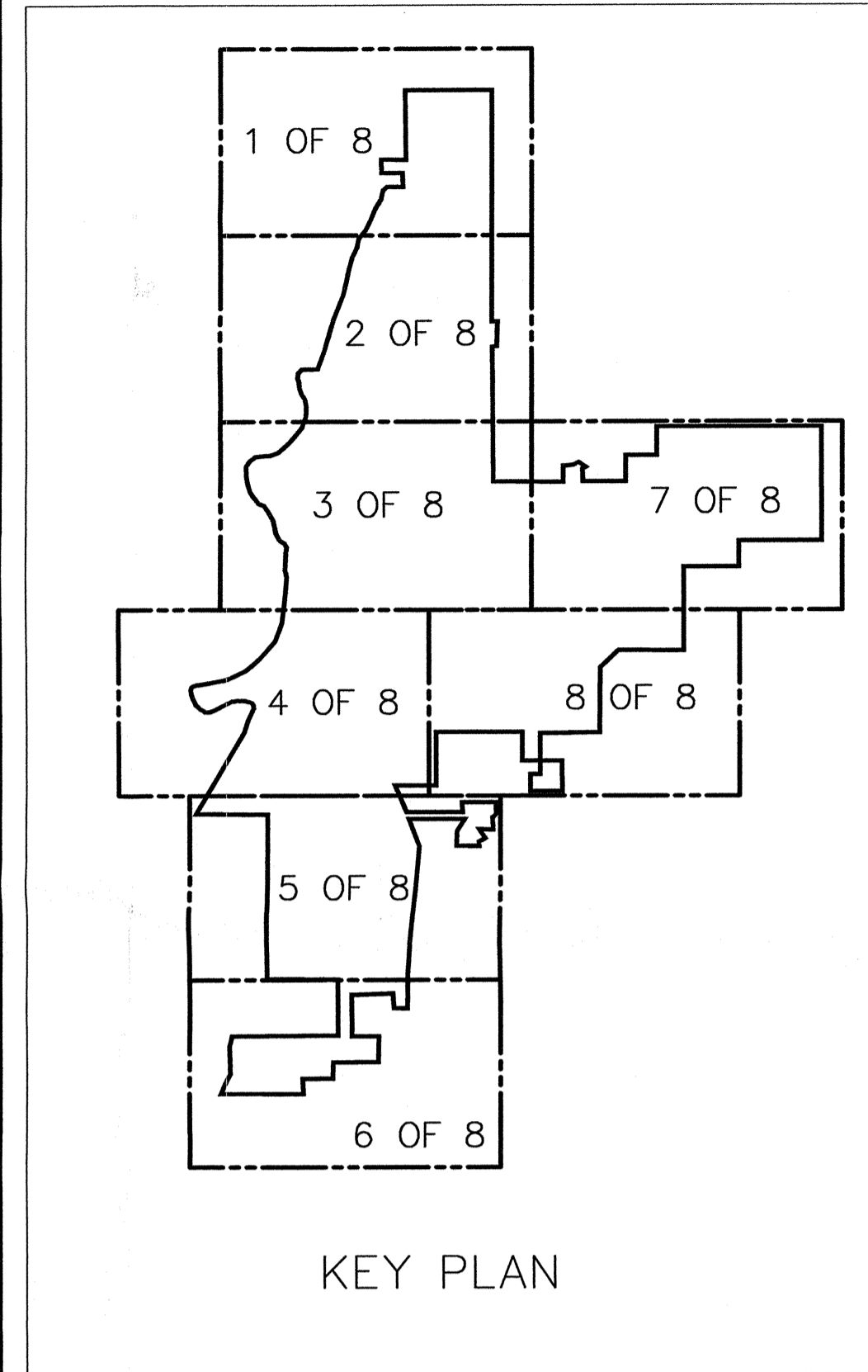
REVISIONS			
NO.	BY	DATE	REMARKS

DES AER
DWN FCT
CKD JJJ


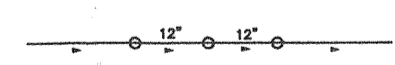
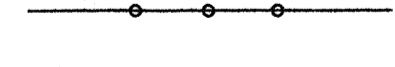


CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIE, INC.
DATE JUNE 2006
SHEET 6 OF 8
CAD REF. NO. 5152004-8



LEGEND

-  SANITARY DISTRICT LIMITS
-  SANITARY SEWER
-  STORM SEWER
-  PUMP STATION
-  INDUSTRIAL DISCHARGER

**MALCOLM
PIRNIÉ**

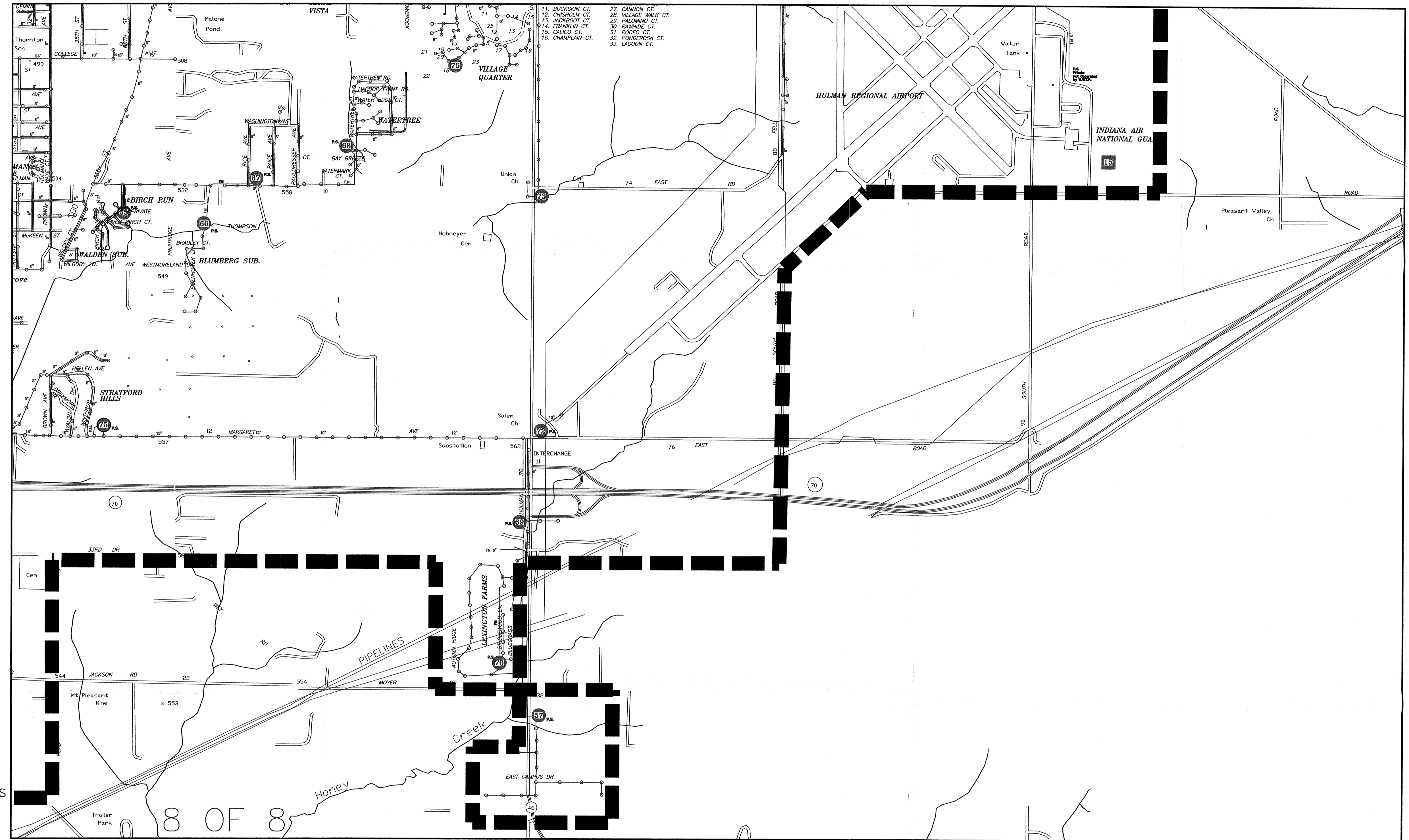
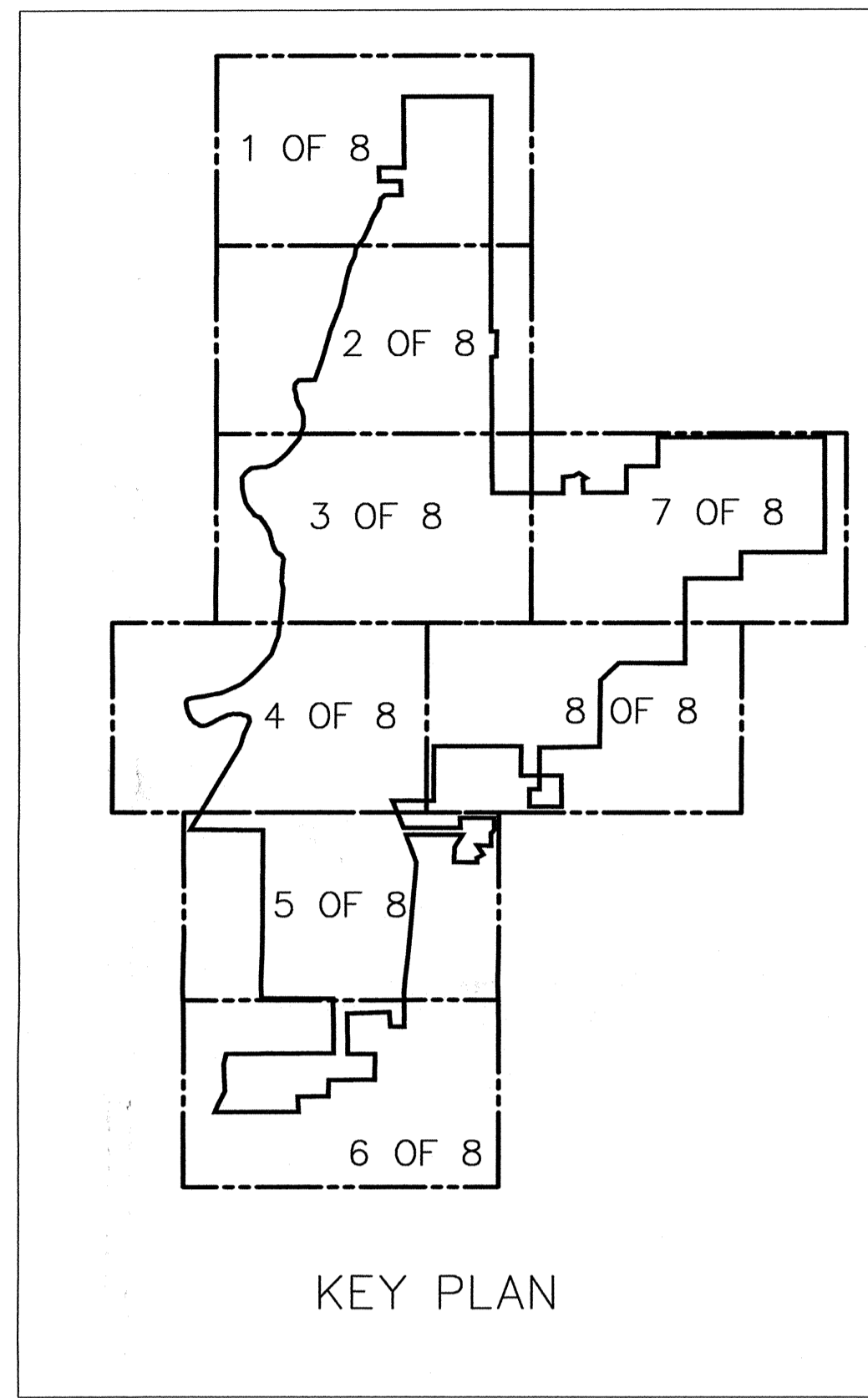
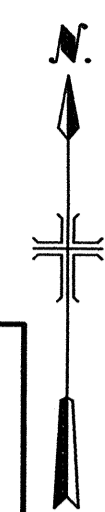
REVISIONS			
NO.	BY	DATE	REMARKS

DES AER
DWN FCT
CKD JJJ

CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIÉ, INC.
DATE JUNE 2006
SHEET 7 OF 8
CAD REF. NO. 5152004-9



LEGEND

- SANITARY DISTRICT LIMITS
- SANITARY SEWER
- STORM SEWER
- PUMP STATION
- INDUSTRIAL DISCHARGER

**MALCOLM
PIRNIE**

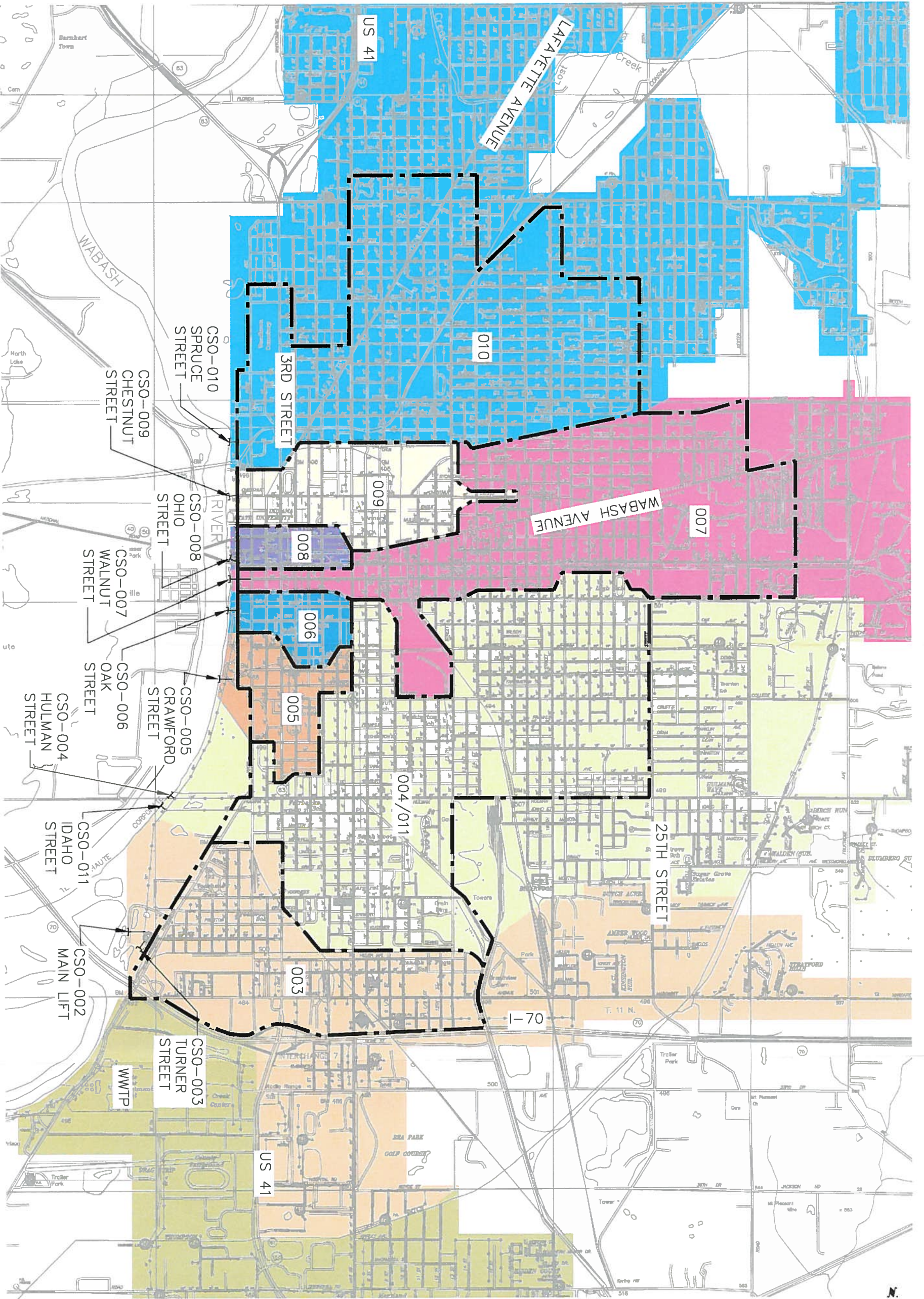
REVISIONS				
NO.	BY	DATE	REVISIONS	REMARKS

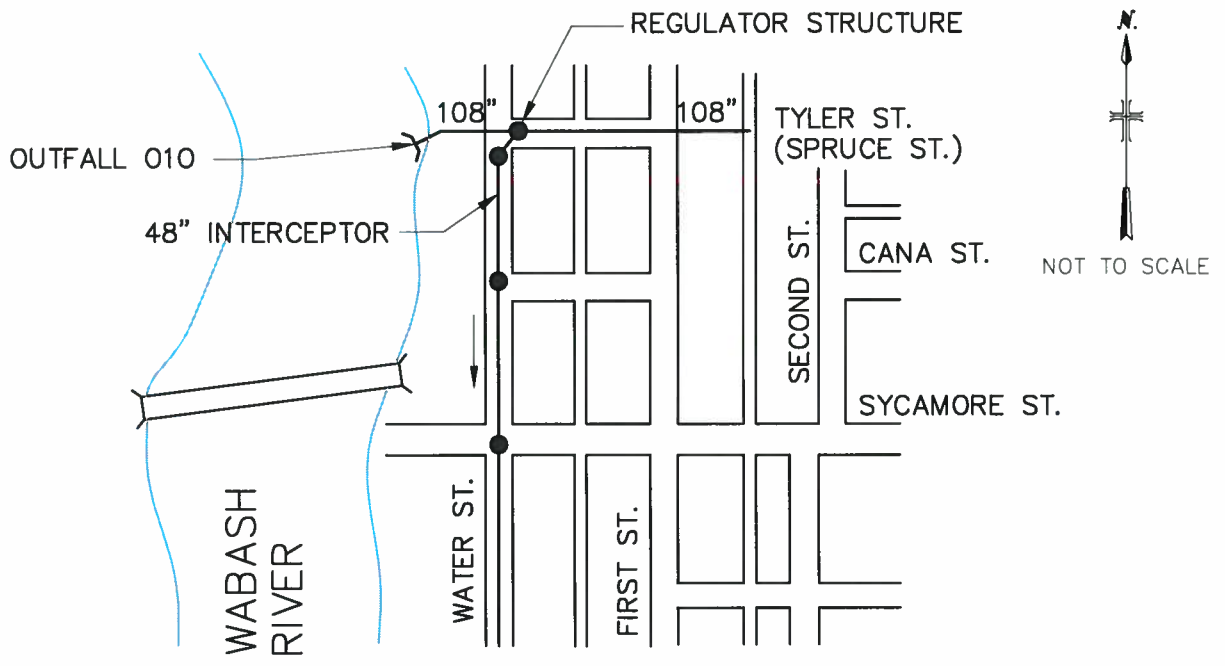
DES AER
DWN FCT
CKD JUL

CITY OF TERRE HAUTE
CSO OPERATIONAL PLAN

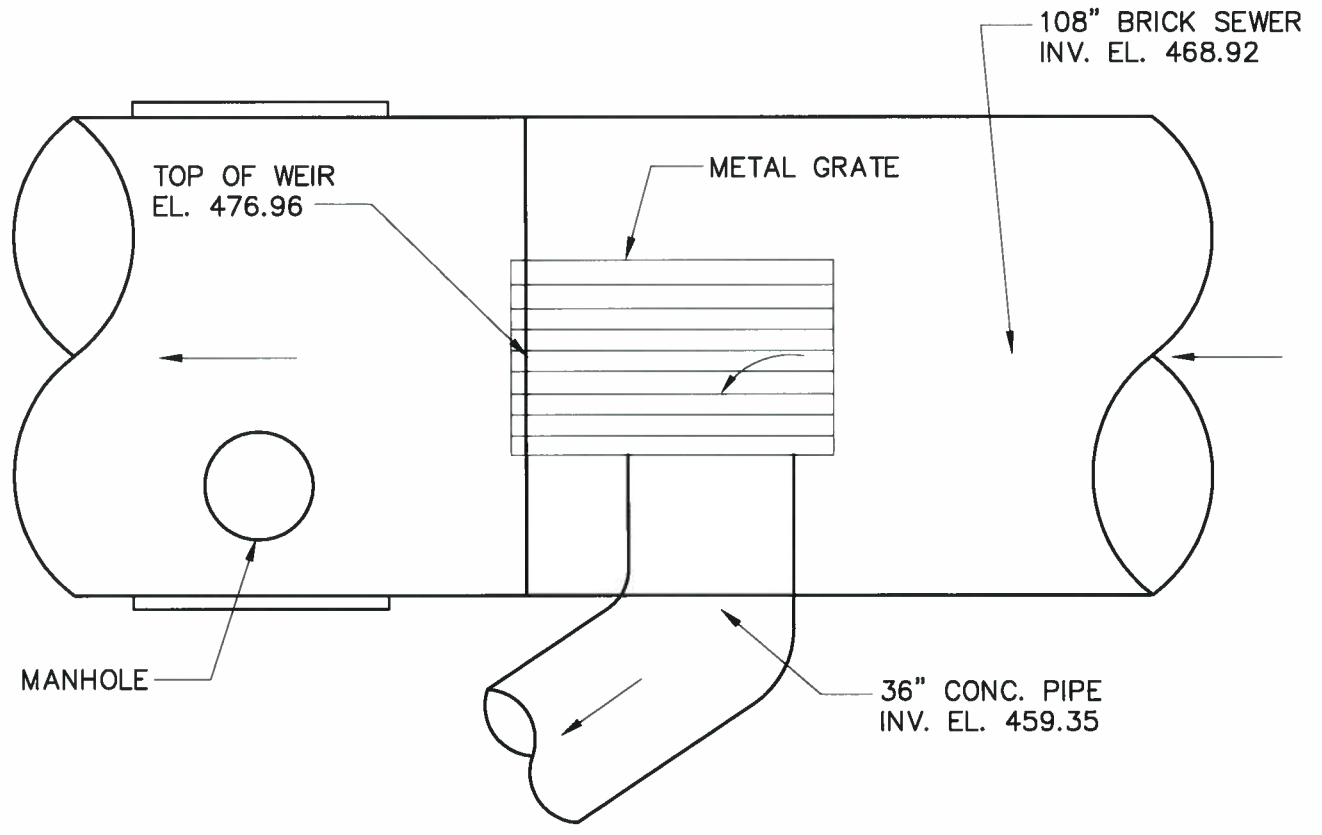
COLLECTION SYSTEM
SITE PLAN
SCALE: 1:1000

COPYRIGHT © 2006
MALCOLM PIRNIE, INC.
DATE JUNE 2006
SHEET 8 OF 8
CAD REF. NO. 5152004-10





LOCATION PLAN

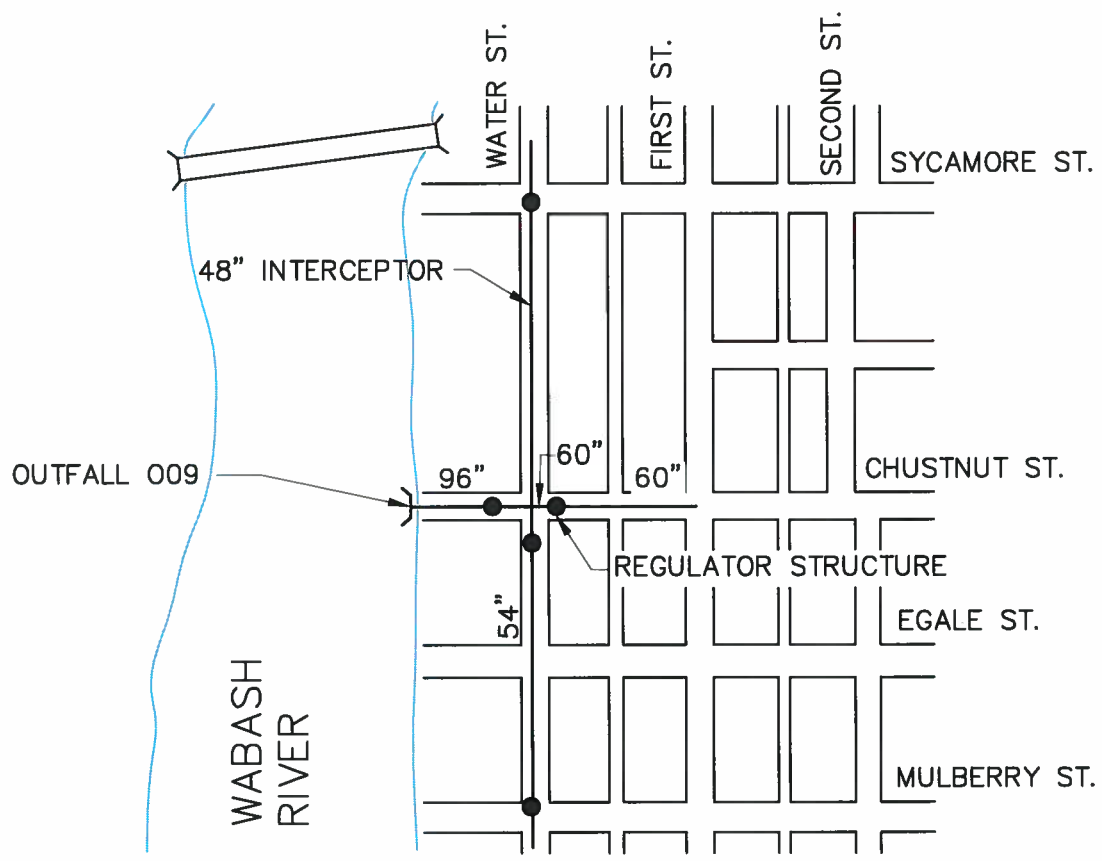


STRUCTURE PLAN

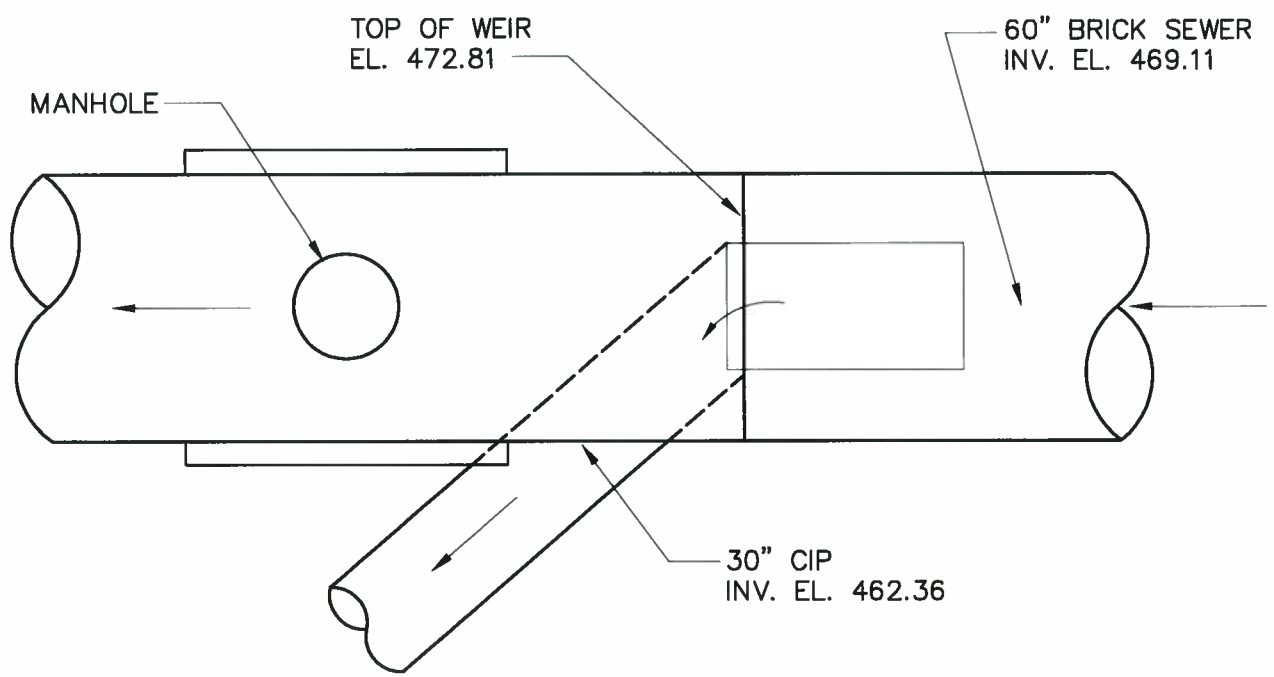
**MALCOLM
PIRNIE**

SPRUCE ST. REGULATOR STRUCTURE
CITY OF TERRE HAUTE CSO OPERATIONAL PLAN

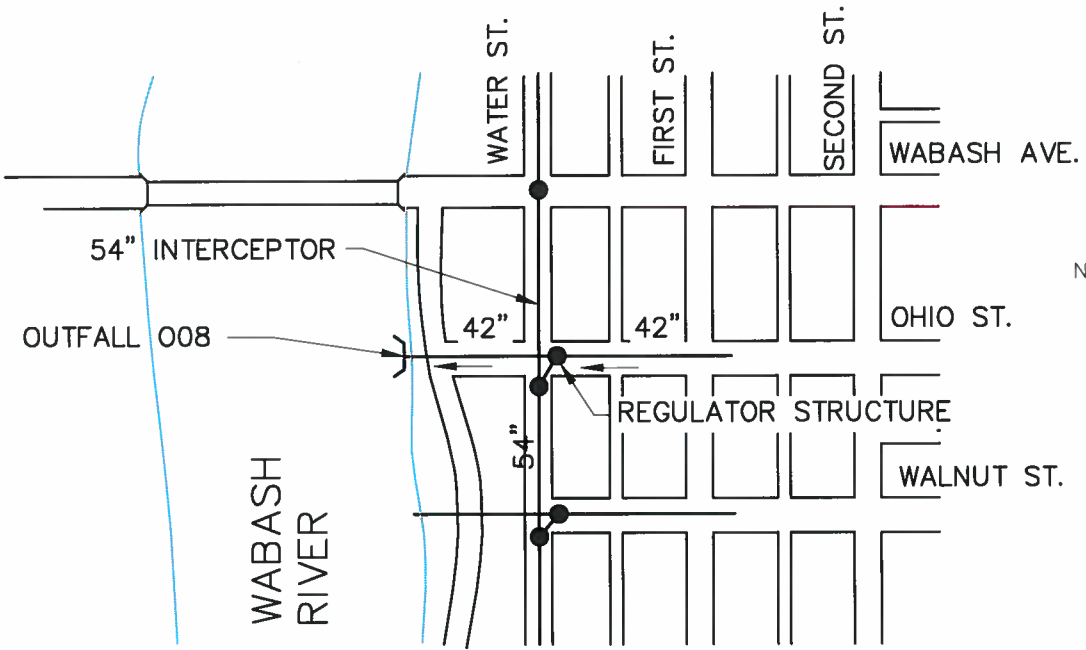
MALCOLM PIRNIE, INC.
MARCH 2006
FIGURE 2.3



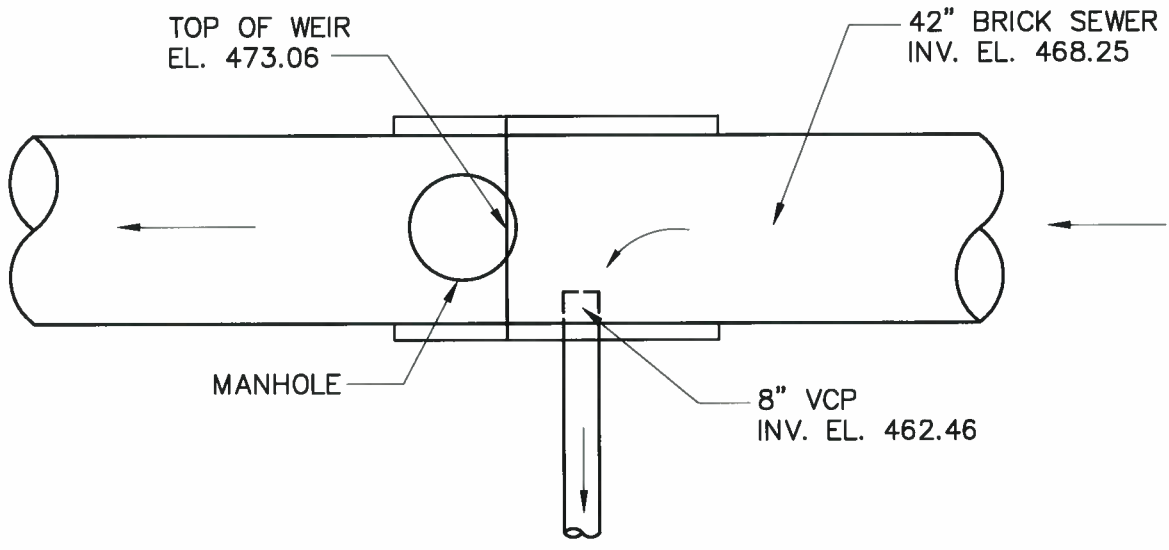
LOCATION PLAN



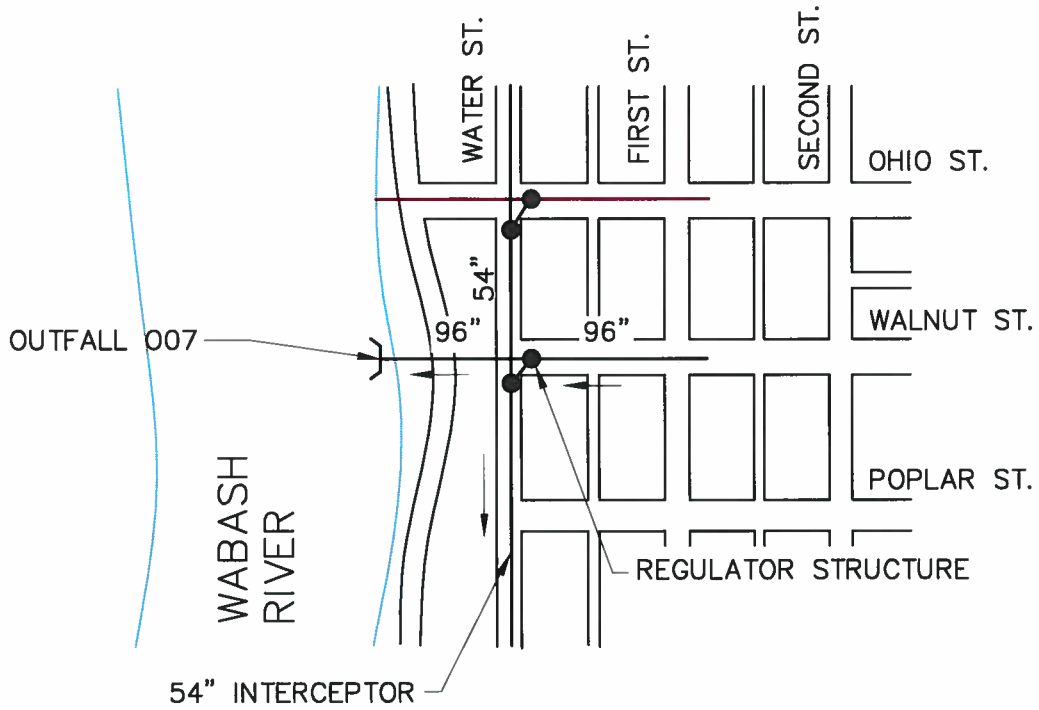
STRUCTURE PLAN



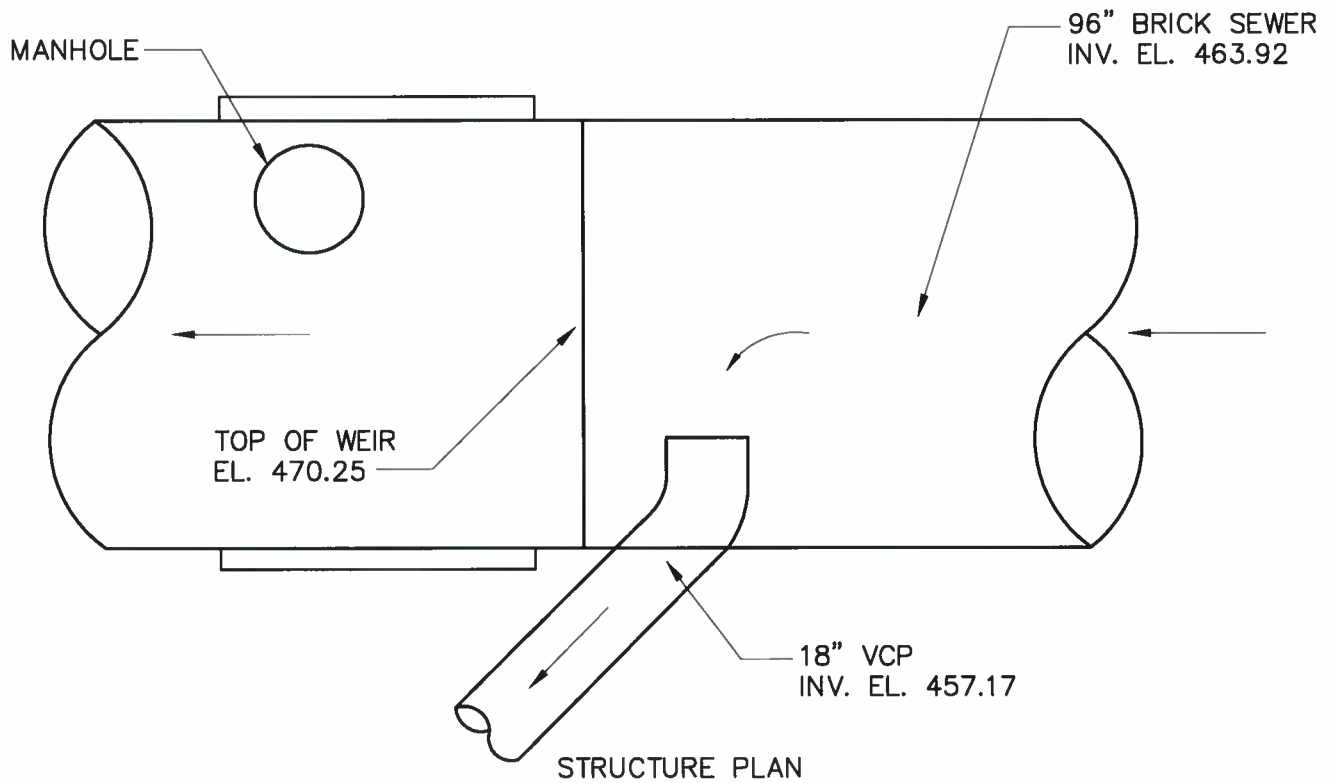
LOCATION PLAN

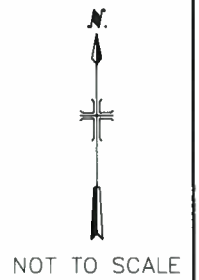
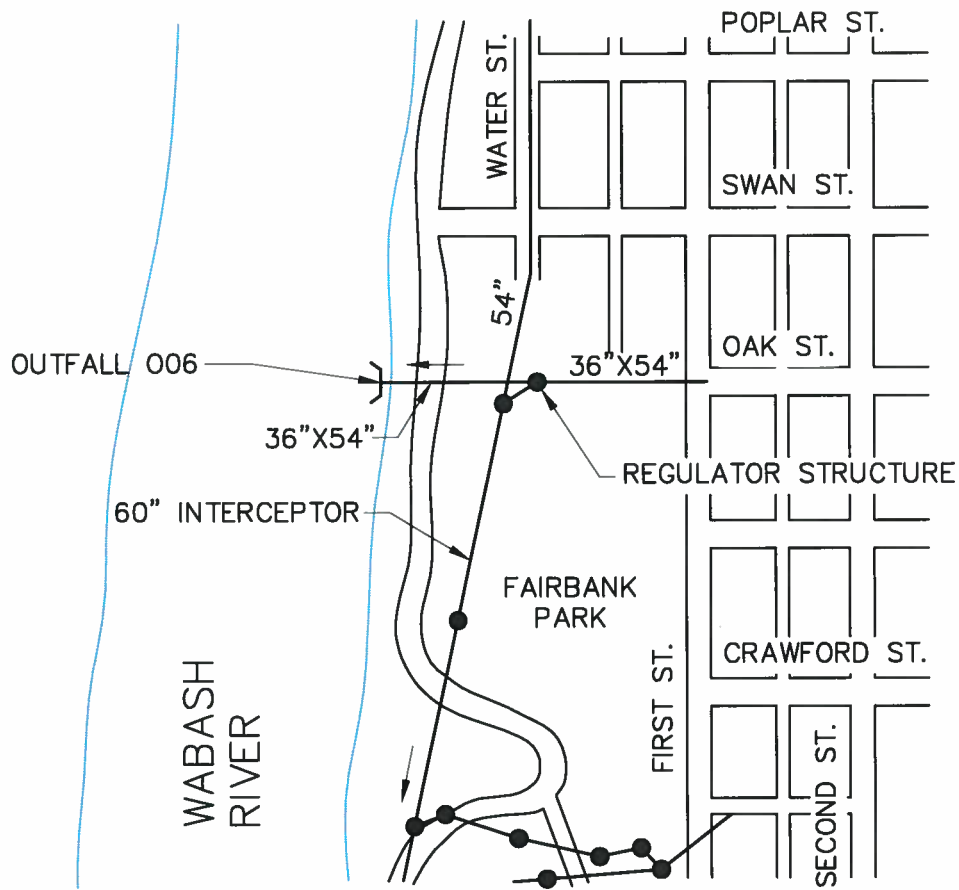


STRUCTURE PLAN

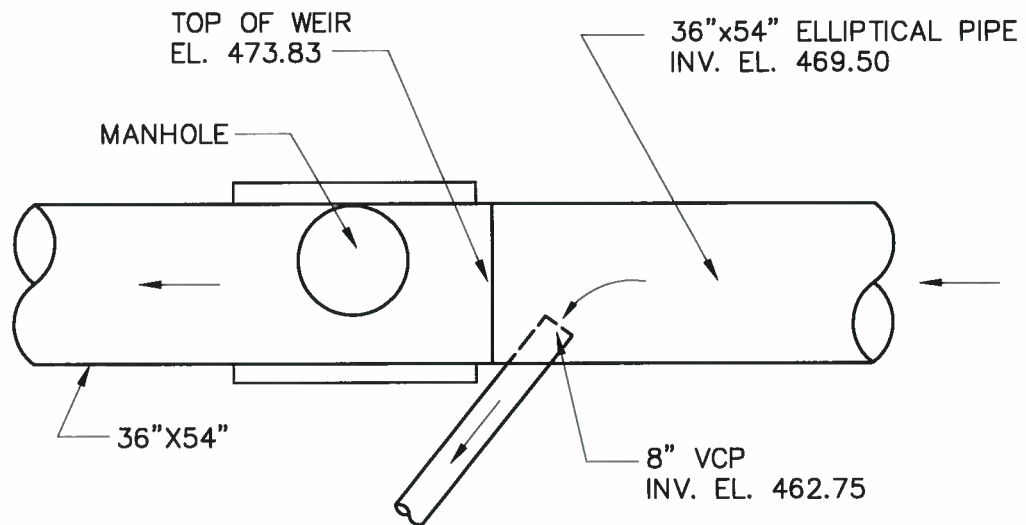


LOCATION PLAN

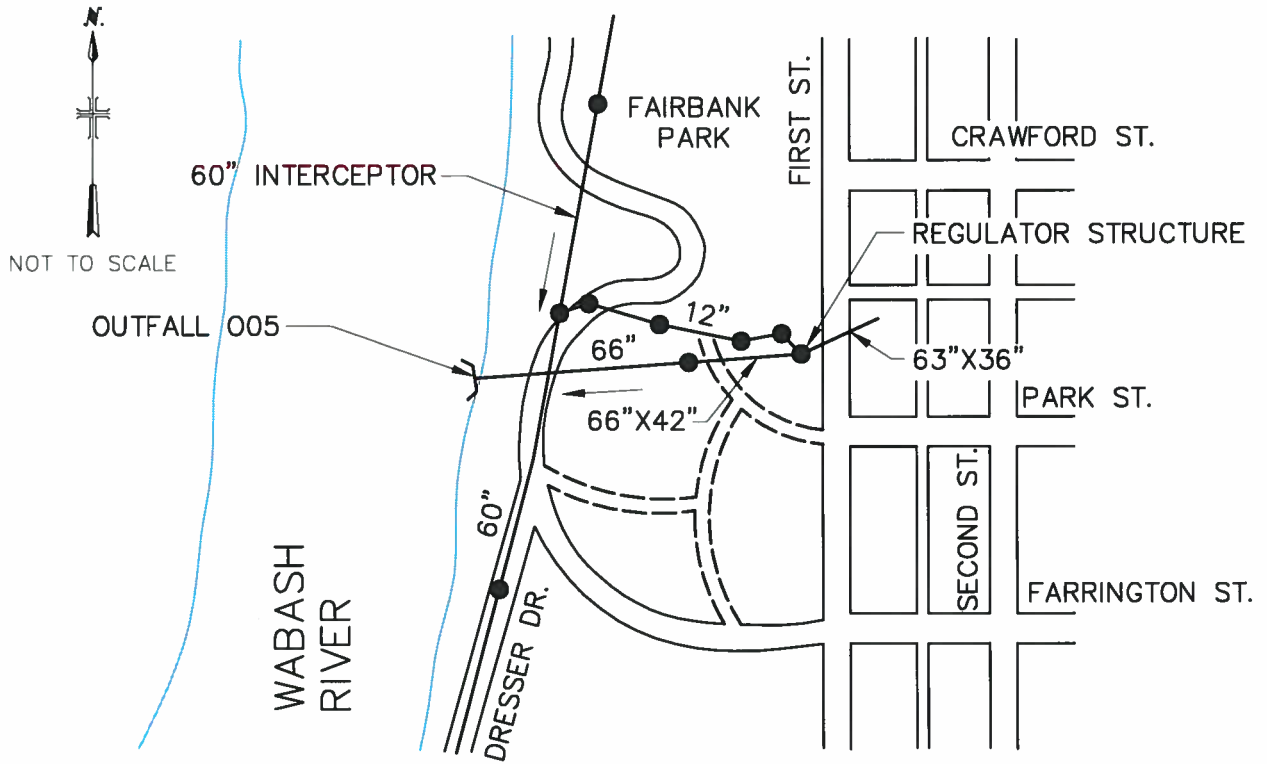




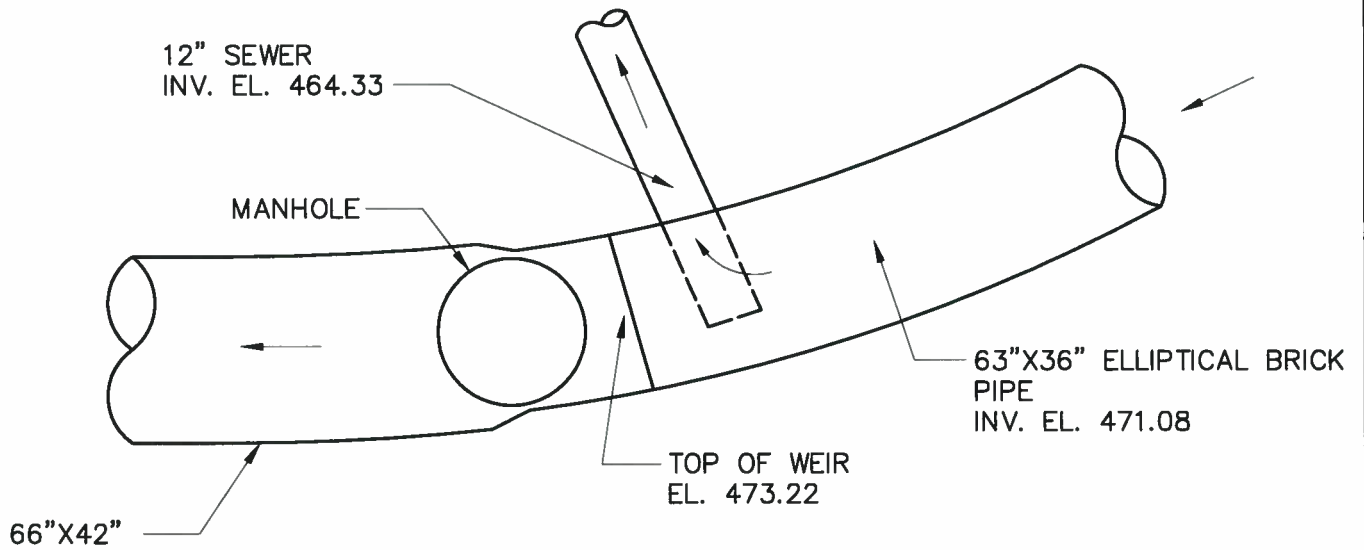
LOCATION PLAN



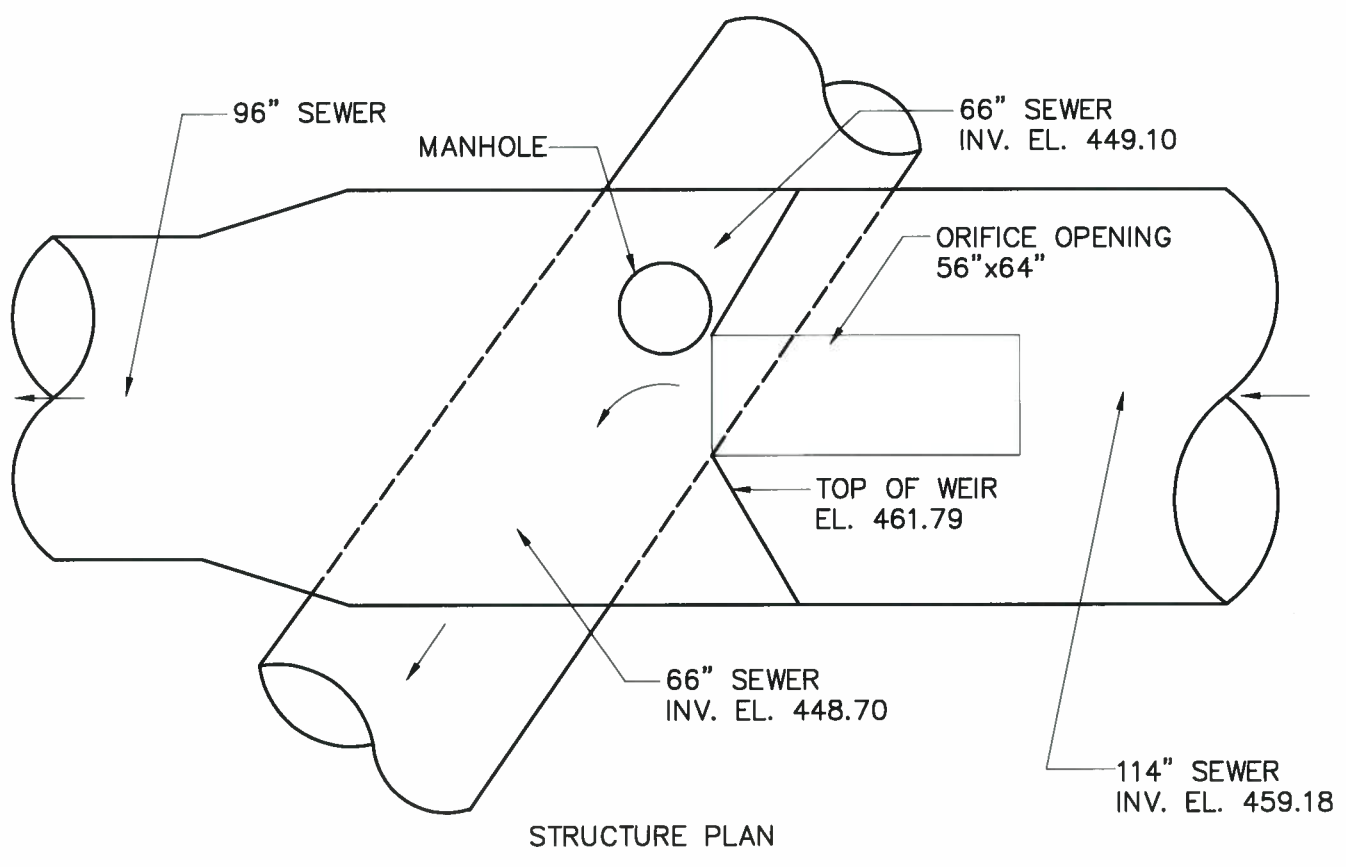
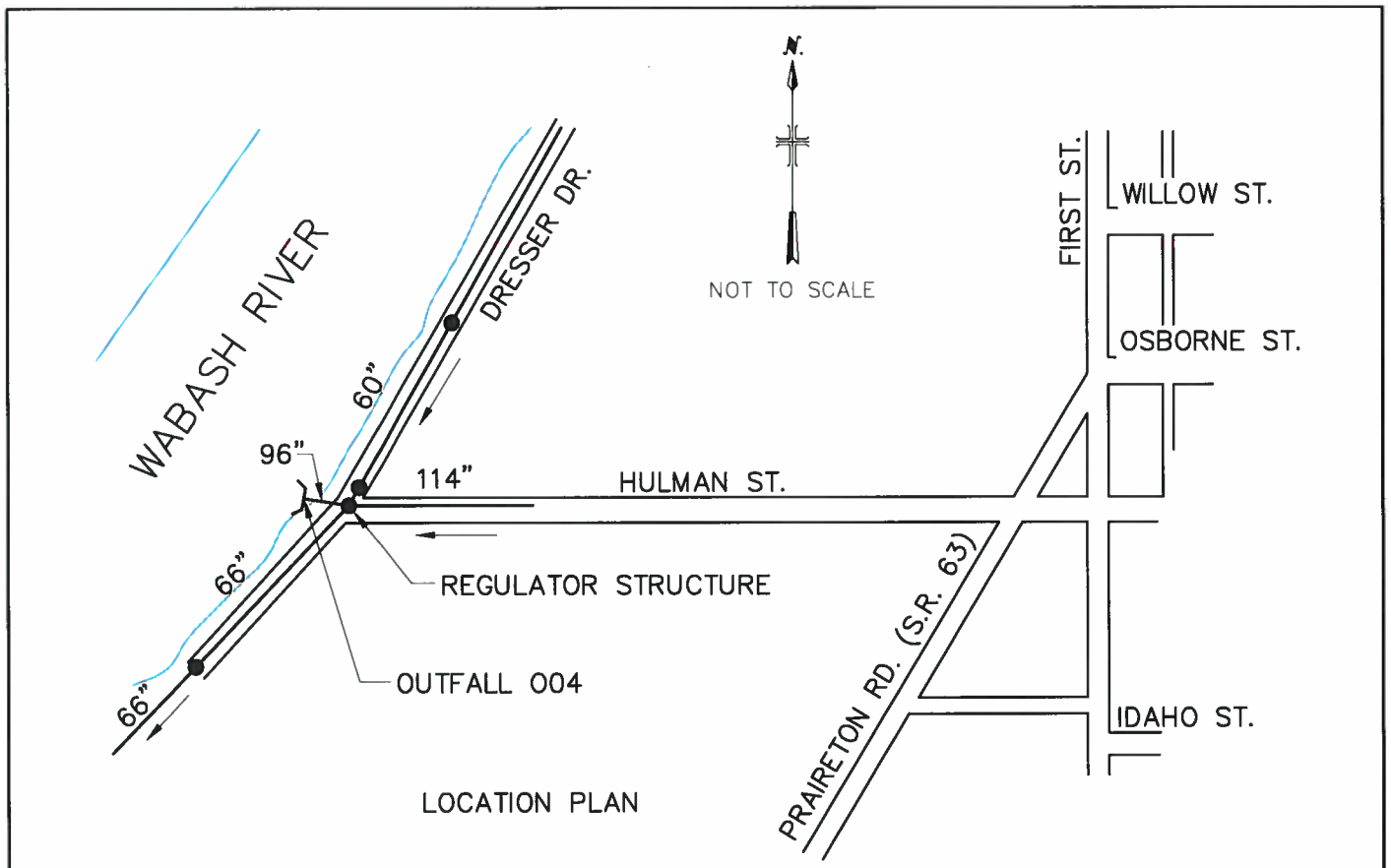
STRUCTURE PLAN

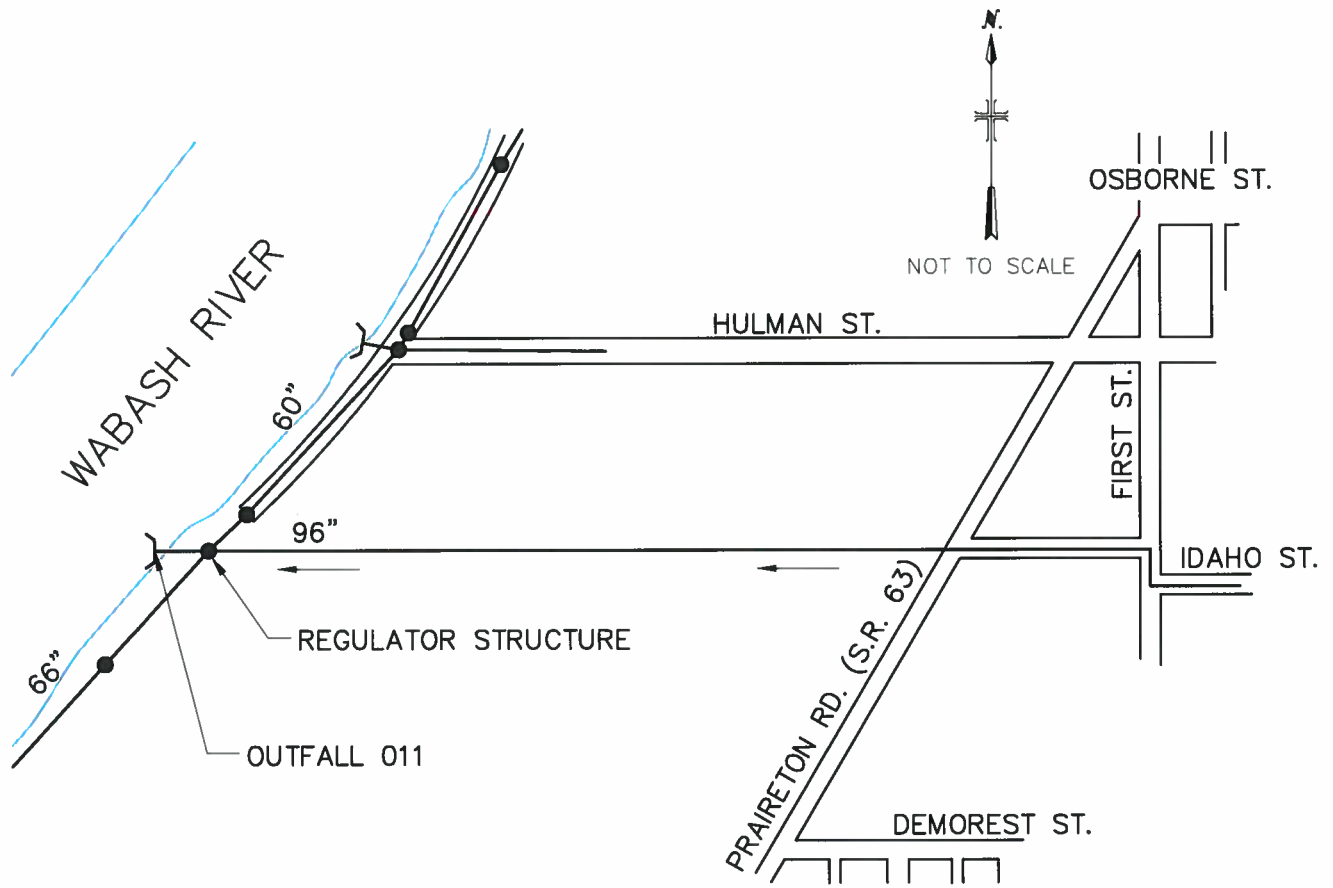


LOCATION PLAN

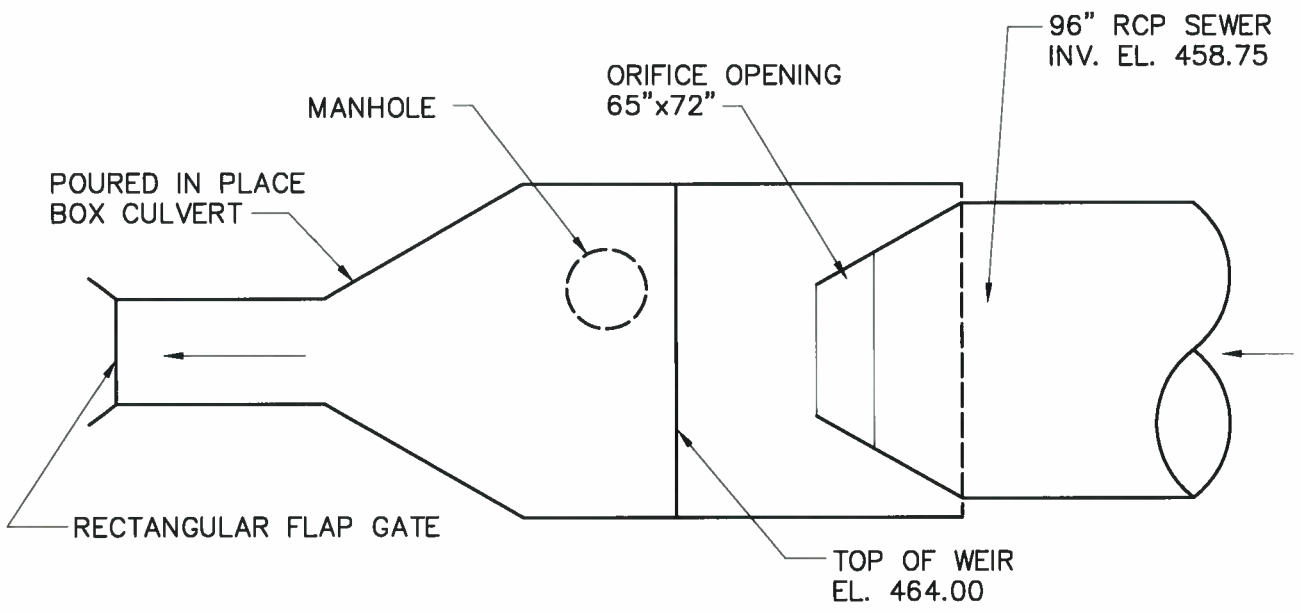


STRUCTURE PLAN

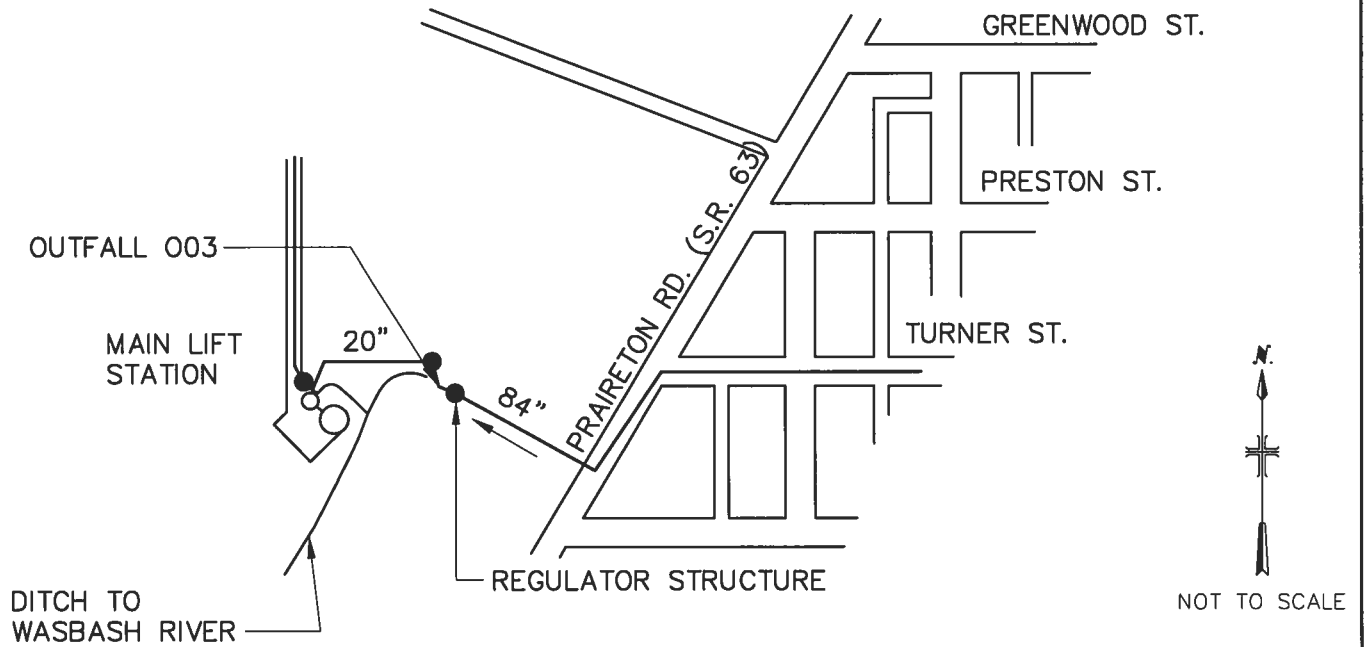




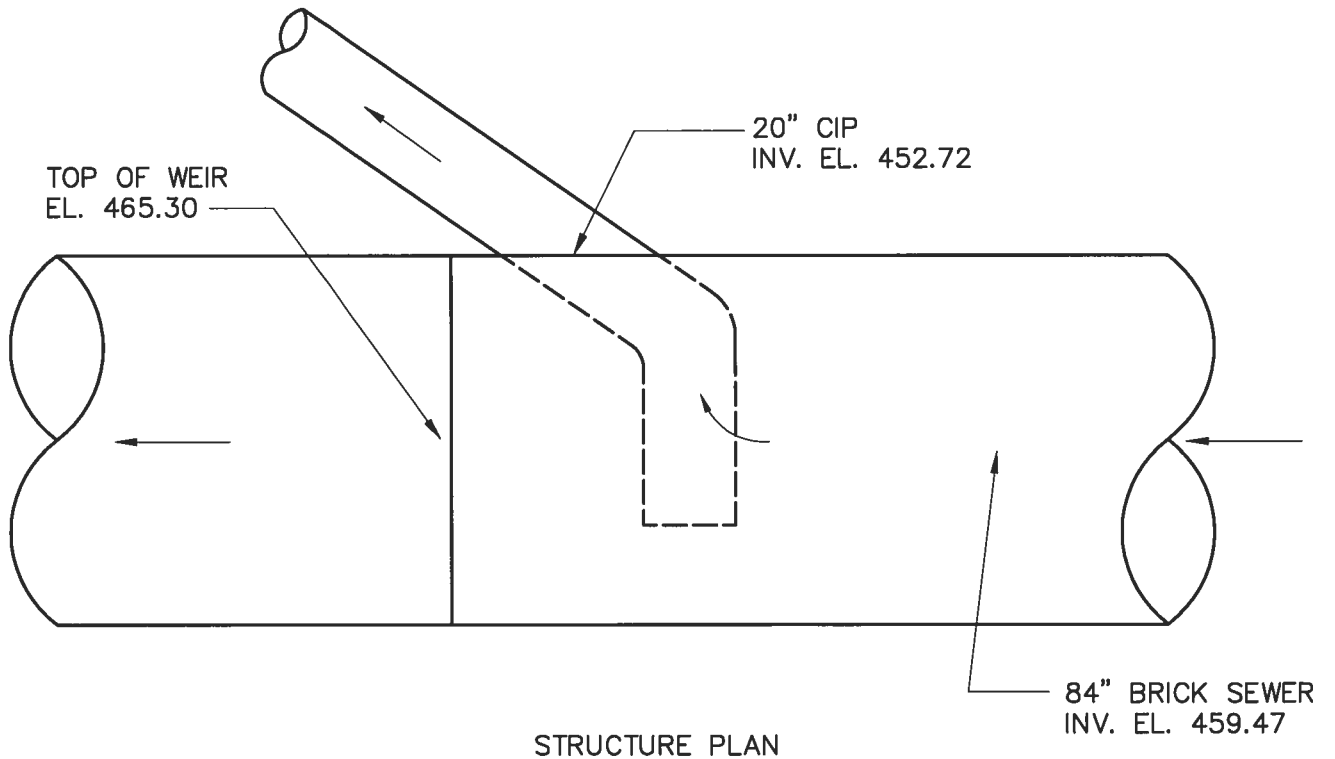
LOCATION PLAN



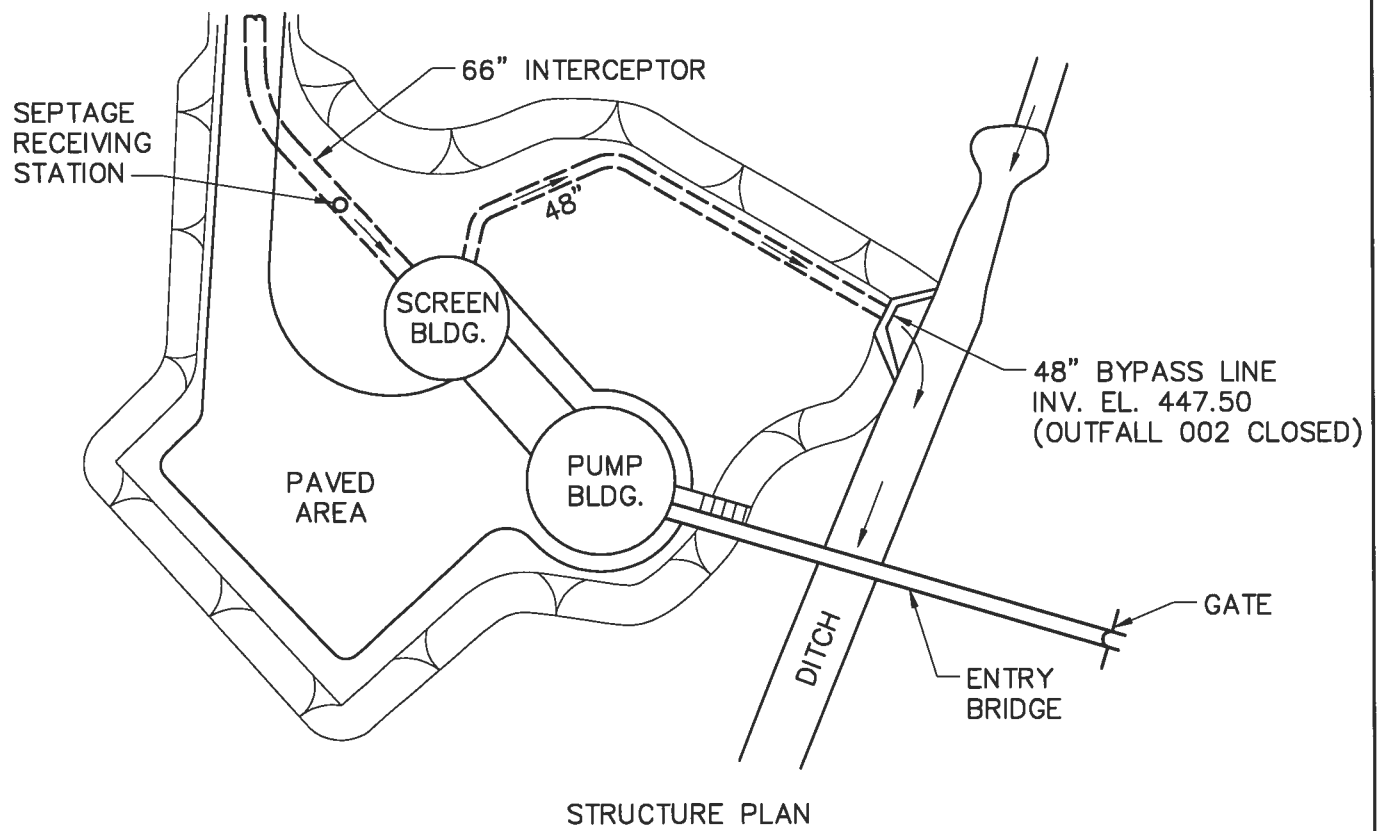
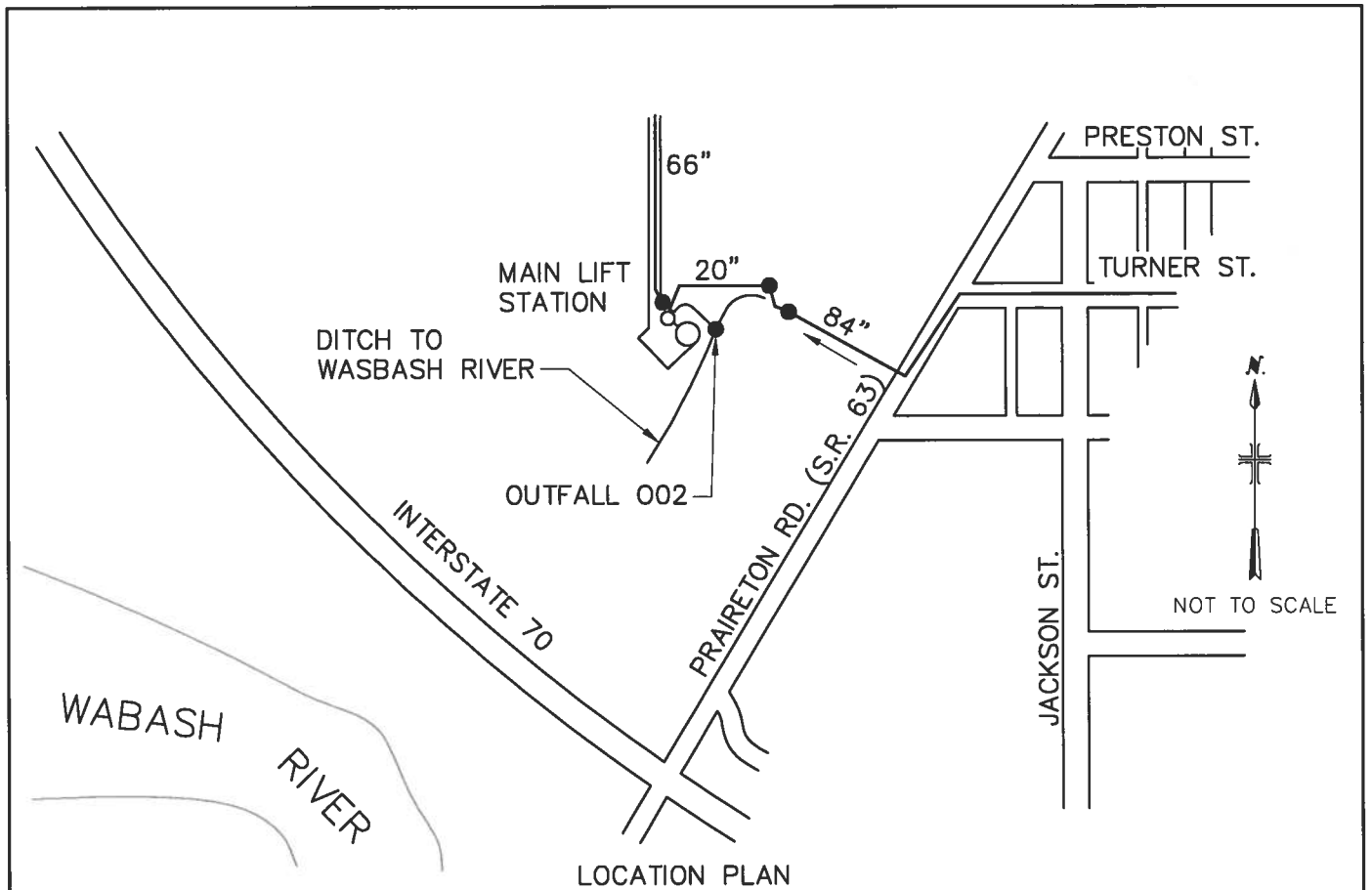
STRUCTURE PLAN

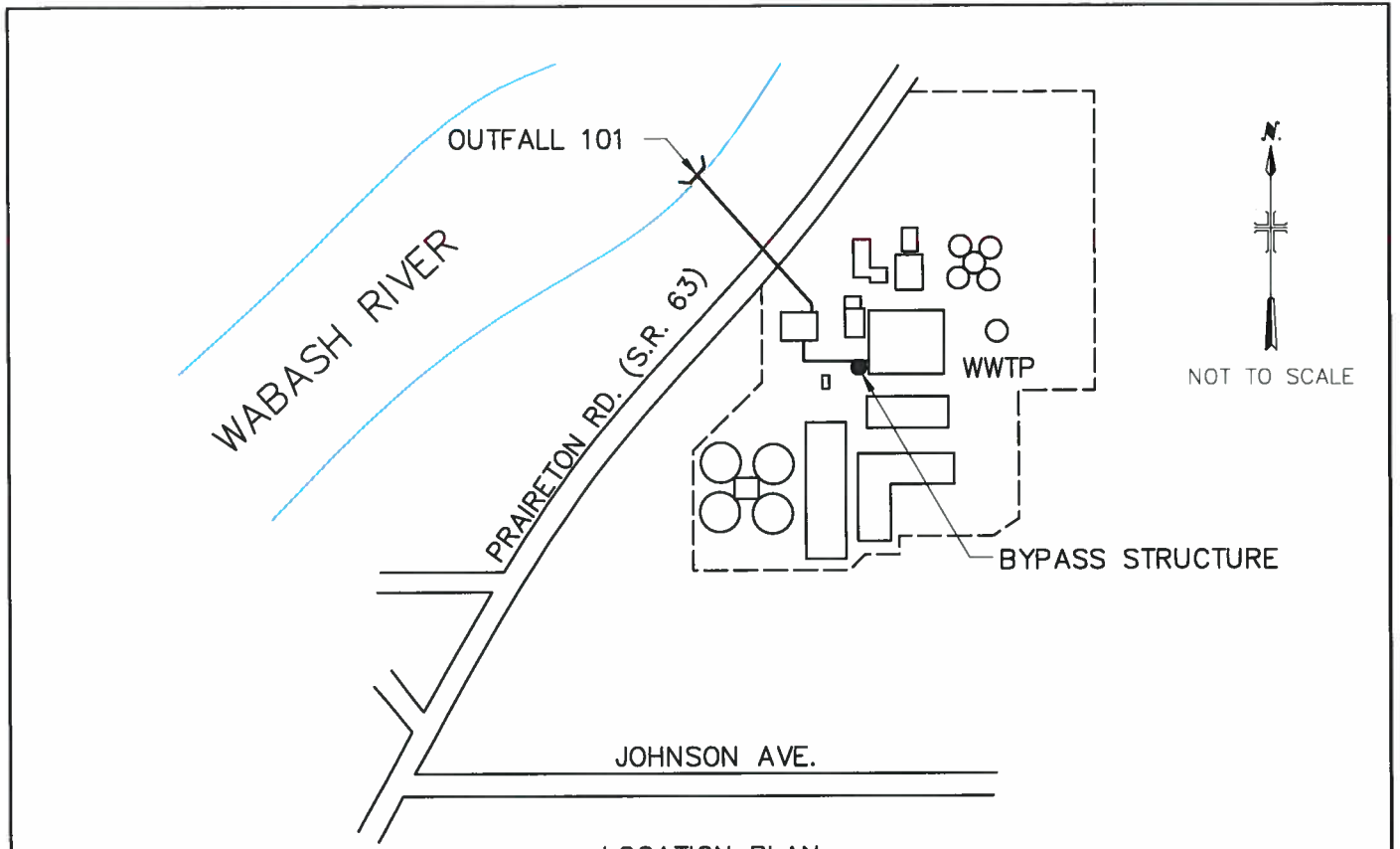


LOCATION PLAN



STRUCTURE PLAN

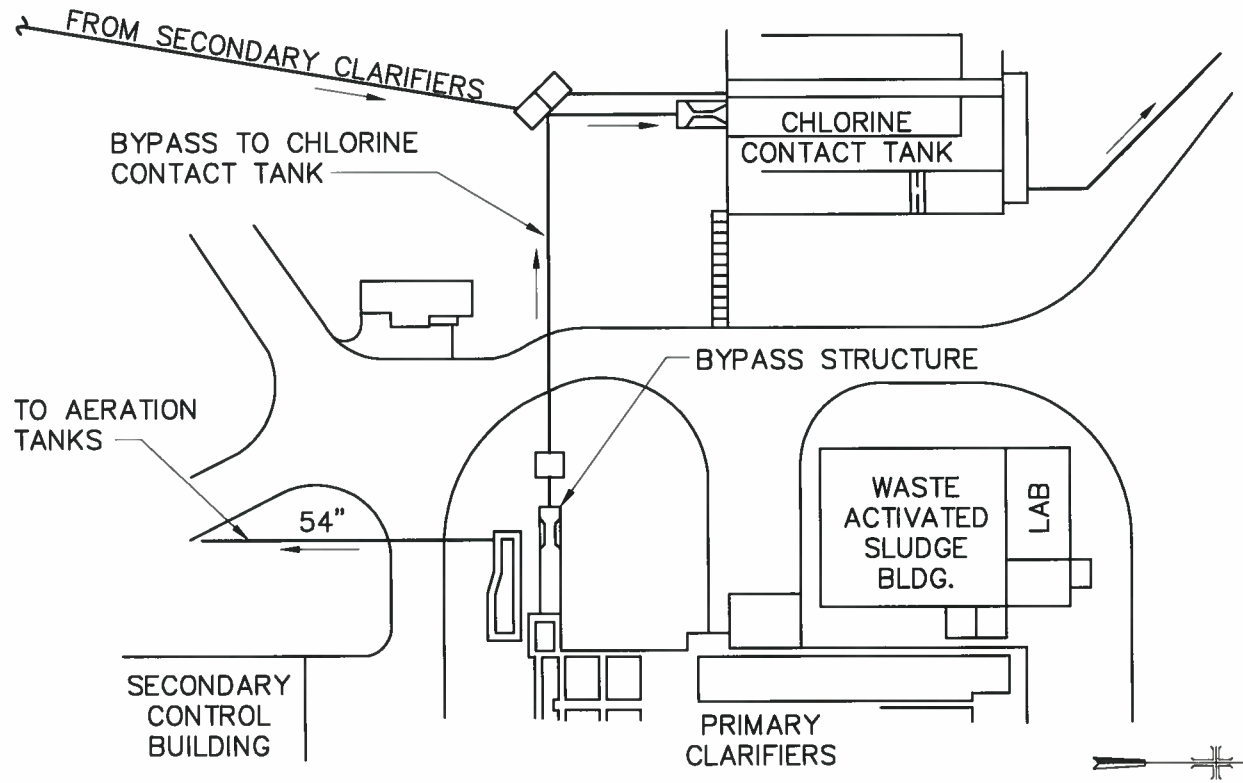




N

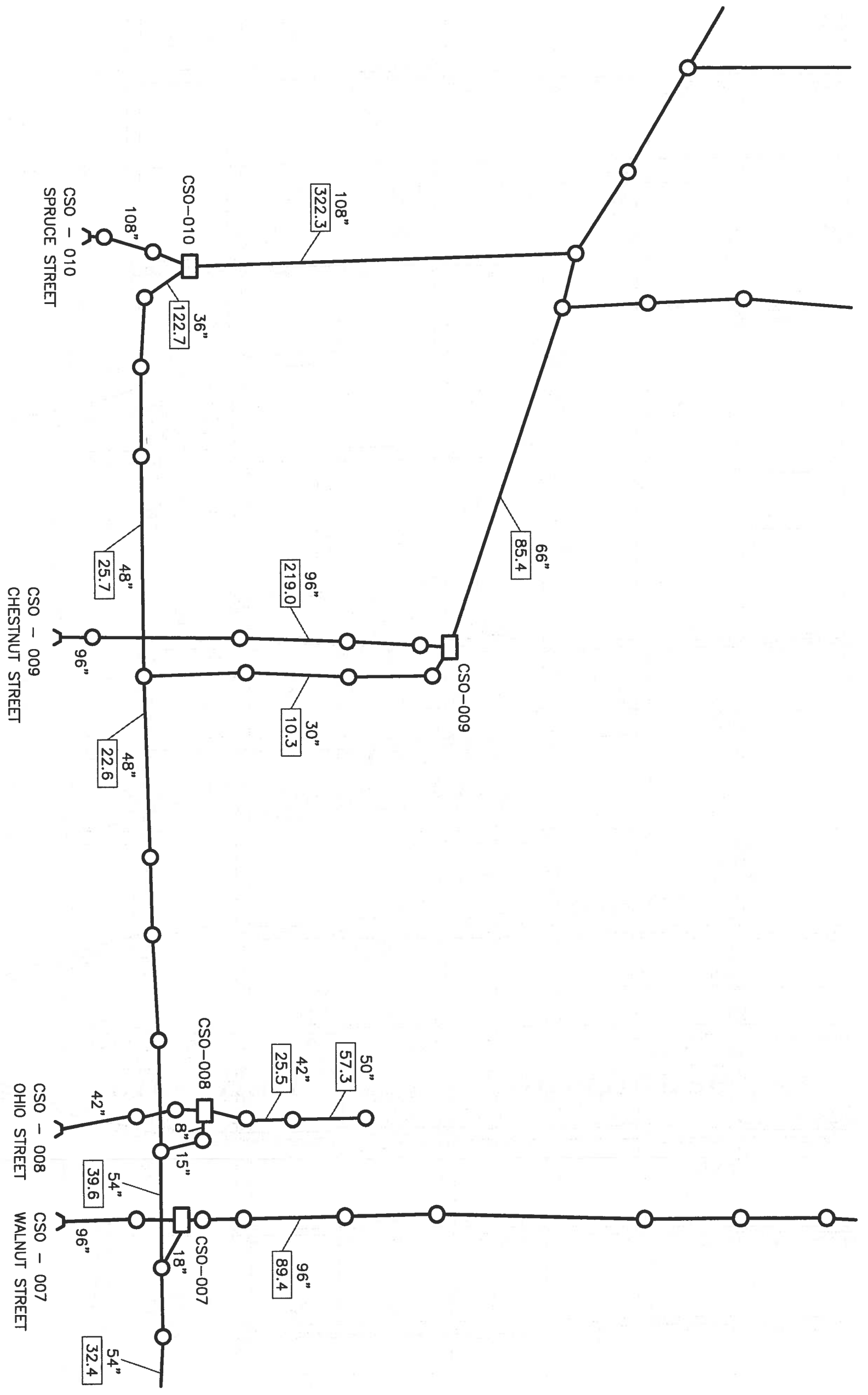
NOT TO SCALE

LOCATION PLAN



NOT TO SCALE

STRUCTURE PLAN

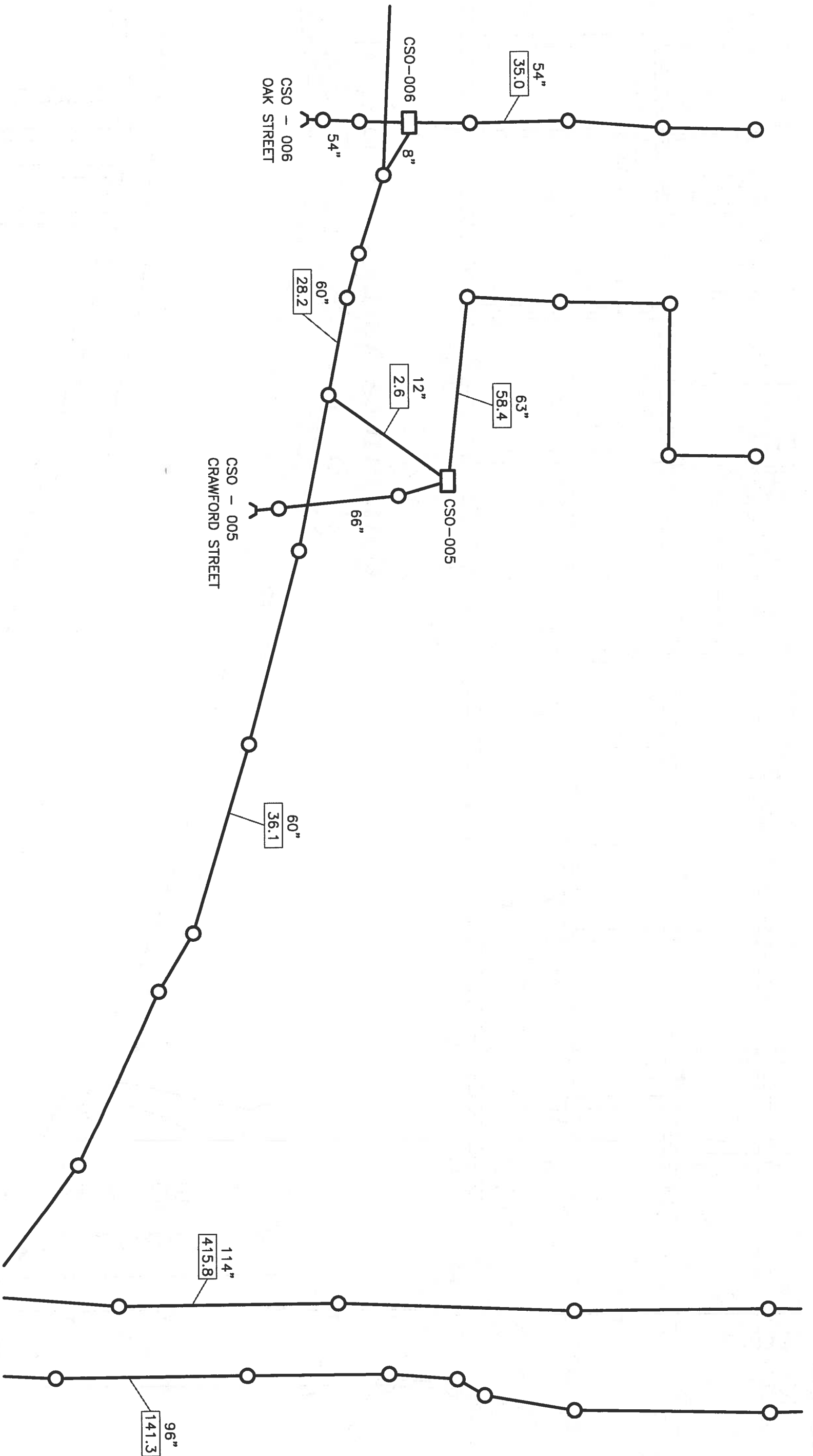


TRUNK SEWERS AND INTERCEPTOR

SCALE: 1" = 400'

- ### LEGEND
- MGD — INTERCEPTOR, TRUNK LINE OR THROTTLE CAPACITY
 - DIVERSION STRUCTURE
 - MANHOLE

CSO OPERATIONAL PLAN
FIGURE 2.14

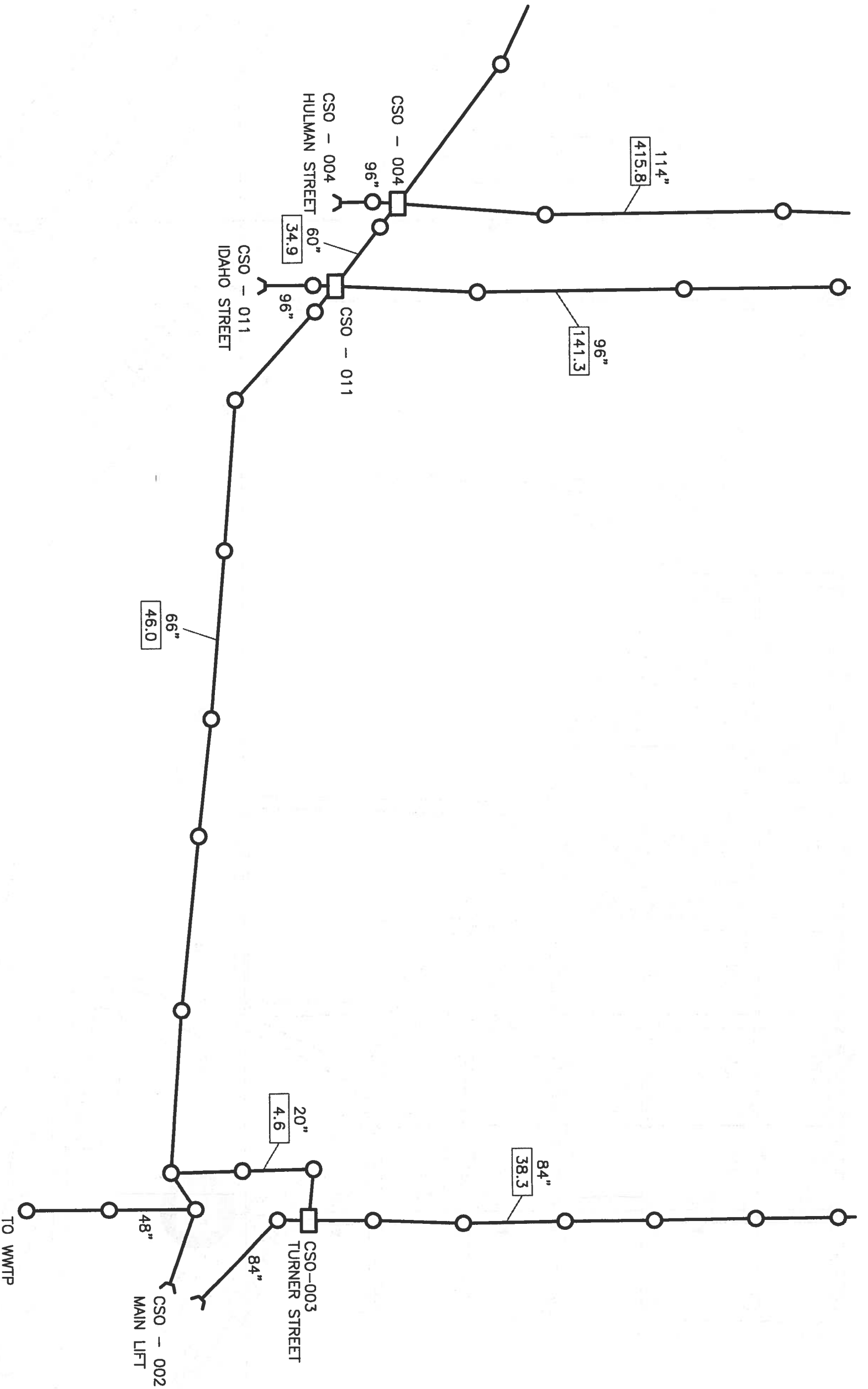


TRUNK SEWERS AND INTERCEPTOR

SCALE: 1" = 400'

- LEGEND**
- INTERCEPTOR, TRUNK LINE OR THROTTLE CAPACITY
 - DIVERSION STRUCTURE
 - MANHOLE

CSO OPERATIONAL PLAN
FIGURE 2.14



**TRUNK SEWERS
AND INTERCEPTOR**

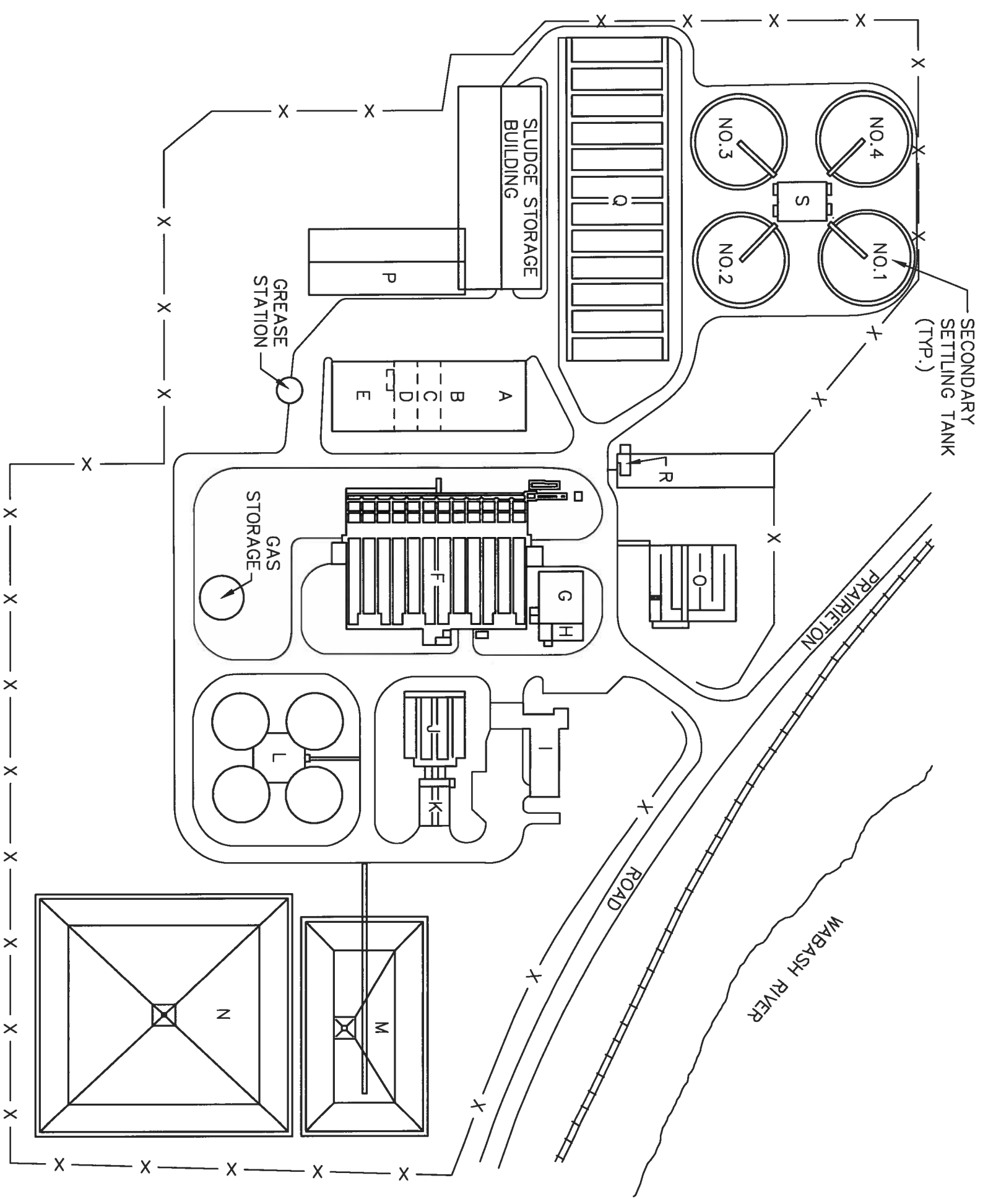
SCALE: 1" = 400'



CSO OPERATIONAL PLAN
FIGURE 2.14



- A. SECONDARY CONTROL BUILDING
- B. BLOWER ROOM
- C. ZIMPRO ROOM
- D. BELT PRESS/FILTER ROOM
- E. MAINTENANCE GARAGE
- F. PRIMARY SEDIMENTATION TANKS
- G. WASTE ACT. SLUDGE BUILDING
- H. LAB
- I. MAIN CONTROL BUILDING
- J. PRE-AERATION TANK
- K. GRIT TANK
- L. DIGESTER CONTROL BUILDING
- M. FLOW EQUALIZATION BASIN NO.1
- N. FLOW EQUALIZATION BASIN NO.2
- O. CHLORINE CONTACT TANK
- P. COVERED SLUDGE STORAGE PADS
- Q. AERATION TANKS
- R. CHEMICAL STORAGE
- S. SECONDARY SLUDGE PUMPING BUILDING



3 Operation and Maintenance Practices

The wastewater utility is taking steps to develop new and improve existing procedures, and continues to make progress on several issues.

- Management has assembled budget projections for the year 2006.
- A new work order log process is currently being implemented. The process is described in Appendix D.
- Maintenance procedures are moving toward preventative rather than reactive mode.
- A river gauge is constructed and installed to better predict high river levels.
- Coordination with the City engineering department is improving.

3.1 Organizational Structure

CSO Operation and Maintenance (O&M) personnel are currently represented as shown in the work flow chart in Figure 3.1.

All management positions work five 7-hour shifts per week. There is a Plant Operations Manager, Maintenance Manager, Sewer Crew Manager, and Pretreatment Coordinator.

3.2 Plant Operations Department

The plant operations crew works three 12-hour shifts per week, and there are 11 operations crew members. The operations department has two working foremen. One is the secondary operator on shift, and the other is the float operator when he or she is working. The operations department always has one working foreman on shift, and two if the floating foreman is working days and not covering for a vacation or sick day. When the new septage receiving station is installed, an additional floating foreman may be required. The septage receiving station will require septage haulers to swipe a card before unloading, and will enable better tracking at the plant.

The operations crew monitors and operates various treatment processes. Responsibilities include notifying the operations working foreman when plant process performance falls outside the desired range, and operating process equipment such as pumps, blowers, electric motors, sensors, and signal devices. Plant operation during wet weather is discussed in Section 6.

A new work order log process has recently been put into place by the maintenance manager (Appendix D). Work orders are recorded on daily logs and turned into the operations working foreman at the end of each day. The operations manager double checks the logs and ensures the work was performed.

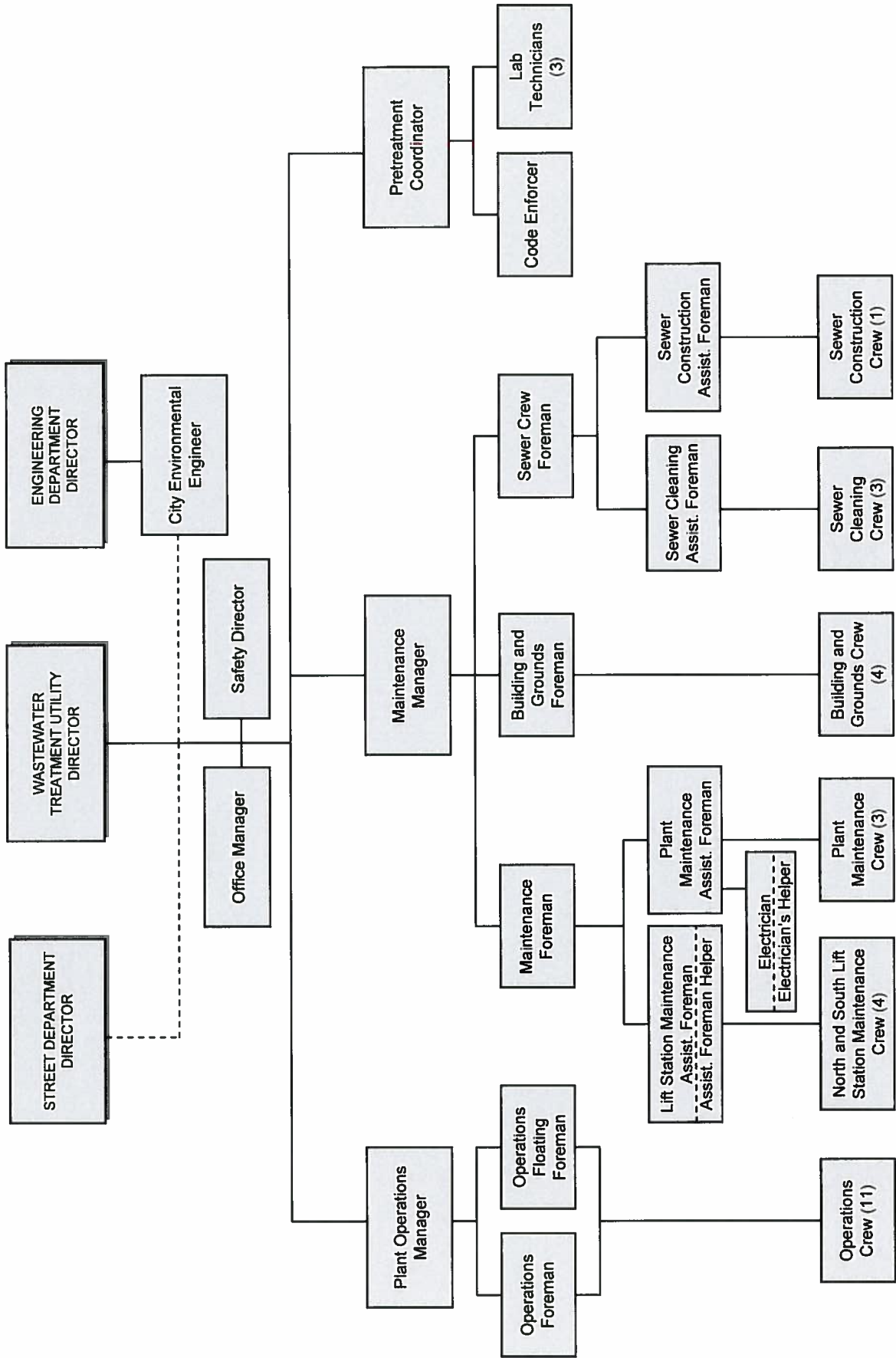


FIGURE 3.1

Work Flow Chart

CITY OF TERRE HAUTE CSO OPERATIONAL PLAN

3.3 Maintenance Department

The maintenance crew works five 7-hour shifts per week. The department is organized into two sections: plant maintenance and lift station maintenance. Each section handles different duties, but can work together on larger projects or wherever needed.

The maintenance working foreman's duties include keeping personnel records, overtime scheduling, purchasing parts and supplies, and future planning for the department. The working foreman also coordinates special projects with other departments as well as outside contractors and engineers. Work orders are filed with the maintenance working foreman. A new work order log process has recently been put into place by the maintenance manager (Appendix D).

3.3.1 Plant Maintenance

Plant maintenance consists of an assistant working foreman, electrician, electrician's helper, and three laborers. The plant maintenance section is responsible for all preventative and emergency maintenance with the WWTP. They also routinely help on special projects outside the WWTP at various lift stations.

3.3.2 Lift Station Maintenance

The lift station maintenance section consists of an assistant working foreman, assistant foreman helper, and four laborers. The four laborers visually inspect all lift stations; two personnel service the City's north side lift stations, and two service south side lift stations. The crew checks for pump operation, grease buildup, and the overall function of the station. Checklists are filled out and kept on file at the WWTP. Appendix D contains blank lift station checklists. The lift station maintenance crews have the ability to repair lift stations on the spot if necessary. Each lift station is serviced regularly; two lift stations are cleaned each week.

Except for the main lift station, lift stations in the system pump sanitary only flows. There is one storm water lift station located at 26th and Maple. All new lift stations are required to have radio telemetry, communicating back to the plant. Currently, there is radio telemetry for 12 major lift stations. The main lift station is equipped with dial-in telemetry with a monitoring screen and audible alarm at the plant. Any overflow that may occur due to lift station malfunction is recorded on a Bypass/Overflow Report form. The forms are filled out according to the process outlined in Section 7. Copies of the form are kept at each lift station. Appendix D contains a blank Bypass/Overflow Report form.

The main lift station is manned on a 40-hour per week basis. The main lift station operator is included in the plant operations crew and is responsible for septage haulers' paperwork. The telemetry system allows the plant operations crew to monitor the main lift station at all times. The lift station maintenance crew visually inspects the main lift station daily.

3.4 Collection System Maintenance

Collection system maintenance is the responsibility of two separate departments. The day-to-day cleaning, inspecting, and repairing of the gravity sanitary and storm sewer system is the responsibility of the sewer crew department. The day-to-day inspection, operation, and maintenance of the collection system's network of both sanitary and storm lift stations are the responsibility of the maintenance department. Over the past few years, these departments have changed in numbers, structure, and responsibilities.

Sewer complaints received over the phone are handled by the office manager, who refers the complaint to the sewer crew department when applicable. Appendix D contains a blank customer complaint form.

3.5 Sewer Crew Department

The sewer crew department staff works five seven-hour shifts per week. The sewer crew's responsibilities include sewer cleaning, construction work, CSO inspection work, and coordination of various special projects. There is one working foreman, two assistant working foremen, and four laborers. The working foreman's duties include day-to-day supervision of the sewer crew department staff. He also keeps personnel records and tracks weekly overtime. One assistant working foreman is assigned to sewer cleaning, and the other assistant working foreman is assigned to CSOs, construction repairs, and special project work. Both assistant foremen are working positions. They are responsible for planning, staffing, and running their individual sections. Along with these duties, they are also laborers within their sections.

Work orders are currently filed by the sewer construction assistant working foreman. Appendix D contains a copy of the daily CSO checklists, crew member log, personnel form, sewer crew report, overtime form, sewer call out sheets, and personnel phone list.

3.5.1 Sewer Cleaning Section

The sewer cleaning section has one assistant working foreman and three laborers, who are responsible for any preventative or emergency sewer jetting or cleaning related problems. They also perform lift station and treatment plant jetting and cleaning. The working foreman, along with the assistant working foreman, are working together with nearly 40 years of combined experience to develop a cleaning schedule tailored to Terre Haute's collection system.

Separate storm sewers are cleaned on an as needed basis. Combined and separate storm sewer inlets within the City limits are regularly cleaned by the building and grounds crew. Inlets outside the City limits and within Vigo County are cleaned as needed. Many inlets/catch basins are dry wells that drain naturally to surroundings, with no need to connect to storm sewers.

Combined sewers are cleaned on an as needed basis. Two areas served by combined sewers are cleaned frequently; up to three times per year. These areas are bound roughly by 13th, Alley, 25th, and 1st Streets; and 20th, Wabash, 25th, and Ohio Streets as shown in Figure 3.2.

During development of the CSO LTCP, two areas were identified as problem sewer backup areas.

- Locust Street between 13th Street and 19th Street
- Margaret Avenue in the vicinity of 10th Street

3.5.2 Sewer Construction Section

The sewer construction section has one assistant working foreman and one laborer, who are responsible for all sanitary and storm sewer repairs that are not greater than 10 feet in depth. A majority of repairs are done on storm and sanitary sewer manhole frames and castings. The sewer construction section also maintains, monitors, and repairs all the CSO related equipment and structures. (For a description of the CSO related inspections, see Section 7.) In addition, the sewer construction section develops and coordinates many special projects with the maintenance department, supervisory staff, and outside contractors.

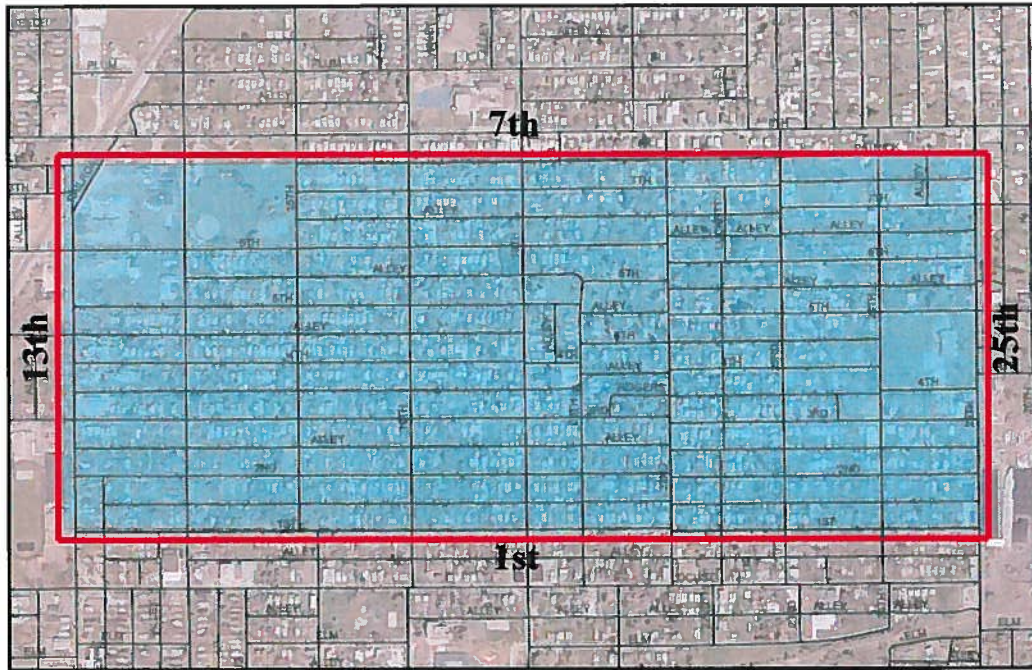
3.5.3 Sewer Maintenance Equipment

There are two vactor trucks, and they are both used by the sewer cleaning crew every day. They are used to clean the lift station wet wells on a rotation. Lift station wells accumulate sand, so this is a prevention measure. It is expected that when the floatables control facilities are constructed, another vactor truck will be needed. The sewer crew department has recently purchased new sewer inspection CCTV equipment. As more training is received, subdivision sewer inspections and other sewer inspection work will develop into a new responsibility of the sewer crew department.

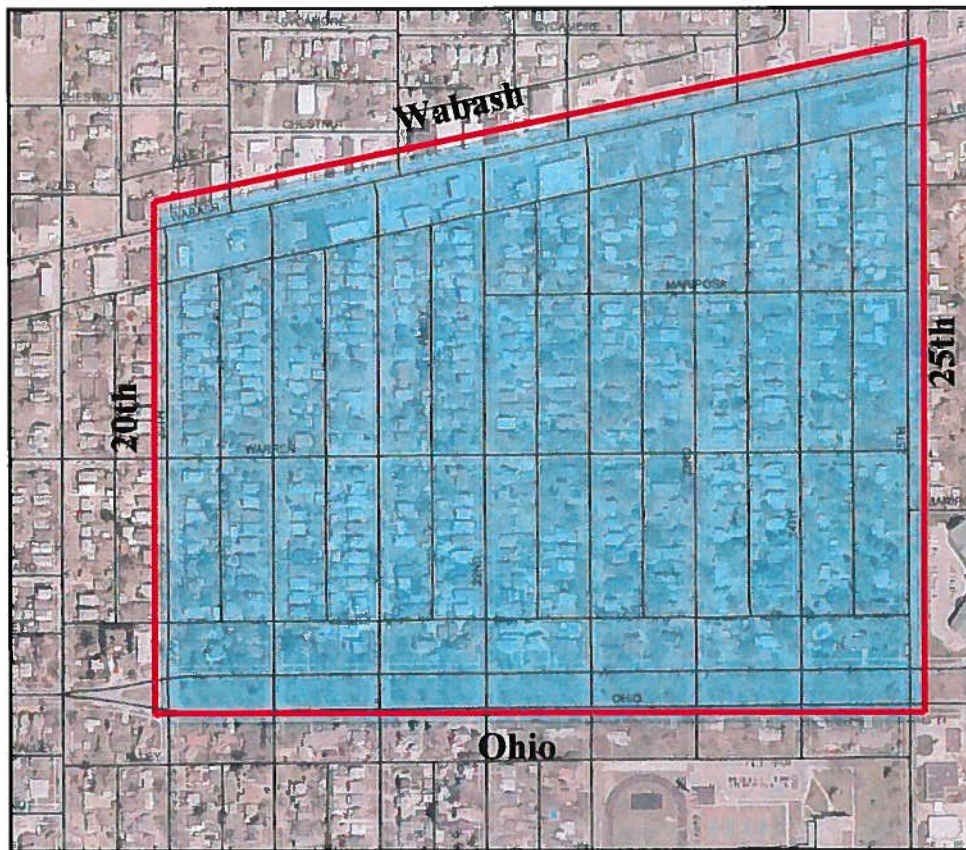
3.6 Building and Grounds Department

The building and grounds department consists of one working foreman and four laborers. Responsibilities include cleaning, mowing, and painting at the WWTP, lift stations, CSO structures, manholes, and anywhere else within the sewer system they are needed.

The building and grounds department also performs all combined and storm sewer inlet cleaning. There are normally two crew members dedicated to cleaning inlets every day. They clean mostly in the combined sewer area. Inlets in the entire area are cleaned at least twice per year. If there are inlets that need jetted (un-clogged), they are recorded. Once there are several inlets in need of jetting, they are taken care of by the sewer cleaning crew with a combination truck. If there are inlets that need repaired, they are recorded and a work order is generated for the sewer construction crew.



Area 1



Area 2

Note: Not to scale

Appendix D contains a copy of the checklists used by the building and grounds department including inlet cleaning, CSO structure and lift station mowing, and WWTP responsibilities.

3.7 Emergency Response and Training

The safety director is contacted along with the manager and working foreman in emergency situations. The safety director fills out the required forms after an emergency event; managers also have been trained to fill out the forms. The safety director is in charge of plant-wide safety. He conducts monthly safety meetings and training tests, and files all workers compensation forms as necessary.

Supervisors are responsible for job training of their employees. Records for confined space entries and applicable permits can be found in the safety director's office. Any personal protective equipment is also issued by the safety director.

3.8 Operation and Maintenance Improvement Needs

To assist in operation and maintenance, the wastewater utility is continually increasing its involvement in the City's planning processes. Utility staff regularly participate in weekly engineering department meetings, which has put the utility in a good position to make necessary changes during project planning, design, and construction. The utility's participation in the planning process is vital to the operation and maintenance of the sewers, structures, lift stations, and other facilities that are installed throughout the City. Although progress is being made, the utility recognizes continued improvements are still needed to more efficiently operate and maintain the combined sewer system.

3.8.1 Manhole Repairs

The sewer crew department must divide its time among many projects. The sewer crew department spends more time on repairing manholes than any other effort. Manholes are often broken, offset, worn out, or buried. Work orders related to manholes are turned in by the street department, engineers, or the combination truck cleaners. The sewer crew must shuffle other work back in order to take care of manhole problems; being understaffed prohibits them from addressing all of the minor manhole problems in the system.

3.8.2 Combined Sewer Inspection and Cleaning

As outlined in the CSO LTCP, many of the large diameter combined sewers in the system have not been inspected or cleaned in several years. As part of the CSO LTCP, the wastewater utility plans to hire specialists to assess the conditions of the sewers, after which a cleaning schedule will be developed and implemented. Either the wastewater utility will purchase cleaning equipment and clean the sewers themselves, or a professional cleaning service will be hired.

4 Collection System Storage

With the heightened awareness surrounding CSOs in the past few years, the wastewater utility has learned a great deal about the collection system. Through monitoring, die testing, CCTV recording, and confined space entries, the staff has learned how the combined sewer pipes are connected and how they function. Several studies have been done on how the system is interconnected. Many of Terre Haute's large relief sewers are interconnected or cross-connected. These studies, along with the collection system model recalibration, may influence the CSO LTCP recommendations. The collection system is very complicated, but through hard work and dedication, the staff is learning how it functions in order to maximize its use.

The City of Terre Haute is unusual in that it has large combined sewer pipes, sandy soil, and a significant gradient to the Wabash River level. Therefore, natural dissipation of storm water occurs; in addition, the collection system sewers can store a considerable amount of storm water. The wastewater utility has implemented various measures to take advantage of the collection system storage potential, including adjustment of regulator weir heights, adjustment of the main lift station pump settings during wet weather, and combined system cleaning and inspection. These measures, while relatively simple, help greatly to reduce the magnitude, frequency, and duration of CSOs.

4.1 Regulator Setting Adjustment

When CSO sites were equipped with electronic flow monitors in 2001 (see Section 11.2), employees realized the importance of the regulator weirs. Over a three-year period, each of the nine regulator weir heights has been adjusted to take advantage of the collection system storage potential. There are two locations where the weirs are raised to almost 80 percent of the sewer height: Oak Street and Hulman Street. These locations offered flexibility due to sewer grade and size. The other seven regulator weir heights were adjusted conservatively with experience and common sense being the guide. The weir height adjustments have been made to capture and store as much combined sewage as possible.

In 2004, the wastewater utility realized that one of the CSO locations could be 100 percent closed with no consequence. Due to flow, grade, and visual inspection, it was clear the 004 Hulman Street CSO was merely an overflow to the 011 Idaho Street CSO. The Hulman Street CSO was temporarily closed for three months. It held back 99.9 percent of the flow and was a success. The closing was only temporary because the collection system model required recalibration.

4.2 Main Lift Station Pump Setting

Flow through the combined system is greatly impacted by the main lift station. As discussed in Section 2, the trunk sewers are connected to the main lift station by the interceptor. The levels and conditions of the main lift station wet well and interceptor

greatly affect CSO performance. Employees have worked on lowering the main lift station pump settings in order to maximize the system but still run in a safe operating range. As more flow is sent through the interceptor, less combined sewage is discharged to the Wabash River.

Continuing to fine-tune the main lift station pump settings and regulator weir heights will permit capture and treatment of as much flow as the system will allow. The collection system, main lift station, and WWTP all work together to transport flow. The sewer crew is working closely with plant operations staff to maximize flow through the plant, as discussed in Section 6. Only through working together have these procedures been realized and developed.

4.3 Combined Sewer System Inspection and Cleaning

Removing debris and sediments from the sewers helps to maximize the flow area in the pipes, increasing flow to the WWTP. The sewer cleaning crew cleans the combined sewers as necessary. There are essentially two areas in the combined system that are cleaned more frequently than others, as discussed in Section 3.5.1. Upon implementation of the sewer inspection and cleaning plan recommended in the CSO LTCP, combined sewers will be cleaned on a regular basis.

The flap gates at the discharge end of the outfall pipes are used to prevent river water from backing up into the sewers and using the sewer capacity. The sewer crew department inspects the flap gates on a daily basis. Deficiencies, such as the gate not closing completely due to debris accumulation, are corrected as soon as possible. However, as discussed in Section 7, the flap gates are past their service life and are warped so that they do not completely seal. The wastewater utility is considering replacement or upgrade of the flap gates in the near future.

4.4 Future Practices

The wastewater utility is anticipating approval of the CSO LTCP, submitted in 2002. The CSO LTCP recommended plan includes inflatable dams installed in the large diameter sewers (along with various other improvements), enabling four million gallons of combined sewage to be stored so that a 0.818-inch storm event does not cause an overflow.

Inflatable dams are rubber fabric devices which can be inflated to hold wastewater within the sewer and prevent combined sewage from entering the river during storm events. The wastewater utility plans to initiate the CSO LTCP recommended plan upon approval, at which point operation and maintenance procedures will be developed.

4.4.1 Inflow Reduction Program

The wastewater utility is continually raising depressed manholes and rehabilitating deteriorated manholes. This is done on an as-needed basis, and at the same time serves to

reduce the amount of inflow into the collection system. As discussed in Section 3, more staff and continued coordination with the City's engineering department would make this practice more effective.

Inflow reduction can be accomplished disconnecting roof and basement drains from the combined system. The City does not have a formal program to disconnect roof and basement drains from the combined sewers, however this is highly encouraged when people ask about it. In addition, when a storm water project takes place, the City evaluates the area and requests that existing homeowners and businesses work with the contractor to reduce illicit connections. When necessary, a code enforcement letter explaining non-compliance items is issued. The City is taking steps to smoke test in the near future. It is important to note that the City requires all new developments to retain their storm water on site or provide an outlet to a separated storm sewer. Discharging storm water to a combined sewer is not allowed.

5 Pretreatment Program

Terre Haute currently has 23 permitted industries discharging into the combined sewer system. Two new industries are expected in January 2007. Out of the existing industrial dischargers, 12 are subject to categorical pretreatment standards, which are pollution control regulations for specific industries. Six of the existing industrial dischargers are batch dischargers. Total average daily flow from the permit holding dischargers is approximately 1.1 MGD.

Table 5.1 lists the discharge trunk sewers and related outfalls for each industrial discharger. Industrial discharger facility locations are shown on Figure 2.1, Collection System Site Plan.

5.1 History of Pretreatment Program

The wastewater utility developed an industrial pretreatment program in 1985 to comply with the WWTP NPDES permit and the federal standards 40 CFR 403 at that time. The original sewer ordinance was contained in the Terre Haute Municipal Code Chapter 925. The following amendments were filed in 1995 for Chapter 925, titled "Sewer Usage and Industrial Pretreat."

- 925.01 (t) (1) Added references to 40 CFR 401 and 40 CFR 403.
- 925.01 (t) (2) Excluded sanitary, noncontact cooling, and boiler blowdown wastewater from 25,000 gallons per average work day under "Major Contributor" definition.
- 925.02 Authority section added, renumbering subsequent sections. This section gives agency authority to require compliance, control wastewater discharges, require compliance schedules, carry out inspections, and enforce pretreatment requirements.

Between 1995 and 2001, Chapter 925 became Chapter 9, Article 2, titled "Sewer Usage and Industrial Pretreatment." The following amendments were filed for Chapter 9, Article 2 in 2001.

- 9-2 Updated Water Pollution Control Federation to Water Environment Federation.
- 9-2, 9-9 Updated Board of Public Works and Safety to Board of Public Works.
- 9-19 (g) Added constituents and maximum daily discharge concentrations (mg/L) for BOD (1,000), TSS (1,200), and Ammonia NH₃ (50). Replaced containing Molybdenum with Molybdenum (1.00).
- 9-41 2 Modified and/or added fees for discharge permit; pH, Arsenic, Cadmium, Chromium, Copper, Lead, Molybdenum, Nickel, Zinc, Ammonium

**Table 5.1
Industrial Dischargers**

Collection System Map No.	Name	Address	Permit No.	Description	Average Flow (GPD)	Notes
Directly to WWTP				Sewer Capacity (GPD) = 12 x 10⁶		
01	Aisin Brake & Chassis	10550 James Adams Street	1120	Brake components: painting, machining, assembly, and anodizing	19,902	1
02	CSN, LLC	455 West Industrial Drive	1118A	Coating, annealing, and zinc plating of rolled steel	52,748	1
03	Pruett Manufacturing	1001 West Springhill Drive	1115	Steel stampings manufactured from finished cold rolled steel through punch presses. Parts cleaned, deburred, tempered, descaled, and vibratory tumbled.	622	1
04	United States Federal Penitentiary (Unicor)	4200 Bureau Road	1103A, 1103B	Manufacturer of textiles (towels and blankets)	564,691	1
05	Wabash Valley Packaging	1303 East Industrial Drive	1121	Corrugated paper printing and packaging	43	
06	Worthington Landfill	RR 2 Worthington, IN	1123	Landfill leachate trucked to POTW	5,000	2
To Spruce Street Trunk Sewer – CSO 010				Sewer Capacity (GPD) = 225 x 10⁶		
07	Aramark Uniform Services	3752 North Fruitridge Avenue	1092	Commercial laundry facility	37,714	2
08	Ampacet Corporation	3701 North Fruitridge Avenue	1090	Producer of plastic colorants and compounds by mixing polyethylene or polypropylene or other thermal plastics with a variety of materials which include colorants, slip agents, antistatic agents, fillers, and other compounds.	56,350	
09	Columbian Home Products	1600 Beech Street	1093	Manufacture cookware from rolled steel with machine presses. Wash then coat with enamel (porcelain). Labeling and packaging on site.	32,222	1
10	DADC	3181 North Fruitridge Avenue	1114, 1116	Manufacturer of CD audio, CD ROM, and Playstation II products, as well as Universal Media Disc and Playstation Portable Discs	33,000	1
11	Great Dane Trailers	4955 North 13 th Street	1117	Manufacturer of semi trailers	10,163	1
12	Novelis	5901 North 13 th Street	1118	Aluminum rolling and coating operation for food contact. Aluminum foil, and tinstock base products.	2,066	
13	Union Hospital	1606 North 7 th Street	1088	Hospital	858	
To Walnut Street Trunk Sewer – CSO 007				Sewer Capacity (GPD) = 155 x 10⁶		
14	GE Engine Services	3390 Locust Street	1086	Repair airplane engine components	3,000	2
15	Indiana Air National Guard	800 S. Petercheff Street	1095	Minor repair and painting of planes	8,385	
16	Schering-Plough Animal Health	2458 N. Chamberlain St.	1100	Pharmaceutical research facility	30,195	

Notes:

- 1 Industry is subject to categorical pretreatment standards
- 2 Industry is a batch discharger

Collection System Map No.	Name	Address	Permit No.	Description	Average Flow (GPD)	Notes
To Idaho Street Trunk Sewer – CSO 007				Sewer Capacity (GPD) = 213 x 10⁶		
17	Hydrite Chemical Company	1330 Lockport Road	1107-2, 1187	Manufacturer of bisulfite (ammonium, potassium, sodium, and magnesium), phosphate (potassium and sodium), and sodium citrate solutions	145,458	1
18	Terra Tech	1900 Prairieton Road	1122	Centralized waste treatment	45,000	1, 2
19	Ulrich Chemical Company	1400 Lockport Road	1104	Manufacturer of sodium hypochlorite. Repackage chlorine, soda ash, calcium chloride, hydrochloric acid, and sodium hydroxide.	2,301	1, 2
To Turner Street Trunk Sewer – CSO 003				Sewer Capacity (GPD) = 113 x 10⁶		
20	Tangent Rail	2525 Prairieton Road	1106	Railroad ties, treated wood products and preservatives	13,585	1
21	Terre Haute Regional Hospital	3901 South 7 th Street	1111	Hospital	981	
To Crawford Street Trunk Sewer – CSO 005				Sewer Capacity (GPD) = 136 x 10⁶		
22	Smith's Aerospace Components	333 South 3 rd Street	1102	Repair airplane engine components	18,355	1, 2
To Hulman Street Trunk Sewer – CSO 004				Sewer Capacity (GPD) = 294 x 10⁶		
23	Smith's Aerospace Components	1116 College Avenue	1102A	Repair airplane engine components	374	

Notes:

- 1 Industry is subject to categorical pretreatment standards
- 2 Industry is a batch discharger

Nitrogen, Cyanide, Total Recoverable Hydrocarbons, Heavy Metals, and Total Toxic Organic analyses; and inspections. Modified pollutant concentration surcharge fees for BOD, Total Suspended Solids, and NH₃.

In 2005, the following amendments were filed for Chapter 9, Article 2, "Sewer Usage and Industrial Pretreatment."

- 9-19 (h) Added paragraph stating discharges in excess of limits may be made only under special agreement with the Administrator and that such an agreement shall not waive compliance with all other pretreatment standards.
- 9-33 Deleted 30 day notification period and added permittee must submit a renewal permit application no later than 180 days prior to the date of expiration.
- 9-41 Modified fees by deleting paragraph b. monitoring charges and paragraph f. stating that any other fee may be deemed necessary by the Administrator. Added paragraph e. stating that monitoring, inspection, and surveillance fees may be assessed, and that the POTW must document actual costs of the fees.

Since 1985 when the industrial pretreatment program was developed, the wastewater utility has routinely monitored discharge from permitted industries according to the monitoring and enforcement systems indicated in the ordinance and its amendments.

5.2 Current Pretreatment Program

The City of Terre Haute currently operates under the 2006 amended Sewer Usage and Industrial Pretreatment ordinance. Industries must report permit-specific analytical test results and discharge flow values once per month on the 28th in accordance with the ordinance. The Town of Seelyville, which sends its wastewater to the Terre Haute sewer system, is required to abide by the Terre Haute ordinance. Seelyville currently does not have any permitted industries. A copy of the Terre Haute ordinance is contained in Appendix E.

Flow meters are located at discharge points for many of the industrial dischargers, which encourages them to disconnect storm water and other clear water discharges. The pretreatment department records data from the industrial facilities' monthly reports into the Linko software system. Information such as flow and concentrations of specific pollutants discharged in each industrial user's wastewater can be retrieved from the Linko software database. The pretreatment coordinator calculates surcharges and reports to sewage billing. The pretreatment department inspects and samples permitted facilities at least once per year. If in violation of the permit, the industry may be required to pay a fine. The pretreatment coordinator writes and submits a quarterly report to IDEM indicating the number, cause, and steps being taken to correct violations. To summarize the entire year, the pretreatment coordinator also compiles and submits an annual report to the EPA and IDEM.

5.2.1 New Industries

To determine whether new industries should be required to have an industrial pretreatment permit, industry surveys are sent out at least every two years. The surveys help to determine whether further investigation (i.e. walk-through, wastewater analysis, etc.) is warranted. When the pretreatment department determines that a discharge permit should be issued, the new industry receives a packet with a permit application, and copies of the sewer use ordinance and enforcement response plan. The new industry must fill out the permit application and return it. The pretreatment department then performs an initial inspection of the facility. The pretreatment coordinator writes and issues the new permit.

In 2005, 31 industry surveys were sent out and 16 were returned. Seven of the returned surveys needed further investigation by the pretreatment department. By the end of December 2005, the code enforcer had investigated one of the seven and determined that a discharge permit should be issued. The other six will be investigated in 2006.

Copies of the industry survey, enforcement response plan, and permit application forms are included in Appendix F.

5.2.2 Food Service Operations

There are over 200 food service operations in Terre Haute, and they are currently not required to have a pretreatment permit. However, the code enforcer inspects grease traps at each of these facilities at least once per year to ensure proper operation of the equipment and piping. If there is a problem with the initial inspection or with the sewer lines being clogged with grease in the area, return inspections are required to keep the discharger in check. Grease trap/interceptor installation and inspection forms are included in Appendix F.

Grease deliveries from food service operations to the WWTP are scheduled by the code enforcer. The grease receiving station is located at the plant. Microbes are added to the tank to digest the grease and the water is decanted back into the primary sedimentation tanks. Settled solids are pumped to a grease lagoon.

5.2.3 Local Limits

The general pretreatment regulations (40 CFR 403) require that each publicly owned treatment works (POTW) develop and enforce local limits to protect against pass through and interference which may be caused by industrial discharges to the treatment facility. Limits are developed originally by POTWs as a prerequisite to pretreatment program approval. Conditions at POTWs change with time, therefore each POTW is required to reevaluate its local limits at least every five years to ensure a firm technical basis and address changing conditions.

In order to establish or revise local limits, the following steps must be performed:

- Data collection for pollutants of concern.

- Identification of applicable criteria.
- Development of maximum allowable headworks loading.
- Allocation of available pollutant loadings to industry.
- Submittal of technical justification to US EPA.

Pretreatment personnel are reevaluating local limits by testing 25 industries' effluent once per year for various parameters, as listed in the ordinance (Appendix E). The goal of the study is to identify any unusual contaminants that may have an effect on the WWTP.

5.3 Future Improvements

In the future, the wastewater utility will move towards budgeting for specific pretreatment tasks, which will help guide the pretreatment department's future efforts. The pretreatment department's goals include rewriting the Sewer Use and Industrial Pretreatment Ordinance, organizing/purging documentation, and continuing to optimize current practices.

5.3.1 Fats, Oils, and Grease Control

Pretreatment permits may be required for food service operations in the future. Therefore, the pretreatment department is assembling a Fats, Oils and Grease Control Plan for food service operations which contains the following standard forms.

- Grease Trap/Interceptor Cleaning Log
- Best Management Plan

In addition, the wastewater utility has installed a unit that allows grease to be treated separately at the WWTP through bioremediation.

6 Flow Maximization at WWTP

A detailed description of the WWTP preliminary, primary, secondary, and equalization capabilities is in Section 2.6 of this report. A summary of the WWTP components with capacities is included in Table 6.1. The WWTP layout is shown in Figure 2.15, and a schematic of the WWTP processes is shown in Figure 2.16. The plant has a rated average design capacity of 24 MGD.

Equipment is replaced as necessary at the plant. In 2003, chemical storage was moved inside a building; in addition, a dry well was installed in the parking lot near the final contact tank. In 2006, a grease receiving station was installed. Currently, storage building upgrades are taking place. In addition, new valves and diffusers for the secondary aeration process have been purchased to enable contact stabilization. The wastewater utility also plans to install baffles in the secondary clarifiers, replace a 16-inch diameter channel type grinder with a 20-inch diameter model, and upgrade the digester operation in the year 2006.

6.1 WWTP Operation in Normal Conditions

The WWTP normally receives an average flow of 10 MGD.

The following daily provisions implemented by the operations department at the WWTP are intended to maximize treatment ability.

- Primary overflow basins are kept emptied and cleaned.
- Digesters have enough capacity for sludge pumping from primary clarifiers.
- Primary sludge blankets are kept at one foot level or less.
- Primary overflow valve is open to a mark indicated on the valve; about 1/4 of the way open. Operators are instructed to be sure the overflow alarm is in place.
- Secondary blankets are kept at one foot to three feet level.
- Grit chamber is emptied.

6.2 WWTP Operation in Wet Weather Conditions

During wet weather, CSOs in the system do not occur until the plant sees approximately 24 MGD flow. The WWTP provides full treatment up to 30 MGD. At this point, flow from the primary clarifier effluent channel is diverted to the EQ basins, which store up to 5.2 MG. The stored wastewater is pumped back to the preaeration tank after the plant flow subsides. When the EQ basins are full, the excess flow is bypassed to the chlorine contact tank and discharged to the river along with the secondary plant effluent. For all wet weather conditions, the operations department operates the secondary treatment facilities at the highest rate possible, which is approximately 36 MGD. In the future, the

**Table 6.1
Wastewater Treatment Facility Capacities**

Facility	No. of Units	Unit Size	Design Peak Capacity (MGD)	Actual Peak Capacity (MGD)
Main Lift Station Pumps	3 duty 1 standby	11,100 GPM	48	48
<i>Preliminary Treatment</i>				
Aerated Grit Tanks	2	40' x 16'-2" x 14'-4" SWD	48	48
Channel-type Grinders	3	20"	48	40 ¹
Preaeration Tanks	4	68' x 16' x 12'-8" SWD	48	48
<i>Primary Treatment</i>				
Primary Clarifiers	12	139' x 16' x 10'-1" SWD	48	48 ²
<i>Secondary Treatment</i>				
Aeration Tanks	4	3 passes each at 108'-8" x 30' x 15'-1" SWD	24	36 ¹
Secondary Clarifiers	4	100' diameter 12' SWD	24	36 ¹
Chlorine Contact Tank	1	66,840 ft ³	48	48
Dechlorination Tank	1	3,570 ft ³	48	48
Equalization Basins	2	5.2 Mgal (total)	-	-

¹ Based on operational experience

² Based on NPDES permit and 1,800 gpd/sf

primary clarifier effluent channel bypass weir will be raised such that bypass events do not occur until the primary clarifiers see 36 MGD flow.

During high flow conditions, a standard operating procedure (Appendix D) is followed by the operations crew to prepare the WWTP for wet weather and properly document any bypass events. Plant bypass events occur only when the plant cannot hydraulically handle any more flow as described above. In 2005, plant bypasses occurred 16 times, which is less than any previous year. The operations manager keeps track of the bypass events by recording them on the Monthly Report of Operations, which is submitted to IDEM with copies of the WWTP flow chart each month.

A CSO event at the plant entails partial treatment by flow going through the primary clarifiers. This is preferred over allowing upstream CSOs throughout the system with no treatment at all. Therefore, the wastewater utility staff do the best they can to transport as much flow as possible to the WWTP during wet weather.

6.3 Conveyance to WWTP

The interceptor directs wastewater from the trunk sewers to the main lift station, where flow is pumped to the WWTP. The interceptor ranges in size from 36-inch to 66-inch diameter. Other than the regulator structure at Spruce Street, the metal grates have been removed in order to maximize flows to the interceptor. In addition, regulator weir heights have been raised, increasing the volume of flow through the interceptor. Weir height adjustments are discussed in Section 4.1.

The main lift station has a maximum pumping capacity of 48 MGD with three of the four pumps operating. The wastewater utility has been working to maximize flows from the main lift station, by finding the lowest point for the wet well while still allowing enough room for the pumps to run safely (see discussion in Section 4.2).

A majority of the wastewater received by the WWTP is pumped through the main lift station. The WWTP also receives flow from the following lift stations.

- Southside Lift Station
- Honey Creek Lift Station
- Penitentiary Lift Station

The current average dry weather flow from these three lift stations is estimated to be 1.5 MGD, with a peak of 5.0 MGD. Although these lift stations serve areas with separate sanitary sewers, there are subbasins within those separate sewer areas that have peak flows during rain events. This is due to illegal clear water connections and infiltration/inflow in the subbasins.

Both the main lift station and the southside lift station, the two largest contributors to WWTP flow, have flow monitors installed.

6.4 Recommended WWTP Improvements

The WWTP has not received any major upgrades since the secondary treatment was constructed in the early 1970's. The CSO LTCP recommended plan includes the following improvements are required to further maximize wet weather treatment.

- Hydraulics rehabilitation – miscellaneous pipe and valve rehabilitation is required to remove hydraulic restrictions in primary and secondary treatment.
- Preliminary treatment facility – the preliminary treatment facility is ineffective and in need of replacement. A new facility should be built on the control building site so the existing preliminary facility could stay in service until the new preliminary facility is operational.
- Control administration building – the control building does not meet the American Disability Act requirements and does not provide adequate personnel facilities for the treatment plant. A new building should be built elsewhere at the site and the building will be demolished to provide space for new preliminary treatment facilities.
- Primary clarifier equipment replacement – the existing primary clarifier equipment is the original equipment and is in need of replacement to ensure reliable and adequate removal of solids.
- SCADA – the City has multiple lift stations and several unit processes at the WWTP that will be monitored using a SCADA system. Future CSO system control components should also be added to the SCADA system.

7 Elimination of Dry Weather Overflows

Dry weather overflow, or discharge of wastewater during dry weather to the receiving water from a combined sewer system, is prohibited by the wastewater NPDES permit. Any dry weather overflow occurrences are reported to IDEM as soon as possible, and always within 24 hours; in addition, dry weather overflows are documented on the MROs. Appendix D contains the Bypass / Overflow Report form, which is faxed to IDEM by a working foreman or assistant working foreman in the event of a dry weather overflow.

There has been a decrease in dry weather overflow occurrences in the past few years, which is a trend that will continue as system improvements continue to be made. The wastewater utility has implemented daily inspection procedures and standard corrective measures to minimize, if not eliminate, dry weather overflow occurrences.

7.1 Daily Regulator Structure and Flap Gate Inspections

All nine outfall flap gates and nine regulator structures are inspected visually on a daily basis by the sewer construction crew. A standard form is filled out, reporting basic conditions at each site. If anything is out of place or overflowing, a foreman is notified right away. The daily inspection allows recognition and correction of any dry weather overflows as soon as possible. In addition, the daily inspection ensures the system is operating properly and any breakdowns, backups, or other sewer related problems are caught. Appendix D contains copies of blank inspection forms.

The sewer crew also inspects the position and condition of the flap gates on a daily basis. Any debris or foreign material is seen and removed from the gates. The flap gate inspection gives the sewer crew a chance to track the Wabash River level. The river impacts the CSOs and at times can backwash into the system. By tracking the level, sewer crew staff is often able to predict when this will occur, and notify the WWTP staff.

All flap gates with public access have been fenced in. Due to the age of the flap gates, they are in poor condition. They still operate, but are warped enough to allow river water to backwash. The wastewater utility has tried different methods of sealing the inside lip of the flap gates with little or no success.

7.2 Lift Station Inspections

Each lift station is serviced regularly by the lift station maintenance crew. Two lift stations are serviced each week. Servicing includes an inspection, pump operation and grease buildup check, and overall function of the station. Checklists are filled out and kept on file at the WWTP. Appendix D contains blank lift station checklists.

In addition to the inspections, radio telemetry communicates back to the plant for 12 major lift stations. All new lift stations are required to have radio telemetry. Overflow

that may occur due to lift station malfunction is recorded on a Bypass/Overflow Report form. Copies of the form are kept at each lift station. Appendix D contains a blank Bypass/Overflow Report form.

The main lift station is equipped with dial-in telemetry with a monitoring screen and audible alarm at the plant. The telemetry system allows the plant operations crew to monitor the main lift station at all times. The main lift station is manned on a 40-hour per week basis. In addition, the lift station maintenance crew visually inspects the main lift station daily.

7.3 Corrective Measures

For the regulator structures, if the problem is due to debris accumulation preventing flow from entering the interceptor sewer, it is resolved by removing debris from the regulator structure. The flap gates are in need of replacement or upgrade, which the wastewater utility is considering in the near future. For lift stations, the lift station maintenance crews have the ability to repair lift stations on the spot when necessary.

8 Floatables Control

Provisions for floatables control reduce the presence of aesthetically objectionable items in the river such as cups, paper, Styrofoam, sanitary matter, etc. Various technologies have been evaluated to determine options applicable to Terre Haute's combined sewer system.

Preparation of the CSO LTCP in 2002 included an evaluation of netting devices, manually cleaned bar screens, mechanically cleaned weir-mounted screens, overflow screen with automatic backwash, baffles mounted in regulator, street sweeping, catch basin cleaning, and public education.

The wastewater utility is anticipating approval of the CSO LTCP, submitted in 2002. The CSO LTCP recommended plan includes closing three of the existing CSO outfalls (along with various other improvements), and installation of floatables control facilities on the CSO outfalls that remain.

8.1 CSO Floatables Control Technology Evaluation Study

In 2005, a detailed study of floatables control technologies was conducted along with preparation of preliminary basis of design for five facilities. The study compared advantages and disadvantages of static bar screens, vertical mechanical screens, horizontal mechanical bar screens, vortex-type separators, end-of-pipe netting systems, and in-line netting systems for each CSO location. Criteria used to evaluate the technologies included:

- Ease of operation and maintenance, and staff safety.
- Traffic issues, access to site, and property availability.
- Exposure to the public.
- Cost effectiveness.
- Frequency and peak flow rate of overflow events.
- Depth of outfall pipes.
- Practical advantages and disadvantages.

8.1.1 Recommended Facilities

Obtaining input from the wastewater utility staff at brainstorming and selection workshops allowed consideration for practical advantages and disadvantages of the facilities such as operation and maintenance factors. The following floatables control facilities were agreed upon and recommended in the study.

- CSO 010 Spruce Street – In-line netting

- CSO 009 Chestnut Street – In-line netting
- CSO 007 Walnut Street – Mechanically cleaned bar screen
- CSO 004/011 Hulman/Idaho Street – Mechanically cleaned bar screen
- CSO 003 Turner Street – Mechanically combed horizontal bar screen

Discussion of recommendations, operation and maintenance requirements, and a preliminary basis of design for each recommended facility is included in Section 4 of the Terre Haute CSO Floatables Control Technology Evaluation Study Report. Detailed design and construction of the facilities will occur after the CSO LTCP is finalized.

8.2 Interim Floatables Control Measures

While review of the CSO LTCP takes place, the wastewater utility and its community partners have implemented the following relatively simple source control measures that help to control floatables.

- Storm sewer inlet cleaning is performed daily by the building and grounds department. Each inlet in the combined sewer is cleaned at least twice per year.
- Street cleaning is performed regularly by the street department. The combined sewer area streets are cleaned twice per month.
- Standard trash receptacles have been provided by the parks department throughout major public areas within the combined sewer system.
- Programs have been implemented by the county Solid Waste Management District in an effort to reduce the amount of litter in the City, such as community cleanups, illegal dumping provisions, classroom presentations, recycling drives, large appliance collection, and household hazardous waste collection.

9 Pollution Prevention Program

The purpose of the pollution prevention program is to reduce the amount of pollutants that enter the combined sewer system, minimizing the discharge of contaminants into the Wabash River in case of combined sewer overflow.

9.1 Street Cleaning

The Terre Haute street department is in charge of street sweeping. The department currently has six trucks, of which five are utilized each day. The trucks use air and water, with no soap or chemicals. Currently, 35 people make up the street department. The street department director sends a monthly report to the wastewater department director, listing which streets were swept the previous month. The downtown area streets are on an accelerated cleaning schedule of two times per month. From mid-October to the end of the year, the street department uses separate leaf vacuums for the heavy amount of leaves that accumulate across the City.

As discussed in Section 3, the wastewater utility's building and grounds department recently took over storm sewer inlet cleaning. The inlets are cleaned on a rotational basis, with each inlet being checked at least twice per year.

The parks department maintains numerous trash receptacles in the combined sewer area, which encourages litter reduction.

9.2 Water Conservation

Water conservation reduces the amount of wastewater that enters the collection system and improves its performance during dry and wet weather. Terre Haute's water services are provided by Indiana American Water Company, who promotes a water conservation program that encourages residents to curb extraneous water use in all household functions, such as not leaving the water running while brushing one's teeth. The water conservation program is summarized on the Indiana American conservation webpage at http://www.indiana-american.com/awpr1/inaw/about_water/conservation/index.html.

Many of the significant industrial users in Terre Haute have wastewater discharge flow meters, which encourages them to disconnect storm water and other clear water discharges from sanitary and combined sewers.

9.3 Public Education

During the CSO LTCP development, a Citizens Advisory Committee (CAC) was formed who volunteered in assisting in the decision making process. The public was notified of CAC meetings through press releases. A brochure titled "Terre Haute's Plan to Fight Combined Sewer Overflows" was made available to the public. The press releases and brochure are included in the Appendix of the CSO LTCP.

9.4 Storm Water Management

Terre Haute's engineering department developed a Storm Water Quality Management Program (SWQMP) for Terre Haute and Vigo County. The SWQMP details the six minimum control measures required by the joint NPDES Phase II storm water permit. The following best management practices were recommended for each minimum control measure when the program was developed in 2004:

- Public education and outreach program best management practices: Public awareness assessment through short surveys, storm water quality brochures, classroom and business education workshops, public service announcements up to two times per year, and development of an informational website.
- Public participation and involvement program best management practices: Utilization of the CAC for SWQMP review and recommendations, locating storm water sewer drains through stenciling indicators near the storm drains, clean stream sweep which is an organized event to clean up trash and debris along the banks of urban waterways, posting of contact names to report illicit discharges or spills, and organization of recycling programs.
- Illicit discharge detection and elimination best management practices: Identification of illicit discharges, detection methods, elimination strategy, storm sewer system map development, recycling and household hazardous waste collection program, outreach education of the program, identification of active industrial facilities in the county GIS system, and development of an illicit discharge elimination ordinance.
- Construction site storm water runoff control best management practices: Development of a county erosion prevention and sediment control (EPSC) ordinance, utilizing silt fence, rock checks, sediment basins, filter strips, training for plan reviewers, inspectors, contractors and designers, instituting formal plan reviews, record keeping, and enforcement of the EPSC ordinance.
- Post construction storm water runoff control best management practices: Provisions in county ordinance, review of post-construction storm water quality control plans, operational and maintenance plan for storm water structural best management practices, reporting, and record keeping.
- Municipal operations pollution prevention and good house keeping best management practices: Storm water systems cleaning, street sweeping, remediation of outfall scouring conditions, proper materials storage, spill prevention and response, proper vehicle and equipment maintenance, vehicle washing in designated areas, written procedures for pesticide and fertilizer use, utilizing recycling, providing municipal operations training, and assessment of flood management projects.

The timetable for implementation of the SWQMP is the NPDES Phase II storm water permit term of Nov. 5, 2003 to Nov. 5, 2008. Details on the timetable and budget can be found in the SWQMP, which is available through the Terre Haute engineering department.

9.5 Solid Waste Management District Programs

The Clay-Owen-Vigo County Solid Waste Management District (SWMD) provides numerous ongoing programs and annual events for civic groups, clubs, and schools of Terre Haute. Ongoing programs include:

- Five household battery recycling drop-off locations in Terre Haute.
- Mercury collection awareness and outreach programs.
- Classroom presentations, including:
 - Reduce, Reuse and Recycle.
 - Alternative Cleaners verses Household Hazardous Waste.
 - Making Treasures from Trash.
 - Creating a Worm Bin.
 - Creating an Edible Landfill.
 - Herb Gardening.
 - Solar Cooking.
 - Tub Water Gardening.
- Community cleanups using labor from Community Corrections and/or inmates from the jail, church groups, school clubs, and various volunteers.
- SWMD provides roll off containers for the City of Terre Haute Street Department to assist in disposal fees for illegal dumping cleanup picked up by City employees during the community cleanups.
- The SWMD also pays for disposal of waste, and provides bags and gloves for cleanups.
- Recycling drives in the classrooms; usually newspapers or aluminum cans.
- Assist with science fair projects and 4-H fair projects; educate and judge.
- The largest recycling drop-off in Terre Haute is Goodwill Industries of Wabash Valley; the SWMD helps subsidize the facility. The SWMD also promotes both the Goodwill and Indiana State University Recycling Center.

Annual SWMD events include:

- District-wide Earth Day poster billboard contest for students K-12 - winners receive a billboard with their poster/Earth Day message and the name of their school. In 2005, there were over 4,000 entries.
- Earth Day promotion events.
- White goods collection (large appliances).
- Household hazardous waste collection (tox-away days).
- Various spring and fall cleanups are conducted in conjunction with the ongoing cleanups.
- Mercury thermometer exchange – one day event for public awareness. This is in addition to the ongoing collection.

9.6 Recycling Programs

The City has implemented a recycling program for plastics, glass, tin, and aluminum. Various private companies provide recycling services throughout the City.

9.7 Contracted Services

The City of Terre Haute contracts solid waste management with Jamax Corporation. In addition, an asphalt contractor is hired by the engineering department for all street paving. Contractors are required to follow the City of Terre Haute and Vigo County ordinances.

10 Public Notification Process

Public notification is of particular concern at recreation areas directly or indirectly affected by CSOs. Public notification will diminish the potential risk of adverse public health effects. The intent of the wastewater utility's public notification process is to inform the public of the location of CSO outfalls, actual occurrences of CSOs, possible health and environmental effects of CSOs, and recreational or commercial activities curtailed as a result of CSOs.

10.1 Signage

All CSO outfall structures in Terre Haute have public warning signs. The signs were originally installed in 2000. The signs were replaced in 2005 and are similar to that shown in Figure 10.1. The sign located at the Oak Street CSO is written in both English and in Spanish.



Figure 10.1
Combined Sewer Overflow Outfall
Public Notification Sign

10.2 Newspaper Legal Ad

The wastewater utility runs a CSO advisory as a legal ad in the Terre Haute newspaper the day following a CSO event. The following text is emailed to the Terre Haute newspaper by the office manager.

"In accordance with 327 IAC 5-2.1, the City of Terre Haute Wastewater Utility hereby provides submittal of the CSO Public Notification to the affected public, or any and all other persons who within the CSO community who request to be notified, and local health departments and drinking water suppliers within ten (10) river miles up or down stream of the discharge points.

"Sewage or wastewater may be in the Wabash River during and for several days after periods of rainfall or snow melt. People who swim in, wade in, or ingest this water may get sick. For more information, or if you wish to be notified in the event of a CSO discharge, please call Billy Goodrich at 812-232-6564 ext. 208.

"The City of Terre Haute endeavors to issue a CSO advisory whenever a discharge or discharges from one or more combined sewer overflow outfalls is occurring or a discharge from one or more combined sewer overflow outfalls is imminent based on predicted or actual precipitation or a related event."

11 Monitoring Program

11.1 History of Monitoring Activities

In 1996, bypasses at the WWTP were being flow monitored using a Parshall Flume along with an ultrasonic flow sensor. Bypass events were recorded on 24-hour flow charts and reported in the Monthly Report of Operation forms. This continues to be the procedure for bypass recording today.

In 2000, as part of the Stream Reach Characterization and Evaluation Report, river sampling was performed, and results indicated the TSS, BOD, and metals loadings from CSOs do not affect water quality in the river. However, E. coli loadings were determined to have an impact on water quality, indicating values greater than 100,000 counts per 100 ml. Dissolved oxygen was not monitored (CSO LTCP).

As stated in the CSO LTCP, in 2001, river sampling and CSO flow monitoring was conducted over a two-month period to “better quantify E. coli and dissolved oxygen concentrations in the Wabash River.” Samples were collected either before rainfall began or after it ended, so the CSO LTCP states that likely the magnitude of in-stream concentrations resulting from a CSO overflow event were not captured. WQS for D.O. is 4 mg/l. D.O. results were above WQS (except for one event); it was also reported that historically, in-stream D.O. concentrations have been above WQS. WQS for E. coli is 235 counts per 100 ml. E. coli results ranged from 100 to 1,100 counts per 100 ml. The collection system model and river model were used to predict river effects of CSO events for a range of storm events. CSO loadings were determined to account for only 11% of the total E. coli loading to the river. Other comparisons were made such as number of days in exceedance, monthly geometric mean during the recreation season, and effects on the Wabash downstream of the City. The baseline conditions in the river in the vicinity of Terre Haute were summarized as follows:

- The Wabash River is a fast-moving river with a median velocity of 1.9 feet per second.
- D.O. concentration does not appear to be significantly impacted by Terre Haute CSOs.
- Historical observed and predicted maximum storm-impacted E. coli bacteria concentrations ranged into the tens of thousands of counts per 100 mL.
- High river bacteria concentrations generally lasted less than one day after storm events depending on the storm duration and river velocities. E. coli concentrations will persist at levels above the Indiana Water Quality Standard even with complete elimination of Terre Haute CSOs, if tributary runoff and storm water sources are not controlled.

11.2 Current Monitoring Program

CSO monitoring has evolved over the past four years. All nine CSO locations have been electronically monitored since 2001. The monitoring locations have changed slightly over the years in order to give the best data. Factors in selecting monitoring locations have also included site access and personnel safety. All of the CSO locations are monitored with an American Sigma 910 ultrasonic flow meter. The meters are positioned downstream of the regulator weirs, so they only monitor overflow conditions during wet weather. The sensors are checked regularly and their information is downloaded once per month. They are recalibrated as needed, or about once per year.

The flow meters were originally installed as a temporary measure, but have performed well and are a crucial part of the monthly CSO report. The CSO report has a cover sheet summarizing the daily overflows. The report also contains a detailed listing of the individual overflows on a 15 minute basis for each day an overflow occurred.

There are four Onset rain gauges positioned throughout the City. This equipment records rainfall depths to 1/100-inch accuracy. The rain gauge information is also downloaded once per month; the rainfall data is collected and a rain gauge report is created. The report details the level and times rainfall was encountered.

The detailed rain gauge data and CSO flow monitoring information gives the operators of the system a better understanding of how rainfall impacts the system. The data is collected, assessed, and kept on file for any future needs. Data collected over the past few years has led to a recalibration of the collection system model. This recalibration could potentially save thousands of dollars by allowing a more accurate design flow. It may also change the CSO LTCP recommendations by predicting more storage capacity and allowing more accurate design solutions.

11.2.1 Discharge Monitoring Reports

The rain gauge reports, together with the CSO reports, are used to complete the required Discharge Monitoring Report (DMR). A completed DMR is turned in to IDEM monthly. The report gives detailed quantities and times the CSS is discharging.

11.3 Post-Construction Monitoring Program

The CSO LTCP states that a post-construction monitoring program will be submitted to IDEM prior to implementation of the LTCP, including:

- A method for reporting on the volume, frequency, and duration of any overflows on an annual basis. Monitoring would be through continuous flow monitoring of outfalls, updating and application of the collection system model, or a combination of both. Rainfall data will be gathered from the City's network of rain gages.
- A system to measure the degree to which CSO storage is filled.
- A receiving water program to evaluate E. coli conditions in the river. This program could be structured similar to that employed to obtain information for the LTCP, and may include additional in-stream sampling, application of the receiving water model, or a combination of both.

APPENDIX A

NPDES Permit Attachment A

ATTACHMENT A

Precipitation Related Combined Sewer Overflow Discharge Authorization Requirements

I. Discharge Requirements

A. The permittee is authorized to discharge from outfalls listed below subject to the requirements and provisions of this permit, including Attachment A.

<u>Outfall</u>	<u>Location</u>	<u>Receiving Water</u>
002	Main Pump Overflow N 39° 26' 17" W 87° 25' 41"	Wabash River
003	Turner Street Overflow N 39° 26' 17" W 87° 25' 41"	Wabash River
004	Hulman Street Overflow N 39° 26' 56" W 87° 25' 26"	Wabash River
005	Crawford Street Overflow N 39° 27' 25" W 87° 25' 12"	Wabash River
006	Oak Street Overflow N 39° 27' 43" W 87° 25' 08"	Wabash River
007	Walnut Street Overflow N 39° 27' 54" W 87° 25' 08"	Wabash River
008	Ohio Street Overflow N 39° 27' 58" W 87° 25' 12"	Wabash River
009	Chestnut Street Overflow N 39° 28' 16" W 87° 25' 12"	Wabash River
010	Spruce Street Overflow N 39° 28' 30" W 87° 25' 12"	Wabash River
011	Idaho Street Overflow N 39° 26' 53" W 87° 25' 34"	Wabash River

precipitation for each day of the month; if multiple rain gauges are used, the information from each rain gauge shall be reported. This information shall be reported on the CSO Discharge Monitoring Report (DMR) form provided by IDEM and submitted to IDEM prior to the 28th day of the following month. All submittals under this provision shall be subject to the reporting requirements of this permit, including, but not limited to, Part II, Section C.6 ("Signatory Requirements"), C.7 ("Availability of Reports"), and C.8 ("Penalties for Falsification of Reports") of this permit.

- B. Upon written request, IDEM may approve the use of a method, in lieu of monitoring the discharges from each outfall with a flow measurement device, to provide the above information, if IDEM determines that the proposed method is an acceptable practice and is likely to provide reliable information. Any approval by IDEM shall be in writing and may be terminated by IDEM if it determines that the method or its implementation is no longer likely to provide reliable information.

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 nondomestic 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.

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.

V. Long-term CSO Requirements

The permittee shall develop a CSO Long Term Control Plan (LTCP) that ensures its CSO discharges will comply with the technology-based and water quality-based requirements of the Clean Water Act (CWA) (including section 402(q) of the CWA) and state law (IC 13-11-2-120.5 and applicable state water quality standards). The City of Terre Haute submitted a LTCP document to IDEM on April 29, 2002. IDEM staff are in the process of conducting a substantive review of the LTCP document to determine whether it meets the requirements of state and federal law.

Minimum elements of the LTCP include the following:

- A. Characterization, Monitoring, and Modeling of the CSS;
- B. Consideration of Sensitive Areas;
- C. Evaluation of Alternatives;
- D. Cost/Performance Considerations;
- E. Revised CSO Operational Plan;
- F. Maximizing Treatment at the WWTP;
- G. Implementation Schedule;
- H. Post-Construction Compliance Monitoring Program; and
- I. Public Participation.

VI. Reopening Clauses

- A. If IDEM believes that CSO discharges may be causing or contributing to exceedences of water quality standards, then additional control measures, effluent limitations, and/or monitoring requirements may be imposed through a modification of this permit, after public notice and opportunity for hearing. This permit may be reopened to address changes in the federal CSO Control Policy or state or federal law.
- B. The permit may be reopened, after public notice and opportunity for hearing, to incorporate elements of an approved LTCP.

APPENDIX B

EPA CSO Control Policy

federal register

**Tuesday
April 19, 1994**

Part VII

**Environmental
Protection Agency**

**Combined Sewer Overflow (CSO) Control
Policy; Notice**

onsent decrees or court orders unless revised to be consistent with this Policy. The policy is organized as follows:

- I. Introduction
 - A. Purpose and Principles
 - B. Application of Policy
 - C. Effect on Current CSO Control Efforts
 - D. Small System Considerations
 - E. Implementation Responsibilities
 - F. Policy Development
- II. EPA Objectives for Permittees
 - A. Overview
 - B. Implementation of the Nine Minimum Controls
 - C. Long-Term CSO Control Plan
 1. Characterization, Monitoring, and Modelling of the Combined Sewer Systems
 2. Public Participation
 3. Consideration of Sensitive Areas
 4. Evaluation of Alternatives
 5. Cost/Performance Consideration
 6. Operational Plan
 7. Maximizing Treatment at the Existing POTW Treatment Plant
 8. Implementation Schedule
 9. Post-Construction Compliance Monitoring Program
- III. Coordination With State Water Quality Standards
 - A. Overview
 - B. Water Quality Standards Reviews
- IV. Expectations for Permitting Authorities
 - A. Overview
 - B. NPDES Permit Requirements
 1. Phase I Permits—Requirements for Demonstration of the Nine Minimum Controls and Development of the Long-Term CSO Control Plan
 2. Phase II Permits—Requirements for Implementation of a Long-Term CSO Control Plan
 3. Phasing Considerations
- V. Enforcement and Compliance
 - A. Overview
 - B. Enforcement of CSO Dry Weather Discharge Prohibition
 - C. Enforcement of Wet Weather CSO Requirements
 1. Enforcement for Compliance With Phase I Permits
 2. Enforcement for Compliance With Phase II Permits
 - D. Penalties

List of Subjects in 40 CFR Part 122

Water pollution control.

Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

Dated: April 8, 1994.

Carol M. Browner,
Administrator.

Combined Sewer Overflow (CSO) Control Policy

I. Introduction

A. Purpose and Principles

The main purposes of this Policy are to elaborate on EPA's National Combined Sewer Overflow (CSO) Control Strategy published on September 8, 1989 at 54 FR 37370 (1989

Strategy) and to expedite compliance with the requirements of the Clean Water Act (CWA). While implementation of the 1989 Strategy has resulted in progress toward controlling CSOs, significant water quality risks remain.

A combined sewer system (CSS) is a wastewater collection system owned by a State or municipality (as defined by section 502(4) of the CWA) which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works (POTW) Treatment Plant (as defined in 40 CFR 403.3(p)). A CSO is the discharge from a CSS at a point prior to the POTW Treatment Plant. CSOs are point sources subject to NPDES permit requirements including both technology-based and water quality-based requirements of the CWA. CSOs are not subject to secondary treatment requirements applicable to POTWs.

CSOs consist of mixtures of domestic sewage, industrial and commercial wastewaters, and storm water runoff. CSOs often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS). Such exceedances may pose risks to human health, threaten aquatic life and its habitat, and impair the use and enjoyment of the Nation's waterways.

This Policy is intended to provide guidance to permittees with CSOs, National Pollutant Discharge Elimination System (NPDES) permitting authorities, State water quality standards authorities and enforcement authorities. The purpose of the Policy is to coordinate the planning, selection, design and implementation of CSO management practices and controls to meet the requirements of the CWA and to involve the public fully during the decision making process.

This Policy reiterates the objectives of the 1989 Strategy:

1. To ensure that if CSOs occur, they are only as a result of wet weather;
2. To bring all wet weather CSO discharge points into compliance with the technology-based and water quality-based requirements of the CWA; and
3. To minimize water quality, aquatic biota, and human health impacts from CSOs.

This CSO Control Policy represents a comprehensive national strategy to ensure that municipalities, permitting

authorities, water quality standards authorities and the public engage in a comprehensive and coordinated planning effort to achieve cost-effective CSO controls that ultimately meet appropriate health and environmental objectives and requirements. The Policy recognizes the site-specific nature of CSOs and their impacts and provides the necessary flexibility to tailor controls to local situations. Four key principles of the Policy ensure that CSO controls are cost-effective and meet the objectives of the CWA. The key principles are:

1. Providing clear levels of control that would be presumed to meet appropriate health and environmental objectives;
2. Providing sufficient flexibility to municipalities, especially financially disadvantaged communities, to consider the site-specific nature of CSOs and to determine the most cost-effective means of reducing pollutants and meeting CWA objectives and requirements;
3. Allowing a phased approach to implementation of CSO controls considering a community's financial capability; and
4. Review and revision, as appropriate, of water quality standards and their implementation procedures when developing CSO control plans to reflect the site-specific wet weather impacts of CSOs.

This Policy is being issued in support of EPA's regulations and policy initiatives. This Policy is Agency guidance only and does not establish or affect legal rights or obligations. It does not establish a binding norm and is not finally determinative of the issues addressed. Agency decisions in any particular case will be made by applying the law and regulations on the basis of specific facts when permits are issued. The Administration has recommended that the 1994 amendments to the CWA endorse this final Policy.

B. Application of Policy

The permitting provisions of this Policy apply to all CSSs that overflow as a result of storm water flow, including snow melt runoff (40 CFR 122.26(b)(13)). Discharges from CSSs during dry weather are prohibited by the CWA. Accordingly, the permitting provisions of this Policy do not apply to CSOs during dry weather. Dry weather flow is the flow in a combined sewer that results from domestic sewage, groundwater infiltration, commercial and industrial wastewaters, and any other non-precipitation related flows (e.g., tidal infiltration). In addition to

control plans, financial capability, sewer system characterization and receiving water monitoring and modeling, and application of WQS to CSO-impacted waters. For most CSO control efforts however, sufficient detail has been included in this Policy to begin immediate implementation of its provisions.

II. EPA Objectives for Permittees

A. Overview

Permittees with CSSs that have CSOs should immediately undertake a process to accurately characterize their sewer systems, to demonstrate implementation of the nine minimum controls, and to develop a long-term CSO control plan.

B. Implementation of the Nine Minimum Controls

Permittees with CSOs should submit appropriate documentation demonstrating implementation of the nine minimum controls, including any proposed schedules for completing minor construction activities. The nine minimum controls are:

1. Proper operation and regular maintenance programs for the sewer system and the CSOs;
2. Maximum use of the collection system for storage;
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized;
4. Maximization of flow to the POTW for treatment;
5. Prohibition of CSOs during dry weather;
6. Control of solid and floatable materials in CSOs;
7. Pollution prevention;
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Selection and implementation of actual control measures should be based on site-specific considerations including the specific CSS's characteristics discussed under the sewer system characterization and monitoring portions of this Policy. Documentation of the nine minimum controls may include operation and maintenance plans, revised sewer use ordinances for industrial users, sewer system inspection reports, infiltration/inflow studies, pollution prevention programs, public notification plans, and facility plans for maximizing the capacities of the existing collection, storage and treatment systems, as well as contracts and schedules for minor construction

programs for improving the existing system's operation. The permittee should also submit any information or data on the degree to which the nine minimum controls achieve compliance with water quality standards. These data and information should include results made available through monitoring and modeling activities done in conjunction with the development of the long-term CSO control plan described in this Policy.

This documentation should be submitted as soon as practicable, but no later than two years after the requirement to submit such documentation is included in an NPDES permit or other enforceable mechanism. Implementation of the nine minimum controls with appropriate documentation should be completed as soon as practicable but no later than January 1, 1997. These dates should be included in an appropriate enforceable mechanism.

Because the CWA requires immediate compliance with technology-based controls (section 301(b)), which on a Best Professional Judgment basis should include the nine minimum controls, a compliance schedule for implementing the nine minimum controls, if necessary, should be included in an appropriate enforceable mechanism.

C. Long-Term CSO Control Plan

Permittees with CSOs are responsible for developing and implementing long-term CSO control plans that will ultimately result in compliance with the requirements of the CWA. The long-term plans should consider the site-specific nature of CSOs and evaluate the cost effectiveness of a range of control options/strategies. The development of the long-term CSO control plan and its subsequent implementation should also be coordinated with the NPDES authority and the State authority responsible for reviewing and revising the State's WQS. The selected controls should be designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS, including existing and designated uses.

This policy identifies EPA's major objectives for the long-term CSO control plan. Permittees should develop and submit this long-term CSO control plan as soon as practicable, but generally within two years after the date of the NPDES permit provision, Section 308 information request, or enforcement action requiring the permittee to develop the plan. NPDES authorities may establish a longer timetable for completion of the long-term CSO

control plan on a case-by-case basis to account for site-specific factors which may influence the complexity of the planning process. Once agreed upon, these dates should be included in an appropriate enforceable mechanism.

EPA expects each long-term CSO control plan to utilize appropriate information to address the following minimum elements. The Plan should also include both fixed-date project implementation schedules (which may be phased) and a financing plan to design and construct the project as soon as practicable. The minimum elements of the long-term CSO control plan are described below.

1. Characterization, Monitoring, and Modeling of the Combined Sewer System

In order to design a CSO control plan adequate to meet the requirements of the CWA, a permittee should have a thorough understanding of its sewer system, the response of the system to various precipitation events, the characteristics of the overflows, and the water quality impacts that result from CSOs. The permittee should adequately characterize through monitoring, modeling, and other means as appropriate, for a range of storm events, the response of its sewer system to wet weather events including the number, location and frequency of CSOs, volume, concentration and mass of pollutants discharged and the impacts of the CSOs on the receiving waters and their designated uses. The permittee may need to consider information on the contribution and importance of other pollution sources in order to develop a final plan designed to meet water quality standards. The purpose of the system characterization, monitoring and modeling program initially is to assist the permittee in developing appropriate measures to implement the nine minimum controls and, if necessary, to support development of the long-term CSO control plan. The monitoring and modeling data also will be used to evaluate the expected effectiveness of both the nine minimum controls and, if necessary, the long-term CSO controls, to meet WQS.

The major elements of a sewer system characterization are described below.

a. *Rainfall Records*—The permittee should examine the complete rainfall record for the geographic area of its existing CSS using sound statistical procedures and best available data. The permittee should evaluate flow variations in the receiving water body to correlate between CSOs and receiving water conditions.

characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under paragraph ii. above. Combined sewer flows remaining after implementation of the nine minimum controls and within the criteria specified at II.C.4.a.i or ii, should receive a minimum of:

- Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.);
- Solids and floatables disposal; and
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

b. "Demonstration" Approach

A permittee may demonstrate that a selected control program, though not meeting the criteria specified in II.C.4.a. above is adequate to meet the water quality-based requirements of the CWA. To be a successful demonstration, the permittee should demonstrate each of the following:

- i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs;
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment. Where WQS and designated uses are not met in part because of natural background conditions or pollution sources other than CSOs, a total maximum daily load, including a wasteload allocation and a load allocation, or other means should be used to apportion pollutant loads;
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable; and
- iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

5. Cost/Performance Considerations

The permittee should develop appropriate cost/performance curves to demonstrate the relationships among a comprehensive set of reasonable control alternatives that correspond to the different ranges specified in Section

II.C.4. This should include an analysis to determine where the increment of pollution reduction achieved in the receiving water diminishes compared to the increased costs. This analysis, often known as knee of the curve, should be among the considerations used to help guide selection of controls.

6. Operational Plan

After agreement between the permittee and NPDES authority on the necessary CSO controls to be implemented under the long-term CSO control plan, the permittee should revise the operation and maintenance program developed as part of the nine minimum controls to include the agreed-upon long-term CSO controls. The revised operation and maintenance program should maximize the removal of pollutants during and after each precipitation event using all available facilities within the collection and treatment system. For any flows in excess of the criteria specified at II.C.4.a.i., ii, or iii and not receiving the treatment specified in II.C.4.a, the operational plan should ensure that such flows receive treatment to the greatest extent practicable.

7. Maximizing Treatment at the Existing POTW Treatment Plant

In some communities, POTW treatment plants may have primary treatment capacity in excess of their secondary treatment capacity. One effective strategy to abate pollution resulting from CSOs is to maximize the delivery of flows during wet weather to the POTW treatment plant for treatment. Delivering these flows can have two significant water quality benefits: First, increased flows during wet weather to the POTW treatment plant may enable the permittee to eliminate or minimize overflows to sensitive areas; second, this would maximize the use of available POTW facilities for wet weather flows and would ensure that combined sewer flows receive at least primary treatment prior to discharge.

Under EPA regulations, the intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is a bypass. EPA bypass regulations at 40 CFR 122.41(m) allow for a facility to bypass some or all the flow from its treatment process under specified limited circumstances. Under the regulation, the permittee must show that the bypass was unavoidable to prevent loss of life, personal injury or severe property damage, that there was no feasible alternative to the bypass and that the permittee submitted the required notices. In addition, the

regulation provides that a bypass may be approved only after consideration of adverse effects.

Normally, it is the responsibility of the permittee to document, on a case-by-case basis, compliance with 40 CFR 122.41(m) in order to bypass flows legally. For some CSO-related permits, the study of feasible alternatives in the control plan may provide sufficient support for the permit record and for approval of a CSO-related bypass in the permit itself, and to define the specific parameters under which a bypass can legally occur. For approval of a CSO-related bypass, the long-term CSO control plan, at a minimum, should provide justification for the cut-off point at which the flow will be diverted from the secondary treatment portion of the treatment plant, and provide a benefit-cost analysis demonstrating that conveyance of wet weather flow to the POTW for primary treatment is more beneficial than other CSO abatement alternatives such as storage and pump back for secondary treatment, sewer separation, or satellite treatment. Such a permit must define under what specific wet weather conditions a CSO-related bypass is allowed and also specify what treatment or what monitoring, and effluent limitations and requirements apply to the bypass flow. The permit should also provide that approval for the CSO-related bypass will be reviewed and may be modified or terminated if there is a substantial increase in the volume or character of pollutants being introduced to the POTW. The CSO-related bypass provision in the permit should also make it clear that all wet weather flows passing the headworks of the POTW treatment plant will receive at least primary clarification and solids and floatables removal and disposal, and disinfection, where necessary, and any other treatment that can reasonably be provided.

Under this approach, EPA would allow a permit to authorize a CSO-related bypass of the secondary treatment portion of the POTW treatment plant for combined sewer flows in certain identified circumstances. This provision would apply only to those situations where the POTW would ordinarily meet the requirements of 40 CFR 122.41(m) as evaluated on a case-by-case basis. Therefore, there must be sufficient data in the administrative record (reflected in the permit fact sheet or statement of basis) supporting all the requirements in 40 CFR 122.41(m)(4) for approval of an anticipated bypass.

For the purposes of applying this regulation to CSO permittees, "severe property damage" could include

technology-based effluent limits required under sections 301(b) and 306 of the CWA and by implementing cost-effective and reasonable best management practices for nonpoint source controls. Thus, if a State has a reasonable basis to determine that the current designated use could be attained after implementation of the technology-based controls of the CWA, then the use could not be removed.

In determining whether a use is attainable and prior to removing a designated use, States must conduct and submit to EPA a use attainability analysis. A use attainability analysis is a structured scientific assessment of the factors affecting the use, including the physical, chemical, biological, and economic factors described in 40 CFR 131.10(g). As part of the analysis, States should evaluate whether the designated use could be attained if CSO controls were implemented. For example, States should examine if sediment loadings from CSOs could be reduced so as not to bury spawning beds, or if biochemical oxygen demanding material in the effluent or the toxicity of the effluent could be corrected so as to reduce the acute or chronic physiological stress on or bioaccumulation potential of aquatic organisms.

In reviewing the attainability of their WQS and the applicability of their implementation procedures to CSO-impacted waters, States are encouraged to define more explicitly their recreational and aquatic life uses and then, if appropriate, modify the criteria accordingly to protect the designated uses.

Another option is for States to adopt partial uses by defining when primary contact recreation such as swimming does not exist, such as during certain seasons of the year in northern climates or during a particular type of storm event. In making such adjustments to their uses, States must ensure that downstream uses are protected, and that during other seasons or after the storm event has passed, the use is fully protected.

In addition to defining recreational uses with greater specificity, States are also encouraged to define the aquatic uses more precisely. Rather than "aquatic life use protection," States should consider defining the type of fishery to be protected such as a cold water fishery (e.g., trout or salmon) or a warm weather fishery (e.g., bluegill or large mouth bass). Explicitly defining the type of fishery to be protected may assist the permittee in enlisting the support of citizens for a CSO control plan.

A water quality standard variance may be appropriate, in limited circumstances on CSO-impacted waters, where the State is uncertain as to whether a standard can be attained and time is needed for the State to conduct additional analyses on the attainability of the standard. Variances are short-term modifications in water quality standards. Subject to EPA approval, States, with their own statutory authority, may grant a variance to a specific discharger for a specific pollutant. The justification for a variance is similar to that required for a permanent change in the standard, although the showings needed are less rigorous. Variances are also subject to public participation requirements of the water quality standards and permits programs and are reviewable generally every three years. A variance allows the CSO permit to be written to meet the "modified" water quality standard as analyses are conducted and as progress is made to improve water quality.

Justifications for variances are the same as those identified in 40 CFR 131.10(g) for modifications in uses. States must provide an opportunity for public review and comment on all variances. If States use the permit as the vehicle to grant the variance, notice of the permit must clearly state that the variance modifies the State's water quality standards. If the variance is approved, the State appends the variance to the State's standards and reviews the variance every three years.

IV. Expectations for Permitting Authorities

A. Overview

CSOs are point sources subject to NPDES permit requirements including both technology-based and water quality-based requirements of the CWA. CSOs are not subject to secondary treatment regulations applicable to publicly owned treatment works (*Montgomery Environmental Coalition vs. Costle*, 646 F.2d 568 (D.C. Cir. 1980)).

All permits for CSOs should require the nine minimum controls as a minimum best available technology economically achievable and best conventional technology (BAT/BCT) established on a best professional judgment (BPJ) basis by the permitting authority (40 CFR 125.3). Water quality-based requirements are to be established based on applicable water quality standards.

This policy establishes a uniform, nationally consistent approach to developing and issuing NPDES permits to permittees with CSOs. Permits for

CSOs should be developed and issued expeditiously. A single, system-wide permit generally should be issued for all discharges, including CSOs, from a CSS operated by a single authority. When different parts of a single CSS are operated by more than one authority, permits issued to each authority should generally require joint preparation and implementation of the elements of this Policy and should specifically define the responsibilities and duties of each authority. Permittees should be required to coordinate system-wide implementation of the nine minimum controls and the development and implementation of the long-term CSO control plan.

The individual authorities are responsible for their own discharges and should cooperate with the permittee for the POTW receiving the flows from the CSS. When a CSO is permitted separately from the POTW, both permits should be cross-referenced for informational purposes.

EPA Regions and States should review the CSO permitting priorities established in the State CSO Permitting Strategies developed in response to the 1989 Strategy. Regions and States may elect to revise these previous priorities. In setting permitting priorities, Regions and States should not just focus on those permittees that have initiated monitoring programs. When setting priorities, Regions and States should consider, for example, the known or potential impact of CSOs on sensitive areas, and the extent of upstream industrial user discharges to the CSS.

During the permittee's development of the long-term CSO control plan, the permit writer should promote coordination between the permittee and State WQS authority in connection with possible WQS revisions. Once the permittee has completed development of the long-term CSO control plan and has coordinated with the permitting authority the selection of the controls necessary to meet the requirements of the CWA, the permitting authority should include in an appropriate enforceable mechanism, requirements for implementation of the long-term CSO control plan, including conditions for water quality monitoring and operation and maintenance.

B. NPDES Permit Requirements

Following are the major elements of NPDES permits to implement this Policy and ensure protection of water quality.

an initiative to address CSOs that discharge during dry weather, followed by an enforcement effort in conjunction with permitting CSOs discussed earlier in this Policy. Success of the enforcement effort will depend in large part upon expeditious action by NPDES authorities in issuing enforceable permits that include requirements both for the nine minimum controls and for compliance with all other requirements of the CWA. Priority for enforcement actions should be set based on environmental impacts or sensitive areas affected by CSOs.

As a further inducement for permittees to cooperate with this process, EPA is prepared to exercise its enforcement discretion in determining whether or not to seek civil penalties for past CSO violations if permittees meet the objectives and schedules of this Policy and do not have CSOs during dry weather.

B. Enforcement of CSO Dry Weather Discharge Prohibition

EPA intends to commence immediately an enforcement initiative against CSO permittees which have CWA violations due to CSOs during dry weather. Discharges during dry weather have always been prohibited by the NPDES program. Such discharges can create serious public health and water quality problems. EPA will use its CWA Section 308 monitoring, reporting, and inspection authorities, together with NPDES State authorities, to locate these violations, and to determine their causes. Appropriate remedies and penalties will be sought for CSOs during dry weather. EPA will provide NPDES authorities more specific guidance on this enforcement initiative separately.

C. Enforcement of Wet Weather CSO Requirements

Under the CWA, EPA can use several enforcement options to address permittees with CSOs. Those options directly applicable to this Policy are section 308 Information Requests, section 309(a) Administrative Orders, section 309(g) Administrative Penalty Orders, section 309 (b) and (d) Civil Judicial Actions, and section 504 Emergency Powers. NPDES States should use comparable means.

NPDES authorities should set priorities for enforcement based on environmental impacts or sensitive areas affected by CSOs. Permittees that have voluntarily initiated monitoring and are progressing expeditiously toward appropriate CSO controls should be given due consideration for their efforts.

1. Enforcement for Compliance With Phase I Permits

Enforcement for compliance with Phase I permits will focus on requirements to implement at least the nine minimum controls, and develop the long-term CSO control plan leading to compliance with the requirements of the CWA. Where immediate compliance with the Phase I permit is infeasible, the NPDES authority should issue an enforceable schedule, in concert with the Phase I permit, requiring compliance with the CWA and imposing compliance schedules with dates for each of the nine minimum controls as soon as practicable. All enforcement authorities should require compliance with the nine minimum controls no later than January 1, 1997. Where the NPDES authority is issuing an order with a compliance schedule for the nine minimum controls, this order should also include a schedule for development of the long-term CSO control plan.

If a CSO permittee fails to meet the final compliance date of the schedule, the NPDES authority should initiate appropriate judicial action.

2. Enforcement for Compliance With Phase II Permits

The main focus for enforcing compliance with Phase II permits will be to incorporate the long-term CSO control plan through a civil judicial action, an administrative order, or other enforceable mechanism requiring compliance with the CWA and imposing a compliance schedule with appropriate milestone dates necessary to implement the plan.

In general, a judicial order is the appropriate mechanism for incorporating the above provisions for Phase II. Administrative orders, however, may be appropriate for permittees whose long-term control plans will take less than five years to complete, and for minors that have complied with the final date of the enforceable order for compliance with their Phase I permit. If necessary, any of the nine minimum controls that have not been implemented by this time should be included in the terms of the judicial order.

D. Penalties

EPA is prepared not to seek civil penalties for past CSO violations, if permittees have no discharges during dry weather and meet the objectives and schedules of this Policy. Notwithstanding this, where a permittee has other significant CWA violations for which EPA or the State is taking judicial

action, penalties may be considered as part of that action for the following:

1. CSOs during dry weather;
2. Violations of CSO-related requirements in NPDES permits; consent decrees or court orders which predate this policy; or
3. Other CWA violations.

EPA will not seek penalties for past CSO violations from permittees that fully comply with the Phase I permit or enforceable order requiring compliance with the Phase I permit. For permittees that fail to comply, EPA will exercise its enforcement discretion in determining whether to seek penalties for the time period for which the compliance schedule was violated. If the milestone dates of the enforceable schedule are not achieved and penalties are sought, penalties should be calculated from the last milestone date that was met.

At the time of the judicial settlement imposing a compliance schedule implementing the Phase II permit requirements, EPA will not seek penalties for past CSO violations from permittees that fully comply with the enforceable order requiring compliance with the Phase I permit and if the terms of the judicial order are expeditiously agreed to on consent. However, stipulated penalties for violation of the judicial order generally should be included in the order, consistent with existing Agency policies. Additional guidance on stipulated penalties concerning long-term CSO controls and attainment of WQS will be issued.

Paperwork Reduction Act

The information collection requirements in this policy have been approved by the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq* and have been assigned OMB control number 2040-0170.

This collection of information has an estimated reporting burden averaging 578 hours per response and an estimated annual recordkeeping burden averaging 25 hours per recordkeeper. These estimates include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Chief, Information Policy Branch; EPA; 401 M Street SW. (Mail Code 2136); Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and

APPENDIX C

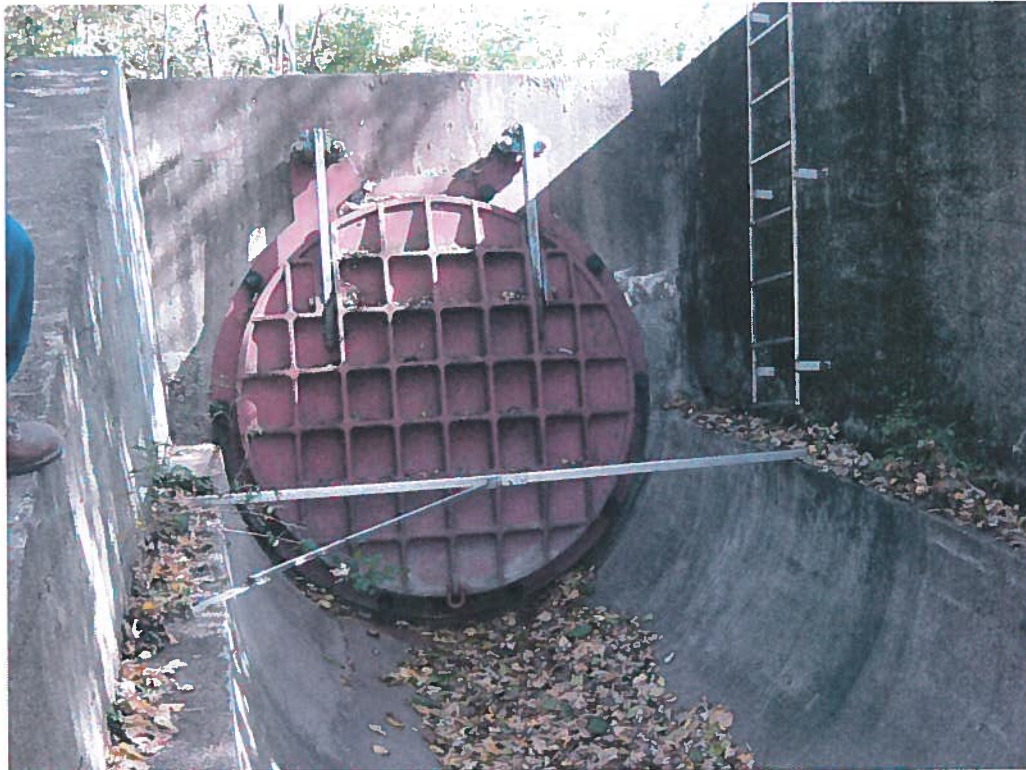
Photographs



River Gauge



Regulator Structure



Outfall



Regulator Structure



Outfall



Regulator Structure



Outfall



Regulator Structure



Outfall



Regulator Structure



Outfall



Regulator Structure



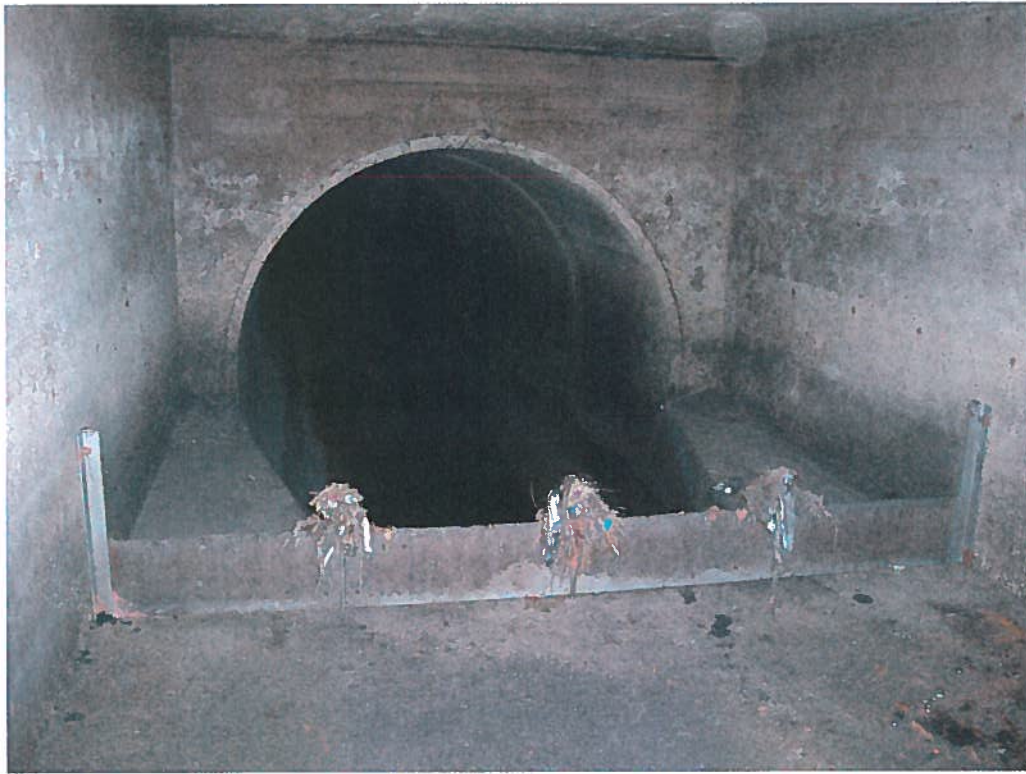
Outfall



Regulator Structure



Outfall



Regulator Structure



Outfall



Regulator Structure



Outfall

APPENDIX D

O&M Standard Forms and Procedures

Work Order Log Process
Customer Complaint Form
WWTP Operations High Flow Plan
Lift Station Maintenance Checklist
Bypass / Overflow Report

Sewer Crew

CSO Daily Check Sheet
Daily Crew Member Log
Personnel Form
Sewer Crew Report
Overtime Form
Sewer Call Out Sheet
Sewer Crew Phone List

Building and Grounds

Inlet Cleaning Sheet
CSO Structures Checklist
Lift Station Checklist
Daily Jobs
Weekly Jobs

City of Terre Haute Wastewater Utility
Work Order Log Process

Complaints may be turned in by a public citizen or any City employee, including police department, engineering department, fire department, etc. Many are received over the phone. However the complaint is initially received, the office manager fills out a customer complaint form (attached) and refers the complaint to the appropriate department. The foreman/assistant foreman of the appropriate department records the complaint on a Maintenance Work Order and Record Sheet form (attached). The form is given to the maintenance manager, who types up the information on the computer and prints out the official work order. After the work is done, the staff who performed the work fills out the work order with detailed information about the work performed. The manually-completed work order is given to the maintenance manager. At the end of each month, the maintenance manager inputs all work order information into the computer. A complete printed copy of the monthly set of work orders is filed with each department's foreman/assistant foreman.

City of Terre Haute Wastewater Utility
Customer Complaint Form

DATE: _____

TIME: _____ AM PM

NAME: _____

ADDRESS: _____

PHONE: _____

COMPLAINT TAKEN BY: _____

NATURE OF COMPLAINT: _____

REFERRED TO: _____

ACTION PERFORMED: _____

DATE/TIME OF ACTION: _____

SIGNATURE: _____

MAINTENANCE WORK ORDER AND RECORD SHEET

CHECK
P.M.
A.M.

DATE: _____
TIME WORK ORDER RECEIVED: _____
REPORTED BY: _____
REPORTED TO: _____

LOCATION OF JOB: _____

WORK REQUIREMENTS: _____

DESCRIPTION OF WORK DONE: _____

EQUIPMENT DESCRIPTION

MAKE:

MODEL:

TYPE:

PARTS USED: _____

WORK DONE BY: _____

CHECK
 YES NO

MAN HOURS WORKED _____

HIGH FLOW PLAN

High flow is considered when 2 or more pumps are on at the main lift.

~~Remember, in a high flow situation, no grease will be allowed from haulers.~~
Septage can be accepted unless we are plant by-passing, or if wastewater in grit chamber is over haulers dump cap, then no septage will be accepted.

Here are some daily procedures, which if are in place, should make a rain event run smoother.

- Primary overflow basins emptied and cleaned.
- Have enough room in digesters for sludge pumping from primary clarifiers.
- Primary sludge blankets 1 ft or less.
- Primary overflow valve open to mark on valve. This should be about 1/4 of the way open. Be sure alarm is in place.
- Secondary blankets 1 foot to 3 feet.
- Grit chamber emptied.

Primary side:

- Shut off blowers that are currently supplying air to the grit chamber and preaeration tanks.
- Close caps on west side of grit chamber and make sure test ball is secure on the east side of grit chamber. Test ball may need some air in it to seal the opening properly.
- Check primary blankets. Try to keep them 1ft. or lower. Be aware of digester lid level. If we are by-passing from primary to final contact tank, (a plant by-pass), no supernatant thru the head of plant is allowed. Otherwise during high flow, supernate as needed.
- Supernating to lagoons are allowed. Check with foreman before sending supernate to the lagoons.
- Take in as much flow as possible to grit chamber. If cap is on and the test ball is in place, let grit chamber fill up as much as possible without wastewater spilling out over the sides. (Watch when Southside and Prison lift station pumps kick on) Open valve just enough to relieve pressure. Please don't open the grit chamber by-pass all the way unless you have to. This will help keep debris and incoming grit from entering primary tanks #1 and #2.
- Pump from primary clarifiers once every hour from each tank even if its only 10 to 15 minutes at a time to keep valves and piping from clogging up. (Especially if the grit chamber by-pass is open during the rain event)

Secondary side:

- Open valves as needed on aeration tanks according to the flow amount coming in.
- Regulate RAS pumps accordingly.
- Watch wasting, be sure we have enough biomass to treat incoming flow.
- Continue to monitor blanket levels on an as needed basis.
Check D.O in aeration tanks and clarifiers for proper process control for BOD and ammonia (NH₃) treatment.
- Take in as much flow thru secondary side as possible until primary tanks fill and water overflows basin weir. Regulate primary basin valve according to the rain event intensity. Please note in journal when primary basins begin to fill.
- Continue to fill basins and operate plant as stated.
- If rain event conditions lighten up or stop, continue with duties until normal flow is reached. Once normal flow is reached, begin to empty primary overflow basins back into the system.
- If rain event continues, fill basins to maximum capacity. Shut overflow basin valve. Maintain high flow plan until primary tanks fill past volume or until secondary blankets reach height that would create the possibility of a blanket washout.
- Open plant by-pass valve enough to relieve flow pressure. Be sure to document start and stop times of by-pass event in secondary journal. Continue to by-pass until conditions lighten up or stop which allows the by-pass to be shut. Continue with duties of high flow plan until normal flow is reached. Once normal flow is reached, begin to empty primary overflow basins back into system.
- The blower, which supplies air to the grit chamber and preaeration tanks, are NOT to be turned back on after the rain event between the hours of 11:00a.m. to 1:00p.m. due to peak usage. Once the blower has been put back in service, keep the grit chamber air off until the grit has been removed from the tank. Refer to Grit Removal SOP.

LIFT STATION	PUMP 1	PUMP 2	HOUR METER 1	HOUR METER 2	SUMP	INSTRUMENTS & ELECTRICAL
WOODRIDGE						
WYNDHAM						
BURGON						
GLEN & MAPLE						
GLEN DELL						
SEELYVILLE						
WOODVALE						
COUNTRY WALK						
GLEN NORTH						
GOSPEL GROVE						
GLEN SOUTH						
DOBBS PARK						
FRUITRIDGE & RILEY						
29 TH & 8 TH AVE.						
27 TH & MAPLE						
26 TH & MAPLE						
BLAINE & GRAND						
MAPLEWOOD						
1 ST & LINDEN						
4 TH & FLORDIA						
MT. HARRISON & RIVER						
12 TH & PRAIRIE						
11 TH & FLORDIA						
LOST CREEK						
16 TH & FLORDIA						
VISQUEEN						
BRIGHTON & HALL						
23 RD & BERNE						
PARK AVE.						
MORRIS MHP.						
IMPERIAL GARDENS						
GROUSELAND						
NORTHWOOD						
HOWARD SUB.						
HAWTHORNE WOODS						
<i>FAIRBANKS PARK</i>						

CREW _____

DATE / /

SOUTH ROUTE

LIFT STATION	PUMP 1	PUMP 2	HOUR METER 1	HOUR METER 2	SUMP	INSTRUMENT & ELECTRICAL
HONEY CREEK						
JONESY'S						
PRISON LIFT						
SOUTHSIDE						
DOWDEN ACRES						
RICHLAND MANOR						
COLNIAL SOUTH						
INDY WEST						
INDY EAST						
DALLAS ROAD						
YOUNGSTOWN						
WOODGATE SOUTH						
WOODGATE NORTH						
HALT ROAD						
HOSPITAL LANE						
WILLA VILLA						
IDLE CREEK FEREE						
IDLE CREEK CART PATH						
ELDERIDGE						
GARDEN & PROSPECT						
10 TH & PUGH						
10 ½ & VOORHEES						
KENSINGTON						
ELLEN WOODS						
DUTCH ACRES						
30 TH & CRAWFORD						
CDI APARTMENTS						
BIRCH RUN						
BLUMBERG						
HULMAN DAMN						
WATER TREE						
46 TH & I 70						
LEXINGTON FARMS						
46 TH & MOYER						
46 TH & MARGARET						
46 TH & HULMAN						
AIRPORT						
POPLAR WEST OF 46 TH						
THE WOODS						

CREW _____

DATE ____ / ____ / ____

**Terre Haute Wastewater Treatment Plant
Bypass / Overflow
Report**

Note: This report must be filled out at any / all signs of discharge, surcharge outside a lift station, manhole or broken line that may lead to sewage on the ground or in to a ditch or stream.

Date: _____ **Time on location:** _____ **am/pm**

Location of discharge / surcharge: _____

Where did discharge go: on the ground, in a ditch, in a stream, _____

Was this a : call-in (time: _____) or **regular maintenance check** _____

Crew on location: _____

Estimate amount of discharge: _____

Nature of problem: precipitation construction related equipment failure power failure

Details regarding problem: _____

Action taken: _____

Additional personnel needed: who: _____

Combo Truck Needed: _____ **Number of loads:** _____

Notify Secondary Operator of Discharge

Time of Notification: _____

Date _____

CSO DAILY CHECK SHEET

MON	TIME	CREW MEMBER	MANHOLE DRY	MANHOLE OVERFLOW	BACKFLOW	DOOR OPEN	DOOR CLOSED	SUBMERGED
Spruce								
Chestnut								
Ohio								
Walnut								
Poplar								
Oak								
Crawford								
Hulman								
Idaho								
Turner								

Crew Signature _____

TUES	TIME	CREW MEMBER	MANHOLE DRY	MANHOLE OVERFLOW	BACKFLOW	DOOR OPEN	DOOR CLOSED	SUBMERGED
Spruce								
Chestnut								
Ohio								
Walnut								
Poplar								
Oak								
Crawford								
Hulman								
Idaho								
Turner								

Crew Signature _____

WED	TIME	CREW MEMBER	MANHOLE DRY	MANHOLE OVERFLOW	BACKFLOW	DOOR OPEN	DOOR CLOSED	SUBMERGED
Spruce								
Chestnut								
Ohio								
Walnut								
Poplar								
Oak								
Crawford								
Hulman								
Idaho								
Turner								

Crew Signature _____

THURS	TIME	CREW MEMBER	MANHOLE DRY	MANHOLE OVERFLOW	BACKFLOW	DOOR OPEN	DOOR CLOSED	SUBMERGED
Spruce								
Chestnut								
Ohio								
Walnut								
Poplar								
Oak								
Crawford								
Hulman								
Idaho								
Turner								

Crew Signature _____

FRI	TIME	CREW MEMBER	MANHOLE DRY	MANHOLE OVERFLOW	BACKFLOW	DOOR OPEN	DOOR CLOSED	SUBMERGED
Spruce								
Chestnut								
Ohio								
Walnut								
Poplar								
Oak								
Crawford								
Hulman								
Idaho								
Turner								

Crew Signature _____

DAILY CREW MEMBER LOG SHEET

Crewmember: _____

Date: _____

<u>MON</u>	Description of Work Done
Initial ____ O.T. ____	

<u>TUE</u>	Description of Work Done
Initial ____ O.T. ____	

<u>WED</u>	Description of Work Done
Initial ____ O.T. ____	

<u>THUR</u>	Description of Work Done
Initial ____ O.T. ____	

<u>FRI</u>	Description of Work Done
Initial ____ O.T. ____	

Foreman Signature

Crewmember Signature

**SEWER MAINTENANCE
FOREMAN - GARY LOUDERMILK**

Date _____

NAME	OFF	SICK	BIRTHDAY	VACATION	PERSONAL	W/C
LAMB, PETE						
LOCKARD, DAN						
LOUDERMILK, GARY						
PERRELLE, NICK						
TOMPKINS, TOMMY						
TRAMTE, MIKE						
TURNER, JEFFREY						
ZINKOVICH, KEITH						

FOREMAN SIGNATURE

**City of Terre Haute Wastewater
Sewer Crew Report
January 2005**

Cleaned and Jetted Inlets	
Sewers Jetted & Cleaned Out	
Sewers Cleaned	
Maintenance Assistance	
Pumped Manholes & Catch Basins	
Operators Assistance	
Replace & Repair Inlets & Grates	
Replace Manhole Lids & Rings	
Special Projects	
Sewer Repair	
Lateral Camera	
T.V. Camera Truck	

**Supervisor: Gary Loudermilk
11 Man Crew**

SEWER CALL OUT SHEETS

CALL RECEIVED ----- am/pm TRUCK NO.-----
SITE ARRIVAL-----am/pm
SITE DEPARTURE-----am/pm

ADDRESS: SITE

UPSTREAM MANHOLE
DOWNSTREAM MANHOLE

CREW: OPERATOR -----

HOURS-----

TRUCK DRIVER-----

HOURS-----

DESCRIPTION OF WORK PERFORMED

REG. SANITARY---- PREVENTIVE MAINT.-----

CALL-IN-----

CONSTR. ASSIST.-----TREAT, PLANT ASSIST.-----

T.V. ASSIST.-----

PROBLEM: ODOR -----PERSONAL ----- CITY -----

OVERLOAD -----

COMMENTS:

CREW: -----

-----OWNER CONTACTED?

YES-----NO-----COMMENTS-----

OPERATOR'S SIGNATURE : -----

DATE -----

**City of Terre Haute
Wastewater Treatment Plant
Call-Out List
April 2005**

Sewer Crew: _____

Date: _____

Reason for call – out: _____

Name	Phone Numbers	NO Time Called	Yes Time Called	Left message Time Called	No One Home Time Called	Returned call Time Called	Beeper Time called	On Vacation Time Called
Pete Lamb	235-4894 208-8513 cell							
Gary Loudermilk	466-7460 239-6383 cell							
Tommy Tompkins	232-2740 208-1972 cell							
Larry Dick	235-2935							
John Delph	648-2023 878-5297 cell							
Mike Perrelle	201-8515							
Mike Tramte	466-7283 201-7738							
Dan Lockard	234-2068							
Keith Zinkovich	894-0733 208-9559 cell							
Vickie Perrelle	236-8416 242-2809 cell							
Jay McGrew	243-6628							
Ed Stewart	236-8035 235-1782 cell							

Comments: _____

Signature: _____

**CSO
Building and Grounds
Check List**

Date: _____

Crew Members: _____

CSO	Cleared	Mowed	Time Started	Time Done	Comments
#002 Main Lift					
#003 Turner St. (Main Lift)					
#004 Turn St. (Junk Yard)					
#005 Crawford St. (Fairbanks Park)					
#006 Oak St. (Fairbanks Park)					
#007 Walnut St. (Fairbanks Park)					
#008 Ohio St. (Fairbanks Park)					
#009 Chestnut St. (Behind Icon)					
#010 Spruce St. (Behind Fire Garage)					
#011 Idaho St. (Junk Yard)					

Additional Comments: _____

Maplewood				
4th & Florida				
Ft. Harrison & River				
Howard Sub. (Dee St.)				
Northwood Sub.				
Grouseland				
Imperial Gardens (Rosehill Court)				
Morris & M.H.P (Estate & Tuttle)				
Park Avenue & Lafayette				
Brighton & Hall				
23rd & Berne Avenue				
12th & Prairie				
11th & Florida				
Lost Creek				
16th & Florida				
Blain & Grand				
27th & Maple Avenue				
26th & Maple Avenue				
29th & 8th Avenue				
Visqueen				
Fruitridge & Riley				
Woodridge				
Wyndham				
Burgon Sub.				
Seelyville				
Glen & Maple				
Glendale				
Country Walk				
Glen North				
Gospel Grove				
Glen South				
Poplar West of 46				
The Woods				
Dobbs Park				
Water Tree				
Hulman Dam				
Birch Run				
CDI Apartments				
46 & I-70				
46 & Moyer Road				
Lexington Farms				
Idle Creek Ferec				

Building & Grounds DAILY JOBS

Clean upstairs offices and Safety Director's offices including:

- Get Mail
- Sweep and/or dust mop hallway, bathroom, both entrances
- Mop hallway, bathroom, both entrances
- Bathroom sink, toilet, and mirror {toilet paper, soap, and towels}
- All A.C. Filters as needed
- All glass on office doors
- Trash in all offices and shredder as needed
- Lab: Trash and bathroom {between 1pm and 2pm}
- Mop, sweep basement
- Basement bathrooms {sinks and toilets}
- Clean B & G shop
- Prepare coffee for the next day
- Runner for the week go shopping

Building & Grounds WEEKLY JOBS

- Monday
 - Fuel management: operators, and B&G vehicles
 - Check and fill supplies in each dept.
{towels, toilet paper, soap, cleaning agents}
 - Spray & Clean breezeway

- Tuesday
 - Windows at front and back office entrances
 - Sweep conference room and all office carpets
 - Pick up ditches and trash thru plant

- Wednesday
 - Clean ceiling fans and window ledges
 - Fuel management: operators, and B & G vehicles
 - Pick up trash in plant {does include Zimpro bathroom}
 - Spray & Clean breezeway

- Thursday
 - Sweep blower room by B& G
 - Clean Zimpro Bathroom {Sweep and mop and supplies}

- Friday
 - Wash and hang to dry mop heads and dust mop heads
 - Fuel management, operators, and B & G vehicles
 - Check and fill supplies in each dept.
{towels, toilet paper, soap, cleaning agents}
 - Spray & Clean breezeway

APPENDIX E

Sewer Usage and Industrial Pretreatment Ordinance

UTILITIES

ARTICLE 1. GENERAL PROVISIONS.

- Sec. 9-1 Authority To Establish Water Service.
- Sec. 9-2 Authority To Establish a Sewage System.
- Sec. 9-3 Adoption of State Code.
- Sec. 9-4 Procedures To Resolve Disputes.
- Sec. 9-5 and Sec. 9-6 Reserved for Future Use.

ARTICLE 2. SEWAGE USAGE AND INDUSTRIAL PRETREATMENT.

- Sec. 9-7 Purpose.
- Sec. 9-8 Definitions.
- Sec. 9-9 Authority of the Board of Public Works and Safety.
- Sec. 9-10 Prohibitions on Discharges.
- Sec. 9-11 Prohibitions on Storm Drainage and Groundwater.
- Sec. 9-12 Prohibitions on Unpolluted Water.
- Sec. 9-13 Limitations on Radioactive Wastes.
- Sec. 9-14 Limitations on the Use of Garbage Grinders.
- Sec. 9-15 Grease Traps.
- Sec. 9-16 Limitations on Point of Discharge.
- Sec. 9-17 Holding Tank Waste.
- Sec. 9-18 Limitations on Wastewater Strength Discharged to the Community Sewer.
- Sec. 9-19 Specific Discharge Regulations.
- Sec. 9-20 Analytical Requirements.
- Sec. 9-21 Effluent Limitations.
- Sec. 9-22 Modification of Standards.
- Sec. 9-23 Dilution.
- Sec. 9-24 Required Connections.
- Sec. 9-25 Private Treatment or Disposal of Wastewater.
- Sec. 9-26 Prohibitions on Construction of Sewer and Appurtenances.
- Sec. 9-27 Private Systems.
- Sec. 9-28 Discharge Reports.
- Sec. 9-29 Mandatory Permits.
- Sec. 9-30 Optional Permits.
- Sec. 9-31 Permit Application.
- Sec. 9-32 Permit Conditions.
- Sec. 9-33 Duration of Permits.
- Sec. 9-34 Transfer of Permit.
- Sec. 9-35 Revocation of Permit.
- Sec. 9-36 Monitoring Facilities.
- Sec. 9-37 Inspection and Sampling.
- Sec. 9-38 Pretreatment.
- Sec. 9-39 Protection from Accidental Discharge.

- Sec. 9-79 Construction Requirements for Building Sewers.
- Sec. 9-80 Certain Wastes to Storm or Combined Sewers.
- Sec. 9-81 Penalties.
- Sec. 9-82 through Sec. 9-87 Reserved for Future Use.

ARTICLE 4. SEPTIC TANK REGULATIONS.

- Sec. 9-88 Definitions.
- Sec. 9-89 License Required.
- Sec. 9-90 State License; City License Fee.
- Sec. 9-91 State Approved Vehicles and Equipment.
- Sec. 9-92 Disposal of Waste at City Disposal Plant; Regulations and Rates.
- Sec. 9-93 Penalty.
- Sec. 9-94 through Sec. 9-97 Reserved for Future Use.

ARTICLE 5. SEWER RATES AND CHARGES.

- Sec. 9-98 Basis of Sewer Charges.
- Sec. 9-99 Minimum Charges.
- Sec. 9-100 Yearly Cost Analysis by Common Council.
- Sec. 9-101 Role of Board of Public Works and Safety.
- Sec. 9-102 Measuring Devices for Users Who Are Not Water Users.
- Sec. 9-103 Meters and Measuring Devices for Certain Users.
- Sec. 9-104 Volume, Strength and Character of Sewage and Waste.
- Sec. 9-105 Sewer Connection Fees.
- Sec. 9-106 Application for Permit; Waivers.
- Sec. 9-107 Definitions.
- Sec. 9-108 Monthly Billings.
- Sec. 9-109 By-Laws and Regulations.
- Sec. 9-110 Lawn Sprinkling Allowance.
- Sec. 9-111 Utility Deposits.
- Sec. 9-112 Penalty.
- Sec. 9-113 through Sec. 9-119 Reserved for Future Use.

ARTICLE 6. WASTEWATER TREATMENT FACILITIES.

- Sec. 9-120 Revenue Fund.
- Sec. 9-121 Designation of Operation and Maintenance Fund and Application of Monies Therein; Continuation of Sewage Works Sinking Fund; Establishment of Debt Service Account and Reserve Account Therein.
- Sec. 9-122 Application of Surplus Revenues; Sewage Works Improvement Fund.
- Sec. 9-123 Sanitary District.
- Sec. 9-124 through Sec. 9-129 Reserved for Future Use.

CHAPTER 9

Sec. 9-6 and **Sec. 9-6 Reserved for Future Use.**

ARTICLE 2. SEWAGE USAGE AND INDUSTRIAL PRETREATMENT.⁴

Sec. 9-7 Purpose.

This Wastewater Discharge Ordinance sets uniform requirements for discharges into the wastewater collection and treatment system and enables the Agency to comply with the administrative provisions set forth in the current National Pollutant Discharge Elimination System (NPDES) Permit, provision as set forth under Public Law 92-500, Federal Water Pollution Control Act Amendments of 1972 (FWPCAA), all national standards of performance, toxic and pretreatment effluent standards, and any and all other discharge criteria required or authorized by federal, state, or local laws and regulations, and to serve the maximum public benefit by regulation of the quality and quantity of wastewater discharged into those systems. This Article also provides for the issuance of permits to certain users. (Gen. Ord. No. 1, 1999, § 1, 2-11-99)

Sec. 9-8 Definitions.

Unless otherwise defined herein, terms shall be as adopted in the latest edition of *STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER*, published by the American Public Health Association, the American Water Works Association, and the Water Federation. Waste constituents and characteristics shall be measured by Standard Methods unless other methods are expressly required by federal and state regulations.

- a. **Administrator.** The Superintendent of POTW.⁵
- b. **Agency.** The Board of Public Works and Safety.
- c. **Applicable Pretreatment Standard.** Any pretreatment limit or prohibitive standard (federal, state, and/or local) contained in the ordinance and considered to be the most restrictive with which non-domestic users will be required to comply.

⁴ Editor's Note: Ord. No. 7, 1961 was passed on September 26, 1961 and set forth public and private sewer, drain and discharge regulations. Ord. No. 6, 1961 was amended by Gen. Ord. No. 12, 1970 as amended on June 3, 1970. On March 10, 1977 the Council passed Ord. No. 3, 1976 making reference to Ord. No. 6, 1961 and not Ord. No. 12, 1970. Gen. Ord. No. 3, 1982 passed May 13, 1982 amended Gen. Ord. No. 3, 1976. Gen. Ord. No. 1, 1983 passed April 15, 1983 amended Gen. Ord. No. 3, 1976. Gen. Ord. No. 1, 1986 passed February 20, 1986 amended Gen. Ord. No. 3, 1976. Gen. Ord. No. 14, 1990, passed July 10, 1991 amended codified § 913.05 of the *1/94 Code*. Gen. Ord. No. 1, 1999, passed on February 11, 1999 amended Gen. Ord. No. 9, 1995, passed on November 9, 1995. Gen. Ord. No. 13, 2001, passed on June 14, 2001 amended codified Chapter 9 of the *City Code*.

⁵ Editor's Note: "POTW" means "Publicly Owned Treatment Works" and is defined in the abbreviations reference in this Section.

n. **Federal Categorical Pretreatment Standards.** Any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307 (b) and (c) of the Federal Act which applies to a specific category of industrial users.

o. **Grab Sample.** A sample which is taken from a wastestream on a one time basis with no regard to the flow in the wastestream and without consideration of time.

p. **Holding Tank Waste.** Any waste from holding tanks, such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum pump tank trucks.

q. **Incompatible Pollutant.** Any pollutant which is not a compatible pollutant as defined in this Article.

r. **Industrial User.** A non-residential user.

s. **Interference.** The inhibition or disruption of the POTW treatment processes or operations which contributes to a violation of any requirement of the Agency's NPDES permit. The term includes prevention of a sewage sludge use or disposal by the POTW in accordance with 405 of the Federal Act, (33 U.S.C. 1345) or any criteria (including those contained in any State sludge management plans prepared pursuant to Title IV of SWA) applicable to the method of disposal or use employed by the POTW.

t. **Major Contributor.** A contributor that:

(1) All industrial uses subject to categorical/pretreatment standards under Federal Regulation 40 *CFR* 401 and the General Pretreatment Regulations (40 *CFR* 403);

(2) Has a flow of more than twenty-five thousand (25,000) gallons per average workday and excluding sanitary, noncontact cooling and boiler blowdown wastewater;

(3) Has in its waste a toxic pollutant in toxic amounts as defined in Section 307 of the Federal Act;

(4) Has in its waste toxic pollutants as defined pursuant to Section 307 of the Act or State Statute and Rules; or

(5) Is found by City, State, or the U.S. Environmental Protection Agency (EPA) to significantly impact, either by itself or in combination with other contributing industries, on the wastewater treatment system, the quality of sludge, the system's effluent quality of air emissions generated by the system.

gg. **Wastewater.** Any waste and water, treated or untreated, wasted or discharged to the community owned collection and/or treatment system.

hh. **Waters of the State.** Any water, underground or surface, within the geographical or legal boundaries of a State.

ABBREVIATIONS:

<i>EPA</i>	Environmental Protection Agency
<i>IU</i>	Industrial User
<i>mg/l</i>	Milligrams per liter
<i>NPDES</i>	National Pollutant Discharge Elimination System Permit
<i>POTW</i>	Publicly Owned Treatment Works
<i>SIC</i>	Standard Industrial Classification
<i>BOD</i>	Biochemical Oxygen Demand
<i>TTO</i>	The sum of the masses or concentration of specific toxic organic compounds found in Industrial User's process discharge at a concentration greater than 0.0 mg/l. Each categorical standard lists the specific organic compounds that are to be included in the summation to define TTO for the category. (Gen. Ord. No. 1, 1999, § 925.01, 2-11-99)

Sec. 9-9 Authority of the Board of Public Works and Safety.

The Agency shall have the authority to apply and implement action available under Federal, State, or local law to enforce the requirements of Section 307(b) and (c) and 402(b)(8) of the Federal Act and any implementing regulations. Such authority shall permit Agency to take action including, but not limited to, the following:

a. Deny or condition new or increased contributions of pollutants by changes in the nature of pollutants by Industrial Users where such contributions do not meet applicable pretreatment standards and requirements or where such contributions would cause Agency to violate its permit;

b. Require compliance with applicable pretreatment standards and requirements by Industrial Users;

c. Control through permit, order, or similar means, the contributions to Agency by each Industrial User and in the case of a significant user, through permits or equivalent industrial control mechanisms issued to such user, to ensure compliance with applicable pretreatment standards and requirements, by including in each permit or other control mechanism at the minimum the following conditions:

(1) A statement of duration not to exceed five (5) years;

Agency shall have authority and procedures, after informal notice to the discharger, immediately and effectively to halt or prevent any discharge of pollutants to the Agency which reasonably appears to present an imminent endangerment to the health and welfare of persons. The Agency shall have authority and procedures, which shall include notice to the affected Industrial Users and an opportunity to respond, to halt or prevent any discharge to the Agency which presents or may present an endangerment to the environment or which threatens to interfere with the operation of the Agency.

g. To comply with the confidentiality requirements set forth in 40 *CFR* 403.14. (Gen. Ord. No. 9, 1995, § 925.02, 11-9-95; Gen. Ord. No. 1, 1999, § 925.02, 2-11-99)

Sec. 9-10 Prohibitions on Discharges.⁶

No person shall discharge any liquids, solids, or gases to a community sewer, wastes which may cause, or are capable of causing, either alone or by interaction with other substances:

- a. Fire or explosion;
- b. Obstruction of flow in sewer system;
- c. Damage to the collection system;
- d. Damage to the treatment or disposal system;
- e. Air pollution through the release of toxic or malodorous gases or any substance which has the potential of producing toxic or malodorous gases;
- f. A creation of a strong odor or nuisance which would in any way interfere with the effective operation or maintenance of the collection, treatment, or disposal system;
- g. Any interference with the wastewater treatment process;
- h. The Agency's effluent or any other product or by-product of the treatment process such as, but not limited to, residues, scums and sludges, thus rendering such materials unsuitable for reclamation and reuse or that interfere with any reclamation or disposal process;
- i. A detrimental environmental impactor, nuisance in the water of the State, or a condition unacceptable to any public agency having regulatory jurisdiction;

⁶ Editor's Note: During the recodification completed in December of 1999, the word "injury" was deleted and the word "damage" was inserted in Subsections c. and d. at the request of the City.

Sec. 9-13 Limitations on Radioactive Wastes.

No person shall discharge or cause to be discharged any radioactive waste into a community sewer. (Gen. Ord. No. 1, 1999, § 925.06, 2-11-99)

Sec. 9-14 Limitations on the Use of Garbage Grinders.

Waste from garbage grinders shall not be discharged into a community except:

a. Wastes generated in preparation of food normally consumed on the premises and such wastes do not constitute a disproportionate use of the Agency facilities or cause excessive agency collection, treatment or disposal cost, or;

b. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the community sewer. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, or garden refuse. (Gen. Ord. No. 9, 1995, § 925.07, 11-9-95; Gen. Ord. No. 1, 1999, § 925.07, 2-11-99)

Sec. 9-15 Grease Traps.

Any establishment, other than a residence, involved in food preparation shall have a grease trap. The contents of the grease trap shall not be discharged into a community sewer but shall be disposed of in an acceptable, and timely manner. (Gen. Ord. No. 9, 1995, § 925.08, 11-9-95; Gen. Ord. No. 1, 1999, § 925.08, 2-11-99)

Sec. 9-16 Limitations on Point of Discharge.

No person shall discharge any substance directly into a manhole or other opening in a community sewer other than through an approved user sewer, unless upon written application by the user and payment of the application user charges and fees, and the Agency issues a permit for such direct discharges. (Gen. Ord. No. 9, 1995, § 925.09, 11-9-95; Gen. Ord. No. 1, 1999, § 925.09, 2-11-99)

Sec. 9-17 Holding Tank Waste.

A user proposing to diverge holding tank waste into a community sewer or treatment facility must secure a permit from the Agency. Unless allowed by the Agency under the terms and conditions of the permit, a separate permit is granted for discharge of such waste into a community sewer, the user shall pay the applicable user charges and fees and shall meet such other conditions as required by the Agency. (Gen. Ord. No. 9, 1995, § 925.10, 11-9-95; Gen. Ord. No. 1, 1999, § 925.10, 2-11-99)

Sec. 9-18 Limitations on Wastewater Strength Discharged to the Community Sewer.

Lead.....	1.20	
Zinc.....	9.00	
Mercury.....	0.20	
Nickel.....	7.00	
Molybdenum.....	1.00	
BOD.....	1,000	(Gen. Ord. No. 13, 2001, 6-14-01)
TSS.....	1,200	(Gen. Ord. No. 13, 2001, 6-14-01)
Ammonia (NH3).....	50	(Gen. Ord. No. 13, 2001, 6-14-01)

h. Discharges in excess of the BOD, TSS and NH3 limits stated in subsection (g) of this Section may be made only under special agreement with the Administrator. This special agreement shall have mass based limits with special attention to flow rates. In no case shall a special agreement as set forth in this subsection (h) waive compliance with all other pretreatment standards or requirements or cause an exceedance of plant capacities. (Gen. Ord. No. 9, 2005, 8-11-05)

i. Alternative limits may be granted to Industrial Users by issuance of an Industrial User Wastewater Discharge Permit provided the City has determined that no adverse effect on the City's facilities will occur from the alternative limits and the IU can justify to the City's satisfaction the above listed limits cannot be reasonably or cost effectively achieved. In addition, the total allocation of the pollutants shall not exceed the calculated Maximum Allowable Industrial Load.

Sec. 9-20 Analytical Requirements.

All pollutant analyses, including sampling techniques, to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 *CFR* Part 136, unless otherwise specified in an applicable categorical pretreatment standard. If 40 *CFR* Part 136 does not contain sampling or analytical techniques for the pollutant in question, sampling and analyses must be performed in accordance with procedures approved by the EPA. (Gen. Ord. No. 1, 1999, § 925.13, 2-11-99)

Sec. 9-21 Effluent Limitations.

State and Federal Categorical Pretreatment Standards, requirements, or limitations shall apply in instances where they are more stringent than those in this Article. Under Section 307 (b) of the Federal Act, Federal Categorical Pretreatment Standards are designed to achieve two (2) purposes:

- a. To protect the operation of Agency owned treatment works, and
- b. To prevent the discharge of incompatible pollutants to agency owned treatment works.

discharge of wastewater and within the municipal limits of the City of Terre Haute, Indiana shall be connected to the community sewer, except:

a. Where such community sewer is more than three hundred feet (300') away from such property and the Agency has deemed that no connection can be made to a community sewer; or

b. The Agency has agreed in written form to allow such persons to dispose of wastewater in a manner satisfactory to the Agency, and which satisfies all regulatory agencies' requirements.

c. Where discharge is regulated by state or federal permits.

It shall be unlawful to construct, maintain, or use any septic tank, cesspool, or any other facility intended or used for the disposal of sewage or wastewater within the limits of the City of Terre Haute, Indiana, except:

(1) Where such facility serves a dwelling, building, or area outside the limit of three hundred feet (300') of a community sewer.

(2) Where a permit is granted under Sec. 9-27.

(3) Where regulated by state or federal permits.

It shall be unlawful to construct, maintain, or use privy or privy vaults within the limits of the City of Terre Haute, Indiana. (Gen. Ord. No. 9, 1995, § 925.16, 11-9-95; Gen. Ord. No. 1, 1999, § 925.17, 2-11-99)

Sec. 9-25 Private Treatment or Disposal of Wastewater.

In the case where connection to a community sewer is not deemed feasible by the Agency, a building, dwelling, or area sewer may connect to a private sewer served by a private treatment facility if:

a. Such a sewer and treatment facility meet all of the Agency's requirements; and

b. Such a sewer or treatment facility meets the requirements of all other federal, state, and local agencies; and

c. A permit for such a private sewer and treatment system has been issued by the Agency; and

d. Such permit to use and operate such private facilities is valid only until such a time as the community sewer is made available for connection or the Agency deems the connection to the community sewer shall be made; and

Any person signing the application statement submitted pursuant to 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. (Gen. Ord. No. 1, 1999, § 925.21, 2-11-99)

Sec. 9-29 Mandatory Permits.

All Critical Users proposing to connect or to discharge into a community sewer must have a Wastewater Permit before connection to or discharging into a community sewer. All existing Critical Users connected to or discharging into a community sewer must obtain a Wastewater Discharge Permit within ninety (90) days after the effective date of the Article. For purposes of this Article, a Critical User is defined as any user whose user class is identified in the Standard Industrial Classification (SIC) Manual in any of the Division A, B, D, E, and F, and who:

- a. Has a discharge flow of twenty-five thousand (25,000) gallons or more per average day; or
- b. Has a flow greater than five percent (5%) of the flow in the Agency's Wastewater Treatment System; or
- c. Has in his wastes toxic pollutants in toxic amounts as defined in standards issued under Section 307 (a) of the Federal Act;
- d. Is found by the Agency to have significant impact, either singly or in combination with other contributing industries, on the treatment or collection system; or
- e. Users subject to national categorical pretreatment standards. (Gen. Ord. No. 1, 1999, § 925.22, 2-11-99)

Sec. 9-30 Optional Permits.

The Agency may issue a Wastewater Discharge Permit to any user in accordance with the terms of the following categories:

- a. A user who requires the user charges and fees to be based upon an estimation of wastewater flow.

The Administrator will evaluate the data furnished by the user and may require additional information. After evaluation and acceptance of the data furnished, the Agency may issue a Wastewater Discharge Permit subject to terms and conditions provided herein. (Gen. Ord. No. 9, 1995, § 925.23, 11-9-95; Gen. Ord. No. 1, 1999, § 925.24, 2-11-99)

Sec. 9-32 Permit Conditions.

Wastewater Discharge Permits shall be expressly subject to all provisions of this Article, and all other regulations, user charges, and fees established by the Agency. The conditions of Wastewater Discharge Permits shall be uniformly enforced by the Agency in accordance with this Article, and applicable local, state, and federal regulations. Permits shall contain the following where appropriate:

- a. The unit charge or schedule of user charges and fees for the wastewater to be discharged to a community sewer.
- b. Limits on the average and minimum wastewater constituents and characteristics;
- c. The limits on rate and time of discharge, or requirements for flow regulation and equalization;
- d. Requirements for installation and maintenance of inspection and sampling facilities;
- e. Compliance schedule;
- f. Specifications for monitoring programs which may include sampling locations, frequency and method of sampling, number, types and standards for test and reporting schedules;
- g. Requirements for submission of technical reports as required in Sec. 9-62, or discharge reports;
- h. Requirements for maintaining records relating to wastewater discharge specified by the Agency and affording the Administrator access thereto;
- i. Mean and maximum mass emission rate, or other appropriate limits, when incompatible pollutants (as defined by Sec. 9-8) are proposed or present in the user's wastewater discharge;
- j. Other conditions as deemed appropriate by the Agency to ensure compliance with this Article. (Gen. Ord. No. 1, 1999, § 925.25, 2-11-99)

Any user who violates the following conditions of the permit, or this Article, or applicable state, federal, or local regulations, is subject to having his permit revoked:

a. Failure of a user to factually report the wastewater constituents and characteristics of his discharge;

b. Failure of the user to report significant changes in operations or wastewater constituents and characteristics;

c. Refusal of reasonable access to the user's premises for the purpose of inspection or monitoring by the Administrator or employees of the POTW (properly identified), having regulatory jurisdiction.

d. Continued or deliberate violation of conditions of the permit. (Gen. Ord. No. 9, 1995, § 925.27, 11-9-95; Gen. Ord. No. 1, 1999, § 925.28, 2-11-99)

Sec. 9-36 Monitoring Facilities.

The Agency may require the user to construct, at his own expense, monitoring facilities to allow inspection, sampling, and flow measurement of the user sewer or internal drainage systems, and may also require sampling or metering equipment to be provided, installed, and operated at the user's expense. The monitoring facility should normally be situated on the user's premises, but the Agency may, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles. There shall be ample room in or near such sampling manhole to allow accurate sampling and compositing of samples for analysis. The manhole, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the owner.

Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the Agency requirements and all applicable local agency construction standards and specifications. Construction shall be completed within ninety (90) days following written notification by the Agency unless a time extension is granted by the Agency. (Gen. Ord. No. 9, 1995, § 925.28, 11-9-95; Gen. Ord. No. 1, 1999, § 925.29, 2-11-99)

Sec. 9-37 Inspection and Sampling.

The Agency, any duly authorized and properly identified representatives of the Agency, or properly authorized and identified representatives of any local, state, or federal regulatory agency, may inspect the facilities of any user to ascertain whether the purpose of this Article is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the Agency or its representatives, or any local, state, or federal representatives, ready access at all reasonable times to all parts of the premises for the purpose of inspection or

b. Inspection Charges. \$20.00/hour per person

c. Surcharges for Critical User. 0.10/1,000 gallon wastes

a. Surcharges for user exceeding pollution concentration limits.

<u>Pollutant</u>	<u>Concentration Limit</u>	<u>Surcharge</u>		
BOD concentration	250 mg/l	\$0.15/lb.	for	excess
TOTAL Suspended Solids concentration	300 mg/l	\$0.15/lb.	for	excess
NH3 concentration	25 mg/l	\$0.50/lb.	for	excess

e. Fees for monitoring, inspection, and surveillance procedures including the cost of collection and analyzing an industrial user's discharge, and reviewing monitoring reports submitted by industrial users. The POTW must be able to document the actual costs of these fees to a pre-treatment permit holder upon request by the permit holder or toher rate payer. (Gen. Ord. No. 9, 2005, 8-11-05)

Sec. 9-42 Notification of Accidental Discharge.

Users shall orally notify the Administrator at (812) 232-6564 immediately upon accidentally discharging wastewater in violation of this Article, to enable the Agency to take counter-measures to minimize damage to the community sewer, treatment facility, treatment process, and receiving waters.

This notification shall be followed, within fifteen (15) days of the date of this occurrence, by a detailed written statement describing the accidental discharge, the causes, duration, including time and dates of non-compliance, and the measures being taken to prevent future occurrences. Such notification will not relieve the users of a liability for any expense, loss, or damage to the sewer system, treatment plant, or treatment process, or for any fines imposed by the Agency by any regulations. (Gen. Ord. No. 9, 1995, § 925.34, 11-9-95; Gen. Ord. No. 1, 1999, § 925.35, 2-11-99)

Sec. 9-43 Notice to Employees.

In order that employees of users be informed of Agency requirements, users shall make available to their employees copies of this Article and together with such other

implementing the provisions of this Article or in any permit issued herein, may file with the Agency a written request for reconsideration within ten (10) days of such decision, action, or determination, setting forth in detail the facts supporting the user's request for reconsideration. The Agency's decision, action, or determination shall remain in effect during such period of reconsideration. (Gen. Ord. No. 9, 1995, § 925.39, 11-9-95; Gen. Ord. No. 1, 1999, § 925.40, 2-11-99)

Sec. 9-48 Suspension of Service/Harmful Contributions.

The Agency may suspend the wastewater treatment service and/or the permit of a discharger if it appears to the Agency that an actual or threatened discharge presents an imminent danger to the welfare of persons, to the environment, to the operation of the Agency's wastewater treatment plant, or violates any pretreatment limits or any permit. Any discharger notified of the suspension of wastewater treatment service and/or the discharger's permit must, within a reasonable period of time, as determined by the Agency, cease all discharges. If the discharger fails to comply voluntarily with the suspension order within the specified time, the Agency must immediately commence judicial proceeding to compel the discharger's compliance with the order.

The Agency can reinstate the permit and/or the wastewater treatment service and terminate judicial proceeding provided the discharger can prove the elimination of the non-complying discharge or conditions as outlined above. (Gen. Ord. No. 9, 1995, § 925.40, 11-9-95; Gen. Ord. No. 1, 1999, § 925.41, 2-11-99)

Sec. 9-49 Notification of Violation.

Whenever the Agency finds that any discharger has engaged in conduct which justifies revocation of a permit or suspension of service, the Agency will serve the discharger with a written notice, either personally or by certified or registered mail, stating the nature of the alleged violation. Within ten (10) days of the date of receipt of this notice, the discharger must respond personally or in writing to the Agency, advising of its position with respect to the allegations. Thereafter the parties must meet to determine the seriousness of the allegations and where necessary, establish a plan for the satisfactory correction of the violations. (Gen. Ord. No. 9, 1995, § 925.42, 11-9-95)

Sec. 9-50 Show Cause Hearing.

Where a violation of the City's Ordinance or if applicable pretreatment regulations occurs and is not corrected by timely compliance, the Agency may order any discharger to show cause before them and state why the proposed permit revocation action should not be taken. A written notice must be served on the discharger by personal service, certified or registered mail, specifying the time and place of a hearing to be held by the Agency. The hearing will consider the violation, the proposed enforcement action, reasons why the enforcement action is to be taken, and directing the discharger to show cause before the Agency as to why the proposed enforcement action should not be taken.

Administrator within twenty-four (24) hours of the upset occurrence. When such information is given orally, a written report must be sent to the Administrator within five (5) working days unless extended by the Administrator. The report must specify:

a. Description of the upset, the cause, and the upset's impact on the discharger's compliance status;

b. Duration of non-compliance, including times and dates of non-compliance; and

c. Steps taken or to be taken to reduce, eliminate, and prevent recurrence of such an upset. (Gen. Ord. No. 9, 1995, § 925.45, 11-9-95; Gen. Ord. No. 1, 1999, § 925.48, 2-11-99)

Sec. 9-56 Injunction.

Whenever a discharge of wastewater is in violation of the provisions of this Article, or otherwise causes or threatens to cause a condition of contamination, pollution, or nuisance to the POTW, the Agency may petition the Vigo Superior Court for the issuance of a preliminary or permanent injunction or both, as may be appropriate in restraining the continuance of discharge. (Gen. Ord. No. 9, 1995, § 925.46, 11-9-95; Gen. Ord. No. 1, 1999, § 925.49, 2-11-99)

Sec. 9-57 Damage to Facilities.

When a discharge of wastes causes an obstruction, damage, or any other impairment to the Agency facilities, the Agency may assess a charge against the user for the work required to clean or repair the facility and add such charge to the user's charges and fees. (Gen. Ord. No. 9, 1995, § 925.47, 11-9-95; Gen. Ord. No. 1, 1999, § 925.50, 2-11-99)

Sec. 9-58 Civil Penalties.

Any person who intentionally or negligently violates any provision of this Article or permit condition or who discharges wastewater which causes pollution, or who violates any cease and desist order, prohibition, effluent limitation, national standard of performance, pretreatment or toxicity standard shall be fined in an amount not to exceed Two Thousand Five Hundred Dollars (\$2,500.00). Each day such violation occurs or continues shall constitute a separate violation of this Article. The attorney of the Agency upon recommendation of the Agency, shall petition the Vigo Superior Court to impose, assess, and recover such sums. (Gen. Ord. No. 9, 1995, § 925.48, 11-9-95; Gen. Ord. No. 1, 1999, § 925.51, 2-11-99)

Sec. 9-59 Other Fines and Penalties.

will normally be required on a monthly basis. (Gen. Ord. No. 9, 1995, § 925.53, 11-9-95; Gen. Ord. No. 1, 1999, § 925.56, 2-11-99)

Sec. 9-64 Baseline Report - 403.12 (b).

Within one hundred eighty (180) days after the effective date of a Federal Categorical Pretreatment Standard, or one hundred eighty (180) days after the final administrative decision made on a category, whichever is later, existing Industrial Users subject to such Federal Categorical Pretreatment Standards and currently discharging to or scheduled to discharge to the Agency's system will be required to submit to the Agency a report containing the information listed in paragraph (b) (1)-(7) or paragraph 403.12(b) of the General Pretreatment Regulations (40 *CFR* 403).

Upon promulgation of Federal Categorical Pretreatment Standard, the Agency will provide the appropriate form for distribution to the Industrial Users who are affected by the promulgated standard. The Industrial Users are then required to submit the completed report to the Agency. (Gen. Ord. No. 9, § 925.54, 11-9-95; Gen. Ord. No. 1, 1999, § 925.57, 2-11-99)

Sec. 9-65 Compliance Schedule Reports - 403.12(c) (Categorical Industries).

These reporting conditions apply to the compliance schedule required in 40 *CFR* 403.12(b)(7). This schedule is necessary whenever an Industrial User is not meeting Federal Categorical Pretreatment Standards at the time of promulgation of that Standard. The schedule contains increments of progress (i.e., hiring an engineer, completing plans, commencing construction, completing construction, etc.) which correspond to specific dates for their completion. These represent major events leading to the construction and operation of additional pretreatment required for the Industrial User to meet the applicable Federal Categorical Pretreatment Standard.

All Industrial Users subject to the conditions must submit a progress report to the Agency no later than fourteen (14) days following compliance. This report must include, at a minimum, whether or not it complied with the increment of progress to be met on that date and if not, the date on which it expects to comply, the reason for delay, and the steps being taken by the Industrial User to return the construction to the schedule established. In no event can more than nine (9) months elapse between such progress reports. (Gen. Ord. No. 9, 1995, § 925.55, 11-9-95; Gen. Ord. No. 1, 1999, § 925.58, 2-11-99)

Sec. 9-66 Compliance Report - 403.12(d).

Within ninety (90) days following the date for final compliance with an applicable Federal Categorical Pretreatment Standard, any Industrial User subject to those standards must submit to the Agency a report indicating the nature and concentration of all pollutants in the discharge generated from the regulated process which are limited by Federal Categorical Pretreatment Standards.

This Ordinance amends former Chapter 925 (Sewer Usage and Industrial Pretreat) and all other *Municipal Code* provisions inconsistent herewith. All other provisions of the *Terre Haute Municipal Code* not affected by this Ordinance shall remain in full force and effect. (Gen. Ord. No. 9, 1995, § 2, 11-9-95; Gen. Ord. No. 1, 1999, § 2, 2-11-99)

All ordinances or parts of ordinances in conflict herewith are repealed. The invalidity of any section, clause, sentence, or provision of this Ordinance shall not affect the validity of any part of this Ordinance, which can be given effect without such invalid part or parts. (Gen. Ord. No. 9, 1995, § 925.58, 11-9-95; Gen. Ord. No. 1, 1999, § 925.61, 2-11-99)

Sec. 9-71 Reserved for Future Use.

**ARTICLE 3. REGULATIONS ADDRESSING CONNECTIONS TO AND
USE OF
PUBLIC AND PRIVATE SEWERS AND DRAINS, INSTALLATION
AND CONNECTION OF BUILDING SEWERS, AND DISCHARGE.**

Sec. 9-72 Definitions.⁷

Unless the context specifically indicates otherwise, the meaning of terms used in this Article shall be as follows:

a. **Sewage Works.** All facilities for collecting, pumping, treating, and disposing of sewage.

b. **Superintendent.** The Superintendent of the municipal sewage works of the City of Terre Haute, Indiana, or his authorized deputy, agent or representative.

c. **Inspector.** The person or persons duly authorized by the City, through its Board of Public Works and Safety, to inspect and approve the installation of building sewers and their connection to the public sewer system.

d. **Sewage.** A combination of the water carried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface and storm waters as may be present.

e. **Sewer.** A pipe or conduit for carrying sewage.

⁷ **Editor's Note:** Article 3 sets forth the provisions of Gen. Ord. No. 12, 1970, As Amended, which was passed on June 3, 1970. The *1/94 Municipal Code* set forth the provisions of Ord. No. 6, 1961 instead of Gen. Ord. No. 12, 1970, which the 1999 codifiers believe was in error.

s. **Natural Outlet.** Any outlet into a watercourse, pond, ditch, lake, or other body of surface or groundwater.

t. **Watercourse.** A channel in which a flow of water occurs, either continuously or intermittently.

u. **Person.** Any individual, firm, company, association, society, corporation, or group.

v. **Shall** is mandatory; **May** is permissive.

w. **Sludge.** Any discharge of water, sewage or industrial waste which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four (24) hour concentration or flows during normal operation.

x. **Board.** The Board of Public Works and Safety of the City or its duly authorized agent or employee. (Gen. Ord. No. 12, 1970, As Amended, §1, 6-3-70; *Journal of Common Council*, pp. 135-136)

Sec. 9-73 Unlawful Discharges.

a. It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the City, or in any area under the jurisdiction of said City, any human or animal excrement, garbage, or other objectionable waste.

b. It shall be unlawful to discharge to any natural outlet within said City, or in any area under the jurisdiction of said City, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this Article.

c. Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage.

d. The owner of all houses, buildings, or properties used for human occupancy, employment, recreation or other purposes, situated within the City and abutting on any street, alley or right-of-way in which there is now located a public sanitary or combined sewer of the City, is hereby required at his expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this Article, within ninety (90) days after date of official notice to do so, provided that said public sewer is within one hundred feet (100') of the property line. (Gen. Ord. No. 12, 1970, As Amended, § 2, 6-3-70; *Journal of Common Council*, p. 137)

Plumbing Rules & Regulations of the Administrative Building Council of the State of Indiana shall apply.

f. Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

g. No person shall make connection of roof, downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer.

h. The connection of the building sewer into the public sewer shall be made by the "Y" branch, if such branch is available at a suitable location. If the public sewer is twelve inches (12") in diameter or less and no properly located "Y" branch is available, the owner shall at his expense install a "Y" branch in the public sewer at the location specified by the said Inspector. Where the public sewer is greater than twelve inches (12") in diameter, and no properly located "Y" branch is available, a neat hole may be cut in the public sewer to receive the building sewer, with entry in the downstream direction at an angle of about forty-five degrees (45°) ell may be used to make such connection, with the spigot end cut so as not to extend past the inner surface of the public sewer. The invert of the building sewer at the point of connection shall be in the upper quadrant of the public sewer; provided that connection may be made at a lower point in the public sewer upon approval by the Board. A smooth neat joint shall be made, and the connection made secure and water tight by encasement in concrete. Special fittings may be used for the connection only when approved by the said Inspector.

i. The applicant for the building sewer permit shall notify the said Inspector when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the said Inspector or his representative.

j. All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the said City.

k. Cleanout shall be installed at all building sewer deflections exceeding forty-five degrees (45°). (Gen. Ord. No. 12, 1970, As Amended, § 4, 6-3-70; *Journal of Common Council*, pp. 139-140)

Sec. 9-76 Discharge Regulations.⁸

⁸ Editor's Note: § 9-7 through § 9-68 set forth pretreatment regulations and should be consulted.

(2) Any water or waste containing fats, wax, grease, or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two degrees (32°) and one hundred fifty degrees (150°) F.

(3) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (3/4) horsepower or greater shall be subject to the review and approval of the Superintendent.

(4) Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

(5) Any waters or wastes containing iron, chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage treatment works exceeds the limits established by the Board for such materials.

(6) Any waters or wastes containing phenols or other taste or odor-producing substances, in such concentrations exceeding limits which may be established by the Board as necessary, after treatment of the composite sewage, to meet the requirements of the State, Federal, or other public agencies of jurisdiction for such discharge to the receiving waters.

(7) Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Board in compliance with applicable State or Federal regulations.

(8) Any waters or wastes having a pH in excess of 9.5.

(9) Materials which exert or cause:

(A) Unusual concentrations of inert, suspended solids (such as, but not limited to, Fullers earth, lime slurries, and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).

(B) Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

(C) Unusual B.O.D., chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.

(D) Unusual volume of flow or concentration of wastes constituting "slugs" as defined herein.

(10)

with the latest edition of "Standard Methods for the Examination of Water and Wastewater," published by the American Public Health Association, and shall be determined at the control manhole provided, or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the sewage works and to determine the existence of hazards to life, limb, and property.

j. No statement contained in this Section shall be construed as preventing any special agreement or arrangement between the City and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the City for treatment, subject to payment therefor, by the industrial concern. (Gen. Ord. No. 12, 1970, As Amended, § 5, 6-3-70; *Journal of Common Council*, pp. 140-143)

Sec. 9-77 Damage Prohibited.

No unauthorized person shall maliciously, willfully or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the municipal sewage works. Any person violating this provision shall be subject to immediate arrest under charge of disorderly conduct. (Gen. Ord. No. 12, 1970, As Amended, § 6, 6-3-70; *Journal of Common Council*, pp. 143-144)

Sec. 9-78 Inspections, Samplings and Testing.

a. The Superintendent, Inspector, and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, observation, measurement, sampling, and testing in accordance with the provisions of this Article. The Board or his representatives shall have no authority to inquire into any processes including metallurgical, chemical, oil, refining, ceramic, paper, or other industries beyond that point having a direct bearing on the kind and source of discharge to the sewers or waterways or facilities for waste treatment. At any time upon request of the Board, Industrial Users shall furnish quantitative and qualitative analyses of their effluent to the Board.

b. While performing the necessary work on private properties referred to in Sec. 9-78 a. above, the Board or duly authorized employees of the City shall observe all safety rules applicable to the premises established by the company and the company shall be held harmless for injury or death to City employees and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in Sec. 9-76 h.

a. **Septic Tank.** A septic toilet, chemical closet and any other watertight enclosure used for storage and decomposition of human excrement and domestic wastes.

b. **Seepage Pit.** A dry well, leaching pit or any other cavity in the ground which receives the liquid discharge of a septic tank.

c. **Cesspool.** A cavity in the ground which receives human excrement and domestic wastes to be partially absorbed directly by the surrounding soil. (*1964 Terre Haute Municipal Code*, § 1311.01)

Sec. 9-89 License Required.

No person shall engage in the servicing and cleaning of septic tanks, seepage or cesspools within the City until such time as he has applied for and has been issued a license to do so by the City Controller. (*1964 Terre Haute Municipal Code*, § 1311.02)

Sec. 9-90 State License; City License Fee.

No person shall be issued a license by the City Controller until such time as he displays or gives evidence of the fact that a license to engage in the servicing and cleaning of septic tanks, seepage pits and cesspools has been issued to him by the State Health Commissioner. In the event the applicant establishes that he has been duly licensed by the State Health Commissioner, and upon the payment of a license fee of Twenty Five Dollars (\$25.00), the City Controller shall issue a license to the applicant permitting the applicant to engage in servicing and cleaning septic tanks, seepage pits and cesspools within the City. Such license shall be valid during the calendar year for which the State license was issued. (*1964 Terre Haute Municipal Code*, § 1311.03)

Sec. 9-91 State Approved Vehicles and Equipment.

Licenses under this Article shall use only State approved vehicles and equipment as required by State law. (*1964 Terre Haute Municipal Code*, § 1311.05)

Sec. 9-92 Disposal of Waste at City Disposal Plant; Regulations and Rates.¹¹

a. **SEPTIC TANK SERVICE INSIDE COUNTY.** Every person engaged in the business of servicing or maintaining septic tanks, seepage pits or cesspools within the County, may dump all such waste at the Terre Haute Sewage Disposal Plant, at the place provided therefor. A laboratory analysis of said waste may be performed by the Wastewater Treatment Plant, for any person who so desires. Fees may be charged by Wastewater Treatment Plant for said laboratory analysis.

¹¹ Editor's Note: Gen. Ord. No. 14, 1990, As Amended § 1311.05 amended Gen. Ord. No. 2, 1984 which had been passed on March 8, 1984.

For the use of and services rendered by the sewage works, rates and charges shall be collected from the owners of each and every lot, parcel of real estate or building that is connected to the City's sewage system or otherwise discharges sanitary sewage, industrial wastes, water or other liquids, either directly or indirectly, into the sewage system of the City of Terre Haute, which rates and charges are payable as hereinafter provided and shall be in an amount determinable as follows:

Except as in this Article otherwise provided, the sewage rates and charges shall be based on the quantity of water used on or in the property or premises subject to such rates and charges as the same is measured by the water meter there in use and shown by the consumption records of the water utility serving the City of Terre Haute and its inhabitants. (Gen. Ord. No. 1, 1977, As Amended, § 1, 2-10-77, *Journal of Common Council*, p. 19)

Sec. 9-99 Minimum Charges.

The water usage schedule and the applicable sewage rates and charges based thereon shall be as follows as of the dates shown:

a. The rate for water used or sewage discharged inside the City shall be:

July 1, 2004 One Dollar and Fifty One Cents (\$1.51) per one hundred (100) cubic feet.

January 1, 2005 Two Dollars and Forty Eight Cents (\$2.48) per one hundred (100) cubic feet. (Gen. Ord. No. 12, 2004, As Amended, 7-8-04)

b. A minimum charge for any user inside the City per month or quarter according to the billing period shall be:

July 1, 2004 Four Dollars and Seventy Two Cents (\$4.72).

January 1, 2005 Seven Dollars and Seventy Six Cents (\$7.76) except that in the event the user is not a metered water customer, the minimum charge shall be determined by means and methods satisfactory to the City. (Gen. Ord. No. 12, 2004, As Amended, 7-8-04)

c. The rate for water used or sewage discharged outside the City shall be:

July 1, 2004 One Dollar and Eighty Nine Cents (\$1.89) per one hundred (100) cubic feet.

January 1, 2005 Three Dollars and Ten Cents (\$3.10) per one hundred (100) cubic feet. (Gen. Ord. No. 12, 2004, As Amended, 7-8-04)

control over this budget as it does with those of the several city departments. (Gen. Ord. No. 1, 1977, As Amended, § 1(c), 2-10-77, *Journal of Common Council*, pp. 19-20)

Sec. 9-101 Role of Board of Public Works and Safety.

The quantity of water obtained from sources other than the water utility serving the City of Terre Haute and discharged into the sewage system may be determined by the City in such manner as the Board of Public Works and Safety shall elect and the sewage services shall be billed at the above appropriate rates. (Gen. Ord. No. 1, 1977, As Amended, § 1(d), 2-10-77, *Journal of Common Council*, p. 20)

Sec. 9-102 Measuring Devices for Users Who Are Not Water Users.

In the event a lot, parcel of real estate or building discharging sewage, industrial wastes, water or other liquids into the City's sewage system, either directly or indirectly, is not a user of water supplied by the water utility serving the City of Terre Haute and its inhabitants and the water used thereon and therein is not measured by a meter, or is measured by a meter not acceptable to the City, then the amount of water used shall be otherwise measured or determined by the City in order to ascertain the rate or charge, or the owner or other interested party, at his expense, may install and maintain meters, weirs, volumetric measuring devices or any adequate and approved method of measurement acceptable to the City for the determination of the sewage discharge. (Gen. Ord. No. 1, 1977, As Amended, § 1(e), 2-10-77, *Journal of Common Council*, p. 20)

Sec. 9-103 Meters and Measuring Devices for Certain Users.

In the event a lot, parcel of real estate or building discharging sewage, industrial wastes, water or other liquids into the City's sewage system, either directly or indirectly, is a user of water supplied by the water utility serving the City of Terre Haute and its inhabitants and in addition uses water from another source which is not measured by a water meter or is measured by a water meter not acceptable to the City, then the amount of water used shall be otherwise measured or determined by the City in order to ascertain the rate or charge, or the owner or other interested party, at his expense, may install and maintain meters, weirs, volumetric measuring devices or any adequate and approved method of measurement acceptable to the City for determination of sewage discharge. (Gen. Ord. No. 1, 1977, As Amended, § 1(f), 2-10-77, *Journal of Common Council*, p. 20)

Sec. 9-104 Volume, Strength and Character of Sewage and Waste.

a. In order that the rates and charges may be justly and equitably adjusted to the services rendered, the City shall have the right to base its charges not only on volume but also on the strength and character of the sewage and waste which it is required to treat and dispose of. The City shall have the right to measure and determine the strength and content of all sewage and wastes discharged, either directly or indirectly, into the City's sanitary sewerage system, in such manner and by such method as may be deemed practical in the light of the conditions and attending circumstances of the case, in order to

5/8	base fee
3/4	1.5 times base fee
1	2.5 times base fee
1½	6 times base fee
2	10 times base fee
3	23 times base fee
4	41 times base fee
6	case by case

If an additional or larger meter is installed for an existing non-single family residential customer, a connection fee shall be assessed based on the following formula:

Additional flow generated by the customer divided by flow generated by average single family residential customer multiplied by the base fee. (Gen. Ord. No. 35, 2004, 12-09-04)

Sec. 9-106 Application for Permit; Waivers.¹⁴

The owner of each and every lot, parcel of real estate or building who makes or is ordered by the Board of Public Works and Safety to make application for a permit to connect with the sewage system of the City shall pay a charge or charges for such permit and connection as follows:

a. Such owner shall make application on a special form furnished by the City. The permit applications shall be supplemented by any plans, specifications, or other information considered pertinent in the judgment of the inspector. There shall be paid to the City Controller at the time the application is filed a permit and inspection fee in the amount of Ten Dollars (\$10.00) regardless of the type of connection or the type of premises for which connection is sought.

The Board of Public Works and Safety may waive the connection charges (but not permit and inspection fee) provided for herein where such owner's participation in the construction of a local sewer, which local sewer is connected with the City's sewage works system, results in his share of the cost of construction of such local sewer being more than the applicable connection charge or charges. The Board of Public Works and Safety may also waive connection charges, (but not the permit and inspection fee) where the property owner relinquishes to the City, right-of-way, easement or other rights of property, real or intangible, that are deemed to be of equal or greater value than the connection charge. (Gen. Ord. No. 1, 1977, As Amended § 2, (a) & (b), 2-10-77, *Journal of Common Council*, pp. 21-22)

Sec. 9-107 Definitions.

¹⁴ Editor's Note: Subsection c of § 2 of Gen. Ord. No. 1, 1977, as amended, was not included since it specifically dealt with contracts of the 1967 calendar year.

a. Such lawn sprinkling allowance shall be computed in accordance with the following formula:

The Sewage Billing Department shall select the quarterly billing periods within the preceding year reflecting the lowest and the highest volume of water consumed by the user. To the lowest volume of water consumed, an additional thirty percent (30%) shall be added to reflect the normal summertime usage. The sprinkling adjustment shall be an amount equal to the excess volume between the highest volume consumed during the preceding year and the normal summertime usage (which is the lowest volume consumed plus thirty percent (30%)). The adjustment will be applied to one (1) quarterly billing during each year as selected by the Sewage Billing Department.

b. In no instance shall estimated quarterly usage volumes be used in calculating the sprinkling allowance, usage must be from actual meter readings. Further, applicant must have been an occupant and active user of the sewage disposal system for no less than one (1) year. (*1/94 Terre Haute Municipal Code*, § 915.02, (h), p. 24)

Sec. 9-111 Utility Deposits.

a. Deposits by Users.

All person applying for the use of and using water within the City of Terre Haute, Indiana, upon the inception of such use and upon application for such use shall be required to pay a deposit for an assessment to such user for a three (3) month period, prior to the commencement of such water usage by such person. (Gen. Ord. No. 3, 1966, As Amended, § 1, 1-8-72)

b. The Handling and Retention of Water Deposits.

The sewage disposal works shall be and is empowered to collect and retain deposits as provided in Section a. herein, and be further empowered to establish a separate account for the deposit of same in the name and under the control of said sewage works, and be further empowered to invest the same in tangible bills and any other evidence of debt and authorized to retain, as fees for handling said account, all interest or other accrual payments as the sole property of said sewage works. (Gen. Ord. No. 3, 1966, As Amended, § 2, 1-8-72)

c. Refunds of Water Deposits.

The sewage disposal works, from and after the expiration of three (3) years shall be and is directed to refund to any such user the deposit so paid by such user provided and on the condition that such user has kept current his water bill and sewage disposal fees during said three (3) year period and further provided that said user's water bill and sewage disposal fees are current at the date of the proposed refund after the expiration of said three (3) year period. (Gen. Ord. No. 3, 1966, As Amended, § 3, 1-8-72)

All revenues received on account of the sewage system shall be segregated and kept in a special fund separate and apart from all other funds of the City, which special fund is designated as the "*Revenue Fund*". Out of the Revenue Fund the proper and reasonable expenses of operation, repair, and maintenance of the sewer system (including an allowance for depreciation) shall be paid and the requirements of the Sewage Works Sinking Fund shall be met. The City shall keep proper books of records and accounts, separate from all of its other records and accounts, in which complete and correct entries shall be made showing all revenues collected from said sewer system and deposited in the Revenue Fund, and all disbursements made therefrom on account of the operation of the sewer system, and to meet the requirements of the Sewage Works Sinking Fund, also all other financial transactions relating to the sewer system; including the amounts set aside or credited to the Operation and Maintenance Fund, the Sewage Works Sinking Fund and the Sewage Works Improvement Fund, and the cash balances in each of said funds as of the close of the preceding fiscal year. There shall be prepared and furnished to the original purchasers of the bonds and, upon written request, to any owner of the bonds at the time then outstanding, not more than ninety (90) days after the close of each fiscal year, income and expense and balance sheet statements of the sewer system covering the preceding fiscal year, which annual statements shall be certified by the City Controller, or the person charged with the duty of auditing the books and records relating to the said sewer system, or an independent certified public accountant employed for that purpose. Copies of all such statements and reports shall be kept on file in the Office of the City Controller. Any owner or owners of the bonds then outstanding shall have the right at all reasonable times to inspect the sewer system and all records, accounts, and data of the City relating thereto. Such inspections may be made by representatives duly authorized by written instrument.

From and after the delivery of any bonds issued under the provisions of this Article, all gross revenues of the sewer system shall be set aside and apportioned as follows:

a. On the third Friday of each month there shall be set aside and paid out of the Revenue Fund into the Operation and Maintenance Fund created pursuant to the 1961 Ordinance and continued pursuant to the 1978 Ordinance, an amount considered necessary and sufficient to pay the reasonable current expenses of operating and maintaining the sewer system for the current month, which amount shall be applied as provided in Sec. 9-121 hereof. In the event of a deficiency further transfers may be made from the Revenue Fund in like manner on any subsequent date to the extent necessary to pay the expenses of operation and maintenance actually accrued and payable.

b. After the payment required by the preceding paragraph a. there shall next be set apart and paid out of the Revenue Fund into the Sewage Works Sinking Fund, in monthly installments, amounts as provided in Sec. 9-121 hereof to pay the interest on and principal of the bonds authorized, and any parity bonds as may be issued and outstanding under the conditions and restrictions hereinafter set forth, and to pay all other amounts required to be paid therefrom pursuant to said Sec. 9-121. Computations for such monthly payments into the Sewage Works Sinking Fund shall be made as of November 1

principal of and interest on the bonds authorized by this Article and the other parity bonds and the payment of any amounts authorized pursuant to said 1961 Ordinance and the 1978 Ordinance. The Sewage Works Sinking Fund shall be continued until all of the bonds issued under the 1961 Ordinance, the 1978 Ordinance, and this Article have been paid in full. Except as otherwise provided herein, monies shall be set aside and paid into said Sewage Works Sinking Fund as provided in Section 10 of the 1961 Ordinance, Section 9 of the 1978 Ordinance and this Sec. 9-121.

There shall be set aside and paid into said Sinking Fund monthly as available, or as necessary, a sufficient amount of the net revenues of the sewer system for the payment of:

(1) the interest on all bonds payable from said Sinking Fund as such interest shall become due,

(2) the necessary fiscal agency charges for paying said bonds and interest,

(3) the principal of all bonds payable from said Sinking Fund as such principal shall become due, and

(4) an additional amount as a margin of safety and for the payment of premiums upon bonds redeemed by call or purchase, which margin, together with any unused surplus of such margin carried forward from the preceding year, shall equal not less than fifteen percent (15%) of all other amounts so required to be paid into said Sinking Fund. The bonds issued pursuant to the 1961 Ordinance and the 1978 Ordinance and the bonds authorized by this Article shall be of equal priority in respect to the payment of interest and principal from the moneys in said Sewage Works Sinking Fund. The monthly payments into said Sinking Fund shall be in an amount equal to at least one twelfth (1/12) of the amount required for such payments during the then next succeeding twelve (12) calendar months and shall continue until such time as said fund shall contain an amount sufficient to pay all of the herein authorized bonds then outstanding, together with the interest thereon to the dates of maturity thereof. In addition to said required monthly payments into the Sewage Works Sinking Fund, all of the net revenues of the sewage system not used in making said required sinking fund payments shall be set aside and paid into said Sinking Fund monthly, as available, until there has been accumulated in said Sewage Works Sinking Fund, over and above said required payments, as an additional reserve, an amount equal to the sum of the principal of and interest on all then outstanding bonds which will be payable during the then next succeeding twelve (12) calendar months. Thereafter, said reserve fund shall be maintained at such level, and additional amounts of net revenues shall be deposited in said fund from time to time to the extent necessary to maintain such level.

c. There is created within the Sewage Works Sinking Fund, a *Debt Service Account* and a *Reserve Account*. Monies set aside to pay principal and interest on the bonds shall be credited to the Debt Service Account. Monies set aside to pay necessary fiscal agency charges, monies set aside as a margin of safety and to pay premiums upon

Sec. 9-123 Sanitary District.¹⁶

Sec. 9-124 through Sec. 9-129 Reserved for Future Use.

¹⁶ Editor's Note: *I.C.* § 36-9-25-1 through *I.C.* § 36-9-25-39, address sanitation districts in cities which adopt the state law by proper ordinance.

APPENDIX F

Pretreatment Program Standard Forms

Industry Survey
Noncompliance and Enforcement Response Plan
Application for Industrial Wastewater Pretreatment Permit
Grease Trap and Grease Interceptor Installation Forms
Grease Trap and Grease Interceptor Inspection Forms

TERRE HAUTE

INDUSTRY SURVEY

Name of Industry: _____ Phone Number: _____

Site Address: _____

Correspondence Address: _____

Standard Industrial Classification Number (SIC): _____

Name and Title of the person filling out this form: _____

Who should the Terre Haute Wastewater Utility contact if we have questions about the information submitted in this questionnaire?

Name: _____ Title: _____ Phone: _____

Name: _____ Title: _____ Phone: _____

What year was this industry established on the current site? _____

Description of the Industry and its Operations: _____

Nature of Business: _____

Principle Products or Services: _____

Are any Resource Conservation and Recovery Act (RCRA) regulated wastes stored at this site? _____

Yes, give details: _____

Who handles the waste materials (in house)? _____

Name(s) of the waste hauler(s) and/or land disposal site(s):

Name: _____ Site: _____

Name: _____ Site: _____

Name: _____ Site: _____

Does your facility have any wastewater pre-treatment capabilities (such as a grease trap, lint trap, heat re-claimer, metals recovery system, etc)? _____ If yes, please describe briefly: _____

List any environmental control permits held by your industry: _____

Has any wastewater sampling and analysis been done? _____ If yes, who did the sampling and analysis and are the results available? _____

Remarks, Comments, Etc.: _____

Terre Haute Wastewater Treatment Plant

Noncompliance and Enforcement Response Plan

NONCOMPLIANCE	CIRCUMSTANCES	RESPONSE
1. Failure to submit required reports or data	Isolated or infrequent occurrences	Telephone contact (ISPP)
2. Continued failure to report	Failure to respond after telephone contact	Notice of Noncompliance (ISPP)
	Failure to respond to Notice of Noncompliance	Compliance meeting (ADM)
	Failure to act on decision of Compliance Meeting	Administrative Order (ADM)
	Failure to carry out Administrative Order	Prosecution (ATTY)
3. Failure to submit required reports or data	Repeated or frequent occurrence	Compliance meeting (ADM)
4. Continued failure to report	Failure to act on decision of Compliance meeting	Administrative Order (ADM)
	Failure to carry out Administrative Order	Prosecution (ATTY)
5. Failure to meet Compliance Schedule	For good cause	Written acceptance of excuse and Revision of schedule (ISPP)
	Bad faith	Notice of Noncompliance (ISPP)
6. Continued schedule violations	Failure to respond to Notice of Noncompliance	Compliance Meeting (ADM)
	Failure to act on decision of Compliance Meeting	Administrative Order (ADM)

- | | | |
|--|--|--|
| 13. Exceeding discharge limits or prohibited discharge | Major excursion; minor excursion; or no known damage | Compliance Meeting (ADM) |
| | Failure to act on decision of Compliance Meeting | Administrative Order (ADM) |
| | Failure to carry out Administrative Order | Prosecution (ATTY)
Termination of Service (ADM) |
| 14. Exceeding discharge limits or prohibited discharge | Damaging | Administrative Order (ADM) |
| 15. Continued discharge violation | Failure to carry out Administrative Order | Prosecution (ATTY)
Termination of Service (ADM) |
| 16. Exceeding discharge limits or prohibited discharge | Disastrous | Prosecution (ATTY)
Termination of Service (ADM) |

(ISPP) Action by Industrial Surveillance/Pretreatment Program
 (ADM) Action by designated Administrator – Utility Director
 (ATTY) Action by the City Attorney

APPLICATION FOR INDUSTRIAL WASTEWATER PRETREATMENT (IWP) PERMIT

Terre Haute Wastewater Treatment Utility
Attn: Pretreatment Department
3200 South State Road 63
Terre Haute, IN 47802

Phone (812) 232-6564 x 206
Fax (812) 232-5217

Note:

- Unless stated otherwise, all items are to be filled out completely. Your application will not be considered complete unless every question is answered on this form. If an item is not applicable, indicate by noting "NA" to show that you considered the question.
- Depending upon the adequacy of the data submitted for determining issuance of a permit, additional information may be required. Please read all questions and attached information prior to completing this application.

Type of IWP Permit

NEW
 RENEWAL
 MODIFICATION

IWP PERMIT NUMBER

PART A: APPLICANT ADDRESS AND CONTACT(S)

► FACILITY/OPERATION

1. Facility name:

2. Mailing address:

City:

County:

State:

ZIP Code:

Facility phone number:

4. Facility e-mail address (optional):

5. Address of operation:

City:

State:

ZIP Code:

► DESIGNATED FACILITY CONTACT PERSON

6. Designated contact name (first, last):

7. Title:

8. Mailing address:

City:

State:

ZIP Code:

9. Phone number:

10. E-mail address (optional):

► DESIGNATED SIGNATORY AUTHORITY

NOTE: Signatory Authorization is defined in 327 IAC 5-16-5(b)

11. Designated signatory authority name (first, last):

12. Title:

13. Address:

City:

State:

ZIP Code:

14. Phone number:

15. E-mail address (optional):

(Continued on page 2)

PART C: PROCESS DESCRIPTION

Describe the product(s) manufactured or service(s) provided:

Provide a detailed description of the manufacturing process(es) or service activities conducted on premises, especially those processes that involve or generate wastewater (use additional sheets if necessary).

(Continued on page 4)

PART E: WATER LOSS INFORMATION

35. For the following items, provide the average volume of discharge or water loss (GPD).

a. Natural outlet or storm sewer: _____ GPD

i) Do you have an NPDES permit for the discharge to the Natural Outlet or Storm Sewer?

Yes* No

ii) *If yes, provide the permit number: _____

b. Waste hauler: _____ GPD

c. Evaporation: _____ GPD

d. Contained in product: _____ GPD

e. Other*: _____ GPD

*Specify:

PART F: WASTEWATER DISCHARGE(S) TO SANITARY OR COMBINED SEWERS

36. For each line to the municipal sewer, list average wastewater discharge (actual, expected or potential - please specify by checking the appropriate box) from the following sources prior to pretreatment (if any). With a checkmark, indicate the outfall to which the waste-stream discharges (if there are additional outfalls, please attach additional copies of this page of the form):

Source	WW Discharge Volume (GPD)	Volume Based On (Check One)	Outfall #1	Outfall #2	Outfall #3
a. Process Waste-stream #1		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Process Waste-stream #2		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Process Waste-stream #3		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Pretreatment Discharge (if any)		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Boiler Blowdown		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Non-contact Cooling Water (once through)		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Sanitary Water		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Other Specify: _____		<input type="checkbox"/> Actual Volume <input type="checkbox"/> Expected Volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Include an attachment describing how each flow (36 a.-h. above) is generated

(Continued on page 6)

PART I: SEWER INFORMATION

Existing Facility

43. If source is not connected to sanitary sewer, has the source applied for sanitary sewer hookup?

Yes No

NEW FACILITY OR NEW DISCHARGER

44. Will the source be connected to the public sanitary sewer system?

Yes No

PART J: TREATMENT

45. Is any form of wastewater treatment practiced at this facility?

Yes No

46. Do you have a certified operator for your pretreatment facility?

Yes No

47. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the immediate future?

Yes* No

*If yes, please describe:

48. Description of Pretreatment:

Include step-by-step procedure, including any process equipment, design capacity, and operating conditions. Attach a process-flow diagram of the pretreatment.

▶ Attach a process-flow diagram of the pretreatment.

PART K: SAMPLING DATA

49. Attach any representative sampling data³ pertaining to the facility discharge to the sewer system. Explain below and/or in the attachment(s) where and when the sampling was accomplished, what type of sample was taken (i.e., grab, composite), and how many samples were analyzed. Be sure the sampling and analytical methods conform to 40 CFR Part 136. If they do not, indicate what method was used.

▶ Attach any sampling data³ pertaining to the facility discharge to the sewer system.

(Continued on page 8)

³If no sampling data is available, testing must be performed on the discharge for any pollutant believed to be present. The sample must be a 24-hour composite taken during normal production activity and/or representing typical wastewater flows. A representative list of pollutants is contained in Table I (on page 10 of this application). Please check the pollutants you know or suspect of being in your discharge. New facilities should use the table to indicate what pollutants will be present or suspected to be present in proposed wastestreams.

PART O: AUTHORIZED REPRESENTATIVE STATEMENT

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."

Name/Title

Date (mm/dd/yyyy)

Signature

Phone # ((xxx) xxx-xxxx)

TABLE 1: POLLUTANTS OF CONCERN (CONTINUED)

TOXIC ORGANICS: HALOGENATED ALIPHATIC DROCARBONS	CONVENTIONAL POLLUTANTS: (LISTED IN 40 CFR 401.16)
<input type="checkbox"/> Ethane, 1,1-dichloro-	<input type="checkbox"/> Biochemical Oxygen Demand (BOD)
<input type="checkbox"/> Ethane, 1,2-dichloro-	<input type="checkbox"/> pH (Acid or Base)
<input type="checkbox"/> Ethane, 1,1,1-trichloro-	<input type="checkbox"/> Total Suspended Solids (TSS)
<input type="checkbox"/> Ethane, 1,1,2-trichloro-	<input type="checkbox"/> Oil and Grease (O&G)
<input type="checkbox"/> Ethane, 1,1,2,2-tetrachloro-	
<input type="checkbox"/> Ethane, hexachloro-	NONCONVENTIONAL POLLUTANTS OF CONCERN: (NOT LISTED AS TOXIC OR CONVENTIONAL)
<input type="checkbox"/> Ethylene, chloro-; Vinyl Chloride	<input type="checkbox"/> Ammonia (NH3)
<input type="checkbox"/> Ethylene, 1,1-dichloro-; 1,1-DCE	<input type="checkbox"/> Chlorides (Cl-1)
<input type="checkbox"/> Ethylene, 1,2-trans-dichloro-	<input type="checkbox"/> Sulfides (S-2)
<input type="checkbox"/> Ethylene, trichloro-; TCE	<input type="checkbox"/> Total Dissolved Solids (TDS)
<input type="checkbox"/> Ethylene, tetrachloro-; Perchloroethylene	<input type="checkbox"/> Phosphate (PO4)
<input type="checkbox"/> Propane, 1,2-dichloro-	<input type="checkbox"/> Chemical Oxygen Demand (COD)
<input type="checkbox"/> Propylene, 1,3-dichloro-	
<input type="checkbox"/> Butadiene, hexachloro-; HCBD	
<input type="checkbox"/> Cyclopentadiene, hexachloro-; HCCPD	
TOXIC ORGANICS: PESTICIDES	
<input type="checkbox"/> alpha-Endosulfan	
<input type="checkbox"/> Endosulfan sulfate	
<input type="checkbox"/> beta-Endosulfan	
<input type="checkbox"/> Hexachlorocyclohexanes:	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/> alpha-BHC	
<input type="checkbox"/> beta-BHC	
<input type="checkbox"/> gamma-BHC	
<input type="checkbox"/> delta-BHC; Lindane	
<input type="checkbox"/> Aldrin; HHDN	
<input type="checkbox"/> Dieldrin; HEOD	
<input type="checkbox"/> 4,4'-DDE	
<input type="checkbox"/> 4,4'-DDT; p,p'-DDT	
<input type="checkbox"/> 4,4'-DDD; p,p'-DDD; p,p'-TDE	
<input type="checkbox"/> Endrin	
<input type="checkbox"/> Endrin aldehyde	
<input type="checkbox"/> Heptachlor	
<input type="checkbox"/> Heptachlor epoxide	
<input type="checkbox"/> Chlordane	
<input type="checkbox"/> Toxaphene	
TOXIC ORGANICS: OXYGENATED COMPOUNDS	
<input type="checkbox"/> Acrolein	
TOXIC ORGANICS: MISCELLANEOUS	
<input type="checkbox"/> Isophorone	
<input type="checkbox"/> 2,3,7,8-tetrachlorodibenzo-p-dioxin; TCDD; dioxin	

City of Terre Haute Wastewater Utility

Grease Trap and Grease Interceptor Installation Form

Inspector: _____

Signature: _____

Date: _____

Time Inspection Started: _____

Time Inspection Completed: _____

Establishment: _____

Address: _____

Contact Name: _____

Phone: _____

Compliance

1. Each grease trap serves not more than four single compartment sinks of the same depth. Grease trap is sized based upon the number of fixtures discharging to it.
2. Grease trap has a water seal of not less than two inches in depth or the diameter of its outlet, whichever is greater.
3. No food waste disposal unit or dishwasher is connected to or discharges into any grease trap.
4. Waste from toilets and urinals do not discharge to the grease interceptor.
5. Waste in excess of 140° F is not discharged to any grease trap. (Dishwasher with a minimum temperature of 160° F is not discharged to any grease trap.)
6. The vertical distance between the fixture outlets and grease trap weirs is as short as practical.
7. Grease interceptor is as close as practical to the fixtures served.
8. Each fixture connected to a grease trap is provided with an approved type flow control or restricting device installed in a readily accessible and visible location. Devices shall be designed so that the flow through the device or devices at no time exceeds the rated capacity of the grease trap or interceptor.
9. Each fixture discharging into a grease trap or interceptor is individually trapped and vented in an approved manner.
10. Each grease trap and interceptor is properly vented to allow air circulation throughout the entire drain system.
11. No water jacketed grease trap or interceptor is installed.

15. Redwood baffles are not installed in grease interceptor.

26. A sample box is provided on the outlet side of the grease interceptor. This is recommended and may be required by the Uniform Plumbing Code so that the Wastewater Treatment Utility can periodically sample the effluent quality.

27. Grease interceptor is permanently and legibly marked with the manufacturer's name or trademark, model number, Uniform Plumbing Code certification mark and registration (if product listed by the International Association of Plumbing and Mechanical Officials), and any other markings required by law.

Additional Notes and Comments:

C = Compliance with the item

V = Violation of the item (provide explanation in the notes)

NA = Not applicable (provide explanation in the notes)

○ = Not checked (provide explanation in the notes)

City of Terre Haute
Grease Trap Inspection Form

Inspection Date: _____ Time: _____ Inspector: _____

Previous Inspection Date: _____ Deficiencies: _____

Restaurant Name: _____

Address: _____

Manager/Owner Name: _____ Signature: _____

Number of deep fryers: _____ How are contents disposed? _____

Location of grease trap: _____

Condition of grease trap: _____

Date when last emptied: _____ Disposal Method: _____

How often emptied: _____

Emptied by: Restaurant Personnel or name of Septic Service _____

List any Bio-enzymes or chemicals that are added to the grease trap:

Comments/Corrective Actions:

12. Grease and oil storage containers are protected from discharge to storm drains.
13. Absorbent pads or other materials (not free flowing material such as cat litter) are used to clean up any spills or leakages that could reach the storm drain.
14. Storm drain catch basins show no signs of grease or oil.
15. The roof shows no signs of grease and oil from the exhaust system.
16. The exhaust system filters are cleaned regularly, which is documented by cleaning records. *Note and record frequency of cleaning.*

Additional Notes and Comments:

- Compliance with the item
V = Violation of the item (provide explanation in the notes)
NA = Not applicable (provide explanation in the notes)
NC = Not checked (provide explanation in the notes)