

EXECUTIVE SUMMARY

E.1 INTRODUCTION

This 2011 Long Term Control Plan (LTCP) consolidates and updates information from the original LTCP dated May 2002, the 2007 and 2010 LTCP Updates, subsequent responses to review letters, and flow monitoring results of all combined sewer overflows (CSOs) entered into a storm water management model (SWMM).

This LTCP was prepared to comply with an approval schedule set by a State Judicial Agreement and comments by the Indiana Department of Environmental Management (IDEM) on previous LTCP versions. The LTCP includes a computer model of the combined sewer system that includes all of the CSOs, evaluation of alternatives to meet water quality standards, recent public input via a citizen's advisory committee and public meetings, and Muncie's current financial capability to afford and implement CSO control measures.

E.2 DEVELOPMENT OF ALTERNATIVES

In this LTCP, alternatives for the reduction of combined sewer overflows were considered for all of the overflow locations. CSO reduction options evaluated included the following technologies:

- In-System Storage
- Retention and Treatment at the WPCF
- Retention and Treatment at site(s) remote from the WPCF
- Transport for Treatment at the WPCF site
- Sewer Separation

For each CSO location a probable project cost was developed for each CSO reduction technology that was considered to be feasible for that location. These alternative projects for individual CSOs were then grouped into overall system alternatives that provide for varying or similar levels of control. The SWMM Model was used to calculate the expected reduction in the volume of combined sewer overflows as calculated on an average annual basis and the reduction in the number of overflow events also calculated on an average annual basis. The model was also used to determine the expected reduction in volume of CSO for the "Design Storms."

E.3 RECOMMENDED ALTERNATIVE

The selected alternative, Alternative B, which consists of separating the entire combined sewer system (84 miles) and critical wet weather projects at the water pollution control facility, is discussed in detail in **Chapter 4**. The estimated cost of Alternative B, in 2008 dollars, is \$160 million. This alternative was selected by the Citizen's Advisory Committee and recommended to the Muncie Sanitary District Board of Sanitary Commissioners on March 9, 2010. The recommended alternative will increase the average customer's sewer bill (based on 5,000 gallons per month usage) by an average \$2.88/yr. based on the implementation schedule in **Table E-1**.

E.4 IMPLEMENTATION SCHEDULE

The selected plan will be accomplished over a 20-year period. **Table E-1**, illustrates the recommended implementation schedule. **(All monies are in 2008 dollars)**

TABLE E-1
IMPLEMENTATION SCHEDULE AND
ALTERNATIVE B COST/BENEFIT FOR PROJECTS IN SEWER SEPARATION

<i>Project Description</i>	<i>Estimated Control Project Cost (Million)</i>	<i>Estimated Target Implementation Time</i>	<i>Probable Annual Treated/Eliminated CSO Volume (MG)</i>	<i>Benefit Cost (\$/MG)</i>
Projects at the WPCF				
Primary Power Protection Plan	\$5	2012-2016		
WW Pump Station	\$18.7	2020-2024	425	\$ 73,882
WW Treatment Facility	\$12.7	2020-2024		
Projects in the Collection System				
CSO #24 Separation	\$0.5	2012-2016	28	\$ 16,071
White River Interceptor Separation	\$2.8	2012-2016	146	\$ 19,178
CSO #2 Separation	\$0.5	2012-2016	8	\$ 62,500
CSO #28 Separation Balance of Area	\$5.8	2016-2020	64	\$ 90,625
CSO #7 Separation	\$3.4	2016-2020	37	\$ 91,892
CSO #28 Separation of Flood Sta. #4	\$2	2016-2020	20	\$ 100,000
CSO #12 Separation	\$6	2016-2020	59	\$ 100,000
CSO #13 Separation	\$1	2016-2020	9	\$ 111,111
CSO #15 SR 32 Replacement Separation	\$18.4	2016-2020	103	\$ 178,641
CSO #9 Separation	\$1.3	2024-2028	7	\$ 185,714
CSO #23 Separation	\$4.5	2024-2028	23	\$ 195,652
CSO #1 Separation	\$0.9	2024-2028	3	\$ 300,000
CSO #27 Separation	\$4.4	2024-2028	11	\$ 400,000
CSO #26 Separation	\$1.8	2024-2028	4	\$ 450,000
CSO #4 Separation	\$0.1	2024-2028	0.1	\$ 1,000,000
CSO #25 Separation	\$0.2	2024-2028	0.1	\$ 2,000,000
CSO #22 Separation	\$30.1	2028-2031	200	\$ 150,500
CSO #15 Separation Balance of Area	\$38.7	2028-2031	207	\$ 186,957
Total	\$160		1576	\$ 101,510