

# Revised Capacity Assurance Plan

**Clark Dietz**  
ENGINEERS

## In response to SSO Events of:

- 12/15/2007
- 2/6/2008
- 3/4/2008
- 3/18-19/2008
- 3/27/2008
- 4/4/2008
- 5/2-3/2008



FOUNDED 1813

## City of New Albany

## January 2009

**Clark Dietz, Inc.**  
**8900 Keystone Crossing, Suite 900**  
**Indianapolis, Indiana 46240**

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## 1.0 INTRODUCTION

During December 2007 through May 2008, the City of New Albany experienced capacity related sanitary sewer overflows (SSOs), including discharges on December 15, 2007; February 6, 2008; March 4, 18-19, and 27, 2008; April 4, 2008; and May 3, 2008. In accordance with Paragraph 57 of the Amended Consent Decree and the letter received on December 18, 2008 from the U.S. Environmental Protection Agency (Attachment A), the City of New Albany requested that Clark Dietz, Inc. prepare a Capacity Assurance Plan (CAP) Update to address the aforementioned SSOs. The following sections summarize the storm events, resulting hydrologic conditions, and action items the City plans on implementing to reduce the risk of future SSOs.

## 2.0 OVERFLOW EVENTS

The aforementioned storm events and SSO locations are summarized below. Basin maps showing SSO locations are located in Attachment B.

### December 15, 2007 Event

Average Rainfall: 1.8 inches over 18 hours

SSOs: MH 3C-57  
MH 16-31  
MH 16-31A  
MH 16-38  
1658 Terry Lane  
18-15  
18-16

### February 5 – 6, 2008 Event

Average Rainfall: 1.54 inches over 24 hours

SSOs: MH 3C-57  
MH 18-15  
MH 18-16  
MH 16-38  
MH 16-31  
MH 16-31A

March 3 – 4, 2008 Event

Average Rainfall: 2.05 inches over 35 hours

SSOs: MH 3C-57  
MH 18-15  
MH 18-16  
MH 16-38  
MH 16-31  
MH 16-31A  
MH 30-C3\* (not shown on Figure 2)

\* EMC responded to a customer call and found that the sewer line downstream of MH 30-C3 was blocked. The blockage has been removed.

March 18 – 19, 2008 Event

Average Rainfall: 3.66 inches over 38 hours

SSOs: MH 3C-57  
MH 18-15  
MH 18-16  
MH 22C-2  
MH 14-123A  
MH 28-39\*  
MH 28-122\*  
MH 13-C47  
MH 16-38  
MH 16-31  
MH 16-31A  
MH 16-83  
MH 30-11

\* EMC found a root ball had blocked the line downstream from this location. The blockage has been removed. Problem still occurring in subsequent events.

March 26 – 27, 2008 Event

Average Rainfall: 1.66 inches over 12 hours

SSOs: MH 3C-57  
MH 18-15  
MH 18-16  
MH 28-39\*  
MH 28-122\*  
MH 16-38  
MH 16-31  
MH 16-83  
MH 14-C41\*\* (not shown on Figure 4)  
Between MH 29-59 and 29-60\*\*\* (not shown on Fig. 4)

\* EMC reported that SSO was believed to be blockage that caused SSO on March 18 – 19 storm event. EMC is currently investigating further.

\*\* EMC found blockage in response to a customer call. Blockage removed. The bolt down manhole lid at this location was also repaired.

\*\*\* An 8-inch sewer line between these manholes collapsed. Emergency repair completed.

April 3 – 4, 2008 Event

Average Rainfall: 2.73 inches over 23 hours

SSOs: MH 18-15  
MH 18-16  
MH 28-39\*  
MH 28-122\*  
MH 13-C47  
MH 13-107A  
MH 16-38  
MH 16-31  
MH 16-31A  
MH 16-83  
MH 30-11

\* EMC reported that SSO was believed to be blockage that caused SSO on March 18 – 19 storm event. EMC is currently investigating further.

May 2 - 3, 2008 Event

Average Rainfall: 2.81 inches over 18 hours

SSOs: MH 13C-46  
MH 13C-47  
MH 14-101  
MH 14-123B  
MH 16-31  
MH 16-31A  
MH 16-38  
MH 16-83  
MH 18-15  
MH 18-16  
MH 22C-2

**3.0 SUMMARY OF HYDROLOGIC CONDITIONS AND SSO EVENT CAUSES**

The overflows that occurred during the SSO storm events outlined in the previous section were capacity related. Ground conditions appear to have had a significant role in the overflow occurrences.

Precipitation preceding and during the months in which overflows occurred were above normal\*. Particularly, December 2007 and March of 2008 which were among the wettest on record (third and fourth respectively). The above normal rainfall coupled with a dormant growing season and cold weather created saturated ground conditions. During such conditions, infiltration into the sanitary sewer system is increased. In addition, when large rain events occur on saturated ground conditions, runoff is significantly increased. The increased infiltration and runoff was evident by the total flow treated at the wastewater treatment plant and the level of Falling Run, the waterway to which the treatment plant discharges. December 2007, February, March, April, and May of 2008, resulted in total treated monthly flows at the treatment plant that were five of the six highest recorded since the plant was upgraded in 2005. The table below summarizes the total monthly treated flows at the plant since 2005.

**Table 3-1 Total Monthly Influent Flow (MG) at WWTP since 2005 Expansion**

Month	Year			
	2005	2006	2007	2008
January		356.06	365.05	272.78
February		256.01	274.95	403.74
March		319.93	331.32	623.46
April		382.96	347.92	359.89
May	253.53	244.12	214.98	357.74
June	192.47	249.44	163.23	195.18
July	205.76	242.03	177.80	180.76
August	191.51	207.41	166.48	159.18
September	176.01	303.12	157.56	150.38
October	157.58	311.28	250.74	164.86
November	257.18	285.30	203.07	162.80
December	227.36	293.22	420.86	241.04

Falling Run was at or above its 25-year flood stage during December of 2007, February, March, and April of 2008.\*

Although only three (March 18-19, April 3-4, and May 2-3) of the seven SSO events were approaching or larger than the CAP design storm (3.4 to 3.7 inches over 27 hours), these were large, regional events that distributed fairly homogeneous amounts of rainfall across the City onto saturated ground. The saturated ground conditions coupled with the dormant growing season and cold weather created hydrologic conditions producing flows within the sewer system approaching or exceeding the CAP design storm flows.

*\*Detailed information on event rainfall and Falling Run water levels were included in memos previously submitted to the U.S. EPA dated March 4<sup>th</sup>, May 13<sup>th</sup>, and August 21<sup>st</sup> of 2008.*

#### **4.0 REVISED CAPACITY ASSURANCE PLAN**

This section outlines the actions the City of New Albany plans to take to reduce the risk of future SSOs in the collection system. The action items are organized by basin, lift station, or system wide basis.

#### **4.1 System Wide Infiltration and Inflow (I/I) Removal**

Paragraph 18 of the Amended Consent Decree requires the City to remove sources of I/I. The April 19, 2006 Memorandum of Understanding (MOU) outlines the specific changes that the City must make to address I/I and were outlined by the modified Appendix D of the original CAP. Attachment C includes the modified Appendix D of the CAP.

Attachment D of this report contains the current schedule for the cleaning and televising of the sewers within the basins of New Albany's collection system. As shown on the referenced schedule, the City's operator, EMC, has completed cleaning and televising of Basins 10, 11, 12, 28, 23, 6, 20, 18, 26, 2, 5, 1, 15, 16, 27, 29, 19, 7, 1A, 22, 13, and 32. To date, I/I repair work identified by the cleaning and televising program has been completed in Basins 10, 11, 12, 6, 20, 18, 26, and 15. Repair work identified by the cleaning and televising in Basin 16 will be complete by February 15, 2009. The City will submit completion documentation for all basins in which I/I repairs have been completed (Basins 10, 11, 12, 6, 20, 26, and 15), excluding the previously submitted Basin 18 documentation, to the U.S. EPA and the Indiana Department of Environmental Management (IDEM) along with the February monthly report.

Cleaning and televising of the remaining basins defined by the MOU and the modified Appendix D of the CAP (Basins 30, 4, 33, 21, 14, 8, and 17) will be completed by the end of 2009 at which time the City will continue cleaning and televising of the remaining basins in the collection system (basins assigned a peaking factor of less than 6.0 in the 1999 SSES Report) that were not included in the MOU or modified Appendix D of the CAP.

The City will continue completing the I/I removal repair work identified by the cleaning and televising as soon as practicably possible in accordance with the MOU and Paragraph B of the modified Appendix D by completing a minimum of \$500,000 of I/I removal work within the collection system per year. Upon completion of the I/I repair work in a basin, the City will submit completion documentation to the U.S. EPA and IDEM consisting of CCTV logs, CCTV tapes, repair project descriptions and/or work orders generated in response to CCTV findings, and documentation of repair completion. The I/I repair completion documentation will be submitted in conjunction with the monthly report immediately following the month of completion of the repairs.

#### **4.2 System Wide Flow Monitoring and Data Reporting**

The City has initiated a study to improve its permanent flow monitoring and reporting throughout its sewer collection system. The project is intended to

improve the data retention from the flow monitoring system, improve the reliability of the data collection system, and provide for the long term growth of the data collection system. The improvements will enhance the control of the entire wastewater system and provide information which will allow system planning to occur in a timely fashion. The project will consist of an upgrade to their existing SCADA system.

The SCADA system upgrade is intended to make programming and software improvements to the reporting system for the three existing influent meters at the plant and for the five existing remote pump stations and flow monitoring sites. The existing pump station meters are located at the Prosser, Mt. Tabor, Basin 14, Robert E. Lee, and Charlestown Road lift stations. The SCADA reporting modifications will provide more frequent data points stored that will allow better historical trending of lift station and sewer system flows. All trending data will be collected and stored at 15 minute intervals. The modifications will allow the City to create reports for daily flow totals along with daily and hourly maximum and minimum flow rates. The improvements to the SCADA system should be completed by April 2009 allowing the data collection to begin.

#### **4.3 Prosser, Mt. Tabor, and Basin 14 Lift Stations**

In the December 18, 2008 letter from the U.S. EPA, concern was expressed over the Basin 14 lift station operating near its design capacity during the overflow events. The Prosser, Mt. Tabor, and Basin 14 lift stations are hydraulically connected and therefore the U.S. EPA will withhold approval of the addition of flows from the Stonecrest development, which discharges into the Prosser lift station, until the City demonstrates adequate capacity is available. Attachment E contains a schematic representation of the system that was included in the original CAP.

The City will be initiating an engineering study to evaluate the existing Prosser, Mt. Tabor, and Basin 14 lift stations that will identify potential upgrades that could maximize the stations capacity while still utilizing existing force mains. The City plans to initiate this study in February 2009 and have it completed by May 2009. The study will identify potential upgrades, if necessary, to the stations and their feasibility. The study will be forwarded to the U.S. EPA upon its completion in May 2009.

As reflected in the schedule in Attachment D, cleaning and televising of the majority of the basins that are tributary to the Prosser, Mt. Tabor, and Basin 14 lift stations has not been completed to date. The I/I repair projects yet to be identified

by the cleaning and televising in these basins will aid in reducing the peak flows to the Prosser, Mt. Tabor, and Basin 14 lift stations.

Prosser, Mt. Tabor, and Basin 14 lift stations currently have flow meters installed but currently do not have adequate historic reporting capabilities. The reporting capabilities will be addressed as described in section 4.2. After the SCADA system improvements are completed the recorded data will be reported monthly to the U.S. EPA beginning with the April 2009 monthly report. Based upon the past performance and observed flows at these stations since the completion of the CAP improvements and prior to and after the overflow events occurring during the period of December 2007 to May 2008, the City believes adequate capacity is in place to convey the CAP design storm flows under *normal* soil conditions; and believes that the soil and hydrological conditions during the overflow events were extraordinary, resulting in flows that were in excess of the CAP design storm flows that were used to size the CAP improvements.

By means previously mentioned, the City plans to aggressively seek ways to remove I/I entering these stations and for upgrades that can increase the capacity of the stations, if needed, while utilizing existing infrastructure. However, the City requests the opportunity to petition the U.S. EPA for relief from the withholding of approval of additional flow to the Prosser, Mt. Tabor, and Basin 14 lift stations as stated in the December 18, 2008 letter. In such a petition, the City would provide monitoring data, collected for a period of time during which storm events equal to or greater than the overflow events that occurred during December 2007 through May 2008, reflecting adequate capacity at the stations with no capacity related overflows. If such monitoring data can be provided and approved, the City would ask that additional flows to the system be authorized in accordance with the existing Amended Consent Decree and MOU.

#### **4.4 Stonecrest / Submitted Capacity Certifications**

By the December 18, 2008 letter, the U.S. EPA is withholding approval of the capacity certification for the Stonecrest project until additional measures are implemented to reduce the likelihood of future SSOs. Most of the concern for the connection of this development to the system stems from the Basin 14 lift station that has reportedly operated near its capacity during the storm events that occurred during the period of December 2007 through May 2008.

As stated in the previous section, the City will continue to be diligent in efforts to remove I/I from the system/lift stations and investigate means by which to maximize the capacity at the stations. The City also requested that if flow data demonstrating there is adequate capacity at the stations during storm events less

than or equal to the CAP design storm with *normal* ground conditions that the capacity certification for Stonecrest be re-examined and ultimately approved.

Previously submitted and recently approved capacity certifications for developments that discharge into the Prosser, Mt. Tabor, or Basin 14 lift stations include IU Southeast Student Housing, Purdue Research Park, and Grantline Development/University Station. These projects have all been initiated; tap-ins to sewer system completed, and have portions of the planned structures in place and serving their intended purpose. The following table summarizes the lift stations impacted by these developments.

**Table 4-2 Capacity Certification Summary**

<b>Development</b>	<b>Lift Station Receiving Flow</b>
IU Southeast Student Housing	Basin 14
Purdue Research Park	Mt. Tabor, Basin 14
Grantline Development/University Station	Basin 14

#### **4.5 Basin 3**

The overflows at manhole 3C-57 in Basin 3 were caused by flow rates exceeding the design capacity of the existing Robert E. Lee Lift Station. This overflow occurred in nearly all of the previously mentioned overflow events. The City of New Albany has recognized this capacity problem and completed capacity upgrades. The Robert E. Lee interceptor in Basin 3 upgrade was granted final completion in February 2007. The Robert E. Lee Lift Station and Force Main upgrades are complete with final completion granted in June and March of 2008 respectively. The capacity of the Robert E. Lee lift station is now 4180 gpm (previously 2100 gpm). This capacity will accommodate the CAP design storm plus future development.

In accordance with a letter received September 3, 2008 from the U.S. EPA, the City is gathering the requested flow monitoring data in regard to the issuance of sewer credits for the amount of I/I removed by the Robert E. Lee interceptor project. The City expects to have captured enough qualifying data to submit the requested information by March 1, 2009.

#### **4.6 Basin 13**

The manholes that overflowed during the December 2007, February, March, April, and May 2008 events are located on the main interceptor serving the east side of Basin 13. Portions of Basin 15, 16, and all of Basin 7 drain to this

interceptor. During CAP storm conditions the sewer model showed this sewer having adequate capacity with no surcharging. The City cleaned and televised this line and found significant root intrusion that obstructed flows. The City obtained a contractor to clean and remove the roots from the line and re-televised the line in September 2008. The line is now clear and does not appear to have any other obstructions or damage of concern and has been added to the City's root maintenance program. The City will submit the necessary completion documentation of the line and repair work to U.S. EPA by February 15, 2009.

#### **4.7 Basin 14**

The overflows in Basin 14 appear to be caused by flows that exceeded the peak flows generated by the CAP design storm, however, the City has adjusted the gate at the Basin 14 wet weather lift station in an effort to reduce the risk of future overflows in this basin.

As mentioned in section 4.2 the City is in the process of modifying their SCADA system to record and capture flows from all the major lift stations having flow meters in place, including the Basin 14 lift station. The SCADA system upgrade is scheduled to be completed by April 2009. The recorded flow data will be submitted monthly (starting with the April 2009 monthly report) to the U.S. EPA and monitored to assess the impact of lowering the gate at the Basin 14 lift station and the stations performance.

#### **4.8 Basin 16**

The SSOs that occurred in Basin 16 during the overflow events in December 2007, February, March, April, and May 2008 are believed to be caused by flows exceeding the CAP design storm flows.

The City has completed cleaning and televising of this basin and identified \$368,000 of I/I removal repairs within the basin. The I/I removal repairs are scheduled to be complete by February 15, 2009. The City will submit the required completion documentation to U.S. EPA for the repairs along with the March 2009 monthly report. Three flow monitors have been installed within the basin, in manholes 16-30F, 16-83, and 16-45A, to monitor the effects of the I/I repairs and if any additional improvements will be necessary.

The City has also initiated a study of the McLean lift station within Basin 16 to assess the condition, capacity, and operation of the station. The flow monitoring data that is currently being collected will be used to assess the possibility of upgrading the McLean lift station to handle additional flows from the basin, if necessary, to reduce the risk of future SSOs. The report was originally

anticipated to be complete in September of 2008, but has been delayed in order to complete the I/I repairs and obtain current and accurate flow data and is anticipated to be completed by April 2009. If the study finds that an upgrade to the McLean lift station is necessary, the City plans to authorize design on the new station as soon as practicably possible and no later than June 2009. A copy of the McLean lift station study will be forwarded to the U.S. EPA upon its completion in April 2009.

#### **4.9 Basin 18 and 22**

The overflows that occurred in Basin 18 and 22 are due to a bottleneck in the Basin 18 interceptor that backs up the sewer and impacts the hydraulic grade line of both basins. Subsequent to the CAP, the City has recognized that the Basin 18 interceptor is undersized and has completed the installation of the Basin 18 Gravity Relief Sewer to reduce the risk of overflows in Basins 18 and 22. The project was granted final completion effective October of 2008.

#### **4.10 Basin 28**

The overflows in Basin 28 appear to be related to an equalization pipe that was installed in the spring of 2007 to balance flows and available capacity between basins 28 and 27. The equalization pipe appeared to be working up until the extended wet period and heavy rain events during the first quarter of 2008, in which it appears that the 8-inch equalization sewer is sending too much flow to Basin 28 resulting in surcharging and an overflow at the next downstream low points in the basin. The City's operator, Environmental Management Corporation (EMC), recently installed a restrictor plate on the 8-inch line that will throttle the equalization pipe down to approximately 4 inches. EMC will continue to monitor the effectiveness of balancing flows at this location while the City will initiate a study that will provide and engineered solution. The City anticipates having the study completed by April 2009. Based upon the results of the study, the City plans to authorize the design of a solution, if necessary, or the implementation of a solution outlined by the study by June 2009. The findings of the study will be forwarded to U.S. EPA upon completion of the report in April 2009.

#### **4.11 Basin 30**

The overflows in Basin 30 appear to have been caused by flows greater than those of the CAP design storm; however, during the period of December 2007 to May 2008 EMC observed more wet weather flow to the Mt. Tabor lift station, which receives flow from Basins 30-34. EMC has investigated upstream construction sites to identify any open or displaced manholes, but has not found any to date. During the second half of 2008, EMC noticed that the increased wet weather

flows to the station have subsided to “normal” levels during rain events. As mentioned in section 4.2 the City is in the process of modifying their SCADA system to record and capture flows from all the major lift stations with flow meters in place, including the Mt. Tabor lift station, which is scheduled to be complete by April 2009.

EMC has and will continue to investigate creek crossings in the vicinity of the line that experienced overflows during the December 2007, February, March, April, and May 2008 storm events to see if any problems exist. No significant problems have been identified to date. Cleaning and televising of Basin 32 was recently completed (which is tributary to Basin 30) was recently completed. Cleaning and televising of Basin 30 will be completed by February 27, 2009. The I/I repair projects identified by the cleaning and televising program are expected to aide in reducing the risk of future overflows in this basin.

#### **4.12 Basin 35**

The capacity certification for the Stonecrest development, dated August 29, 2008 and submitted to the U.S. EPA, referenced a planned capacity improvement project in Basin 35. The project is the Basin 35 Interceptor, Phases II & III, which calls for the installation of approximately 6,439 lineal feet of pipe ranging in size from 8-inches to 16-inches in diameter.

The project will provide the upper portion of the Basin 35 interceptor enough capacity to convey full buildout flows from the basin as defined by the December 2007 Sanitary Masterplan prepared by Donohue & Associates. The Basin 35 Interceptor, Phase I project completed in May of 2008 provided the necessary capacity for the lower portion of the Basin 35 interceptor.

The Basin 35 Interceptor, Phases II & III project is designed and currently in the permitting phase, which should be completed by May 2009. Construction is scheduled to begin July 2009 and be complete by January 2010.

## **5.0 SUMMARY**

The overflows that occurred in the New Albany sewer system as a result of the December 2007, February, March, April, and May 2008 storm events were capacity related. Although several of the storm events were less than the CAP design storm (3.4 to 3.7 inches over 27 hours), the antecedent soil moisture conditions, resulting from above normal and near record setting precipitation, created hydrologic conditions producing flows approaching or exceeding flows recorded during the CAP design storm.

The **Table 5-1** represents a summary of the action items the City plans on implementing to address I/I removal within the collection system and to reduce the risk of future SSOs.

While the City will continue to be diligent in their efforts to prevent SSOs in the system by completing the items listed in the table below, they also request the opportunity to petition the U.S. EPA for relief on the decision to withhold the approval of additional flows entering the Prosser, Mt. Tabor, and Basin 14 lift stations. In such a petition, the City shall provide flow monitoring documentation necessary to convince the U.S. EPA that the stations do have adequate capacity to handle additional flows. The approval of the additional flows to the system would continue to be subject to the terms outlined in the existing amended consent decree and the MOU.

**Table 5-1 Action Item Summary**

<b>Action Item / Description</b>	<b>Estimated Schedule</b>
<i>System I/I Removal</i>	
Continue cleaning and televising of system in accordance with modified Appendix D, per the MOU	<p>Cleaning and televising of remaining basins in MOU (Basins 30, 4, 33, 21, 14, and 17) to be completed by end of 2009, at which time City will continue with remaining basins in the collection system</p> <p>To date cleaning and televising has been completed in Basins 10, 11, 12, 28, 23, 6, 20, 18, 26, 2, 5, 1, 15, 16, 27, 29, 19, 7, 8, 1A, 22, 13, and 32.</p> <p>Schedule located in Attachment D</p>
Complete I/I repair projects identified by cleaning and televising	<p>Repair projects to be completed as soon as practicably possible after identification and will be completed at a minimum expenditure of \$500,000 per year</p> <p>To date I/I repairs have been completed in Basins 10, 11, 12, 6, 20, 18, 26, and 15</p>
Submit documentation of all cleaning, televising, and I/I repair projects	<p>City to submit documentation to US EPA and IDEM for basins 10, 11, 12, 6, 20, 26, and 15 (Basin 18 previously submitted) with February monthly report</p> <p>Completion documentation for basins yet to be cleaned and televised and/or I/I repairs completed, will be submitted in the monthly report of the month following completion of the repairs</p>
<i>Flow Monitoring &amp; Data Reporting</i>	
Upgrade SCADA system to capture flow data (Flows at 15 minute intervals, Total Daily Flow, Peak Hourly Flow) from the existing Prosser, Mt. Tabor, Basin 14, Robert E. Lee and Charlestown Road lift	SCADA system upgrades to be completed by April 2009

<b>Action Item / Description</b>	<b>Estimated Schedule</b>
stations	
Complete study to identify possible upgrades to Prosser, Mt. Tabor, and Basin 14 lift stations to maximize capacity utilizing existing infrastructure	Initiate study February 2009 and complete by May 2009  Submit copy of report to U.S. EPA in May 2009
Submit flow data from Prosser, Mt. Tabor, and Basin 14 lift stations to US EPA for review and re-evaluation of capacity available	Data to be submitted monthly effective with the April 2009 monthly report (after SCADA system upgrade)
<i>Basin 3</i>	
Robert E Lee Force Main and Lift Station projects	Completed March and June of 2008 respectively
Submit additional flow monitoring data as requested by September 3, 2008 letter from US EPA in regard to credit request for removal of I/I by Robert E Lee Interceptor project	Flow monitoring data currently being collected  Expect to receive adequate data and submit response to US EPA by March 1, 2009
<i>Basin 13</i>	
Clean and remove roots from interceptor	Completed September 2008
Re-televise sewer after root removal and submit completion documentation to US EPA	Re-televising of line completed in September 2008  Completion documentation to be submitted to US EPA by February 15, 2009
<i>Basin 14</i>	
Record flows and performance of Basin 14 lift station and submit to US EPA	Data to be submitted monthly effective with the April 2009 monthly report (after SCADA system upgrade)

<b>Action Item / Description</b>	<b>Estimated Schedule</b>
<i>Basin 16</i>	
Complete I/I removal repair projects and submit completion documentation to US EPA	\$368,000 of I/I removal repair projects currently underway and will be completed by February 15, 2009  Completion documentation for I/I repairs completed will be submitted in the March 2009 monthly report
Complete study of McLean lift station	Study currently underway and will be completed by April 2009  If necessary, authorize the design of upgrades to the station by June 2009
<i>Basin 18 and 22</i>	
Complete Basin 18 Gravity Relief Sewer project	Completed October 2008
<i>Basin 28</i>	
Complete study to identify an engineered solution to the equalization problem between Basins 27 and 28	Initiate study by February 2009 and complete by April 2009  Authorize design of solution or begin implementation of solution by June 2009
<i>Basin 30</i>	
Investigate manholes and stream crossings in effort to locate source of excess I/I	Currently underway, City to report any significant findings to US EPA  Cleaning and televising of Basin 32 complete (tributary to Basin 30). Cleaning and televising of Basin 30 to be complete February 27, 2009
<i>Basin 35</i>	
Basin 35 Interceptor, Phases II & III	Permitting complete by May 2009, Bidding May-June 2009, Begin construction July 2010, End construction January 2011

**ATTACHMENT A**

**EPA Response Letter 12/18/2008**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

DEC 18 2008

REPLY TO THE ATTENTION OF:

WC-15J

**CERTIFIED MAIL** 7001 0320 0005 8922 6739  
**RETURN RECEIPT REQUESTED**

The Honorable Douglas B. England  
Mayor of New Albany  
City-County Building  
311 Hauss Square  
New Albany, Indiana 47150

Re: Sanitary Sewer Overflows, Revised Capacity Assurance Plan, Stonecrest Capacity Certification, Inflow and Infiltration Removal; *U.S. and Indiana v. New Albany*, Civil Action No. NA-90-46-C, Amended Consent Decree

Dear Mayor England:

During the past twelve months, the City of New Albany has experienced a number of unpermitted capacity-related sanitary sewer overflows (SSOs), including discharges on December 15, 2007; February 6, 2008; March 4, 18-19, and 27, 2008; April 4, 2008; and May 3, 2008. The above referenced amended consent decree requires in Paragraph 57 that the City submit to the U.S. Environmental Protection Agency a revised capacity assurance plan within 90 days of an event triggering an unpermitted capacity-related discharge. The City should have submitted to EPA a revised capacity assurance plan by March 14, 2008, 90 days after the December 15, 2007 storm event. While the City has submitted some information to EPA regarding projects to address the discharges, it has not submitted a revised capacity assurance plan. The City should provide to EPA such a plan as soon as possible, as failure to submit the revised plan subjects the City to stipulated penalties under paragraph 76 of the amended consent decree.

Based on the information the City has provided to EPA, including reports from Clark Dietz and Environmental Management Corporation (EMC) dated March 4, 2008; May 13, 2008; June 3, 2008; and August 21, 2008; the revised plan should, among other things, address the particular issues outlined below for each basin.

1. Basin 3: Confirm and document completion of Robert E. Lee lift station and force main upgrades. EPA previously requested this documentation in a September 3, 2008, letter issuing 79,020 sewer credits for inflow and infiltration

(VI) removal associated with the replacement of the Robert E. Lee interceptor and withholding an additional 79,020 credits pending receipt of additional information.

2. Basin 13: Confirm completion of root removal work described in the August 21, 2008 Clark Dietz memo and scheduled for August-September 2008, and describe findings and recommendations of the post-cleaning closed-circuit televising (CCTV) also described in the memo.
3. Basin 14: Record and report peak flow rates through the Basin 14 lift station during wet-weather events to assess the impact of lowering the gate to relieve flow from the Basin 14 interceptor, as described in the August 21, 2008 Clark Dietz memo. Include data in monthly report. If lowering the gate is not effective in preventing overflows in Basin 14, the City may need to consider further upgrades to the lift station.
4. Basin 16: The June 3, 2008 memo completed by EMC described a series of repairs required in Basin 16 to eliminate overflows. The revised capacity assurance plan must include a timeline and milestones for completion of Basin 16 repairs, including plans for the upgrade to the McLean lift station. Document completion of repair projects in monthly report.
5. Basins 18 and 22: Confirm completion of Basin 18 relief sewer project, as described in the Clark Dietz memos. Updates included in monthly reports submitted to the Agency have been helpful in monitoring progress on the project.
6. Basin 28: An engineered solution is needed to solve the equalization issues between Basins 27 and 28 as described in the May 13, 2008 Clark Dietz memo. The revised capacity assurance plan must include a timeline for completion of a study, and for implementation of any subsequent projects.
7. Basin 30: The City must report the findings of the EMC investigation into inflow sources to the Mt. Tabor lift station. It must also record and report peak flow rates through the Prosser, Mt. Tabor, and Basin 14 lift stations during SSO events, and include that data in the monthly report. The City needs to evaluate the capacity of these lift stations, and may need to expand these lift stations in its revised capacity assurance plan.

The City should continue to monitor all required locations for overflows, and sample SSOs that occur as required by the amended consent decree.

Stonecrest Capacity Certification: On September 4, 2008, you submitted a capacity certification for the Stonecrest P.U.D. By this letter we are withholding our approval of that capacity certification until New Albany implements additional measures to reduce the likelihood of future SSOs. Until the City completes such measures, the Stonecrest project cannot be allowed to connect to the sewer collection system. Discharges from this project will pass through all three

of New Albany's major lift stations (Prosser, Mount Tabor, and Basin 14). The new Basin 14 lift station has reportedly been at capacity on several occasions. Upstream sources of I/I need to be identified and controlled. As noted above, during SSO events, peak flow rates through the Prosser, Mt. Tabor, Basin 14 lift stations, and/or any other impacted lift station, should be recorded and reported monthly until such time that capacity at these locations has been adequately addressed.

Furthermore, you must confirm the connection status of developments covered by capacity certifications previously approved by the EPA, including IU Southeast, Purdue Research Park, and Grantline Development/University Station. The City must address capacity needs at lift stations impacted by these projects as part of the revised capacity assurance plan. The Stonecrest capacity certification references a number of upgrades to existing sewers in Basin 35. These improvements aimed at increasing capacity must be included in the revised capacity assurance plan.

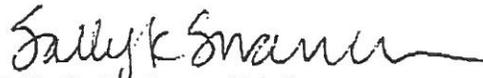
I/I Removal: The wastewater treatment plant has performed well in treating peak wet weather flows during wet weather events. The peak flows at the plant during these events, however, often approached the design capacity of the plant, and indicate an excessive amount of I/I from throughout the system. EPA is concerned that increases to upstream volumes and conveyance capacities will lead to flows exceeding plant capacity if I/I issues are not adequately addressed.

Paragraph 18 of the amended consent decree requires the City to remove sources of I/I. The April 19, 2006, memorandum of understanding, which documents the agreement between the City and EPA settling a dispute over credit issuance and interpretation of the Decree, requires that the capacity assurance plan must include specific changes to the way the City addresses I/I. I have enclosed a copy of Appendix D modified as agreed in the MOU; this should be included in the revised capacity assurance plan.

Paragraph 5 of the April 19, 2006, memorandum of understanding and the modified Appendix D require the City to clean, televise, and repair specific basins within the collection system. The City must repair all conditions identified as significant sources of I/I during televising, and promptly submit completion reports to EPA. Monthly reports submitted to the Agency indicate that the City has completed televising and cleaning approximately one-third of the basins. The I/I removal process for these basins is not complete, however, until the City completes required repairs and submits completion reports to EPA for approval. In order to approve the work, the Agency must receive the completion reports with supporting CCTV logs, CCTV tapes, work orders generated in response to CCTV findings, and documentation of the repairs completed. To date, EPA has only received information for Basin 18. To reduce the likelihood of delays to the approval of basin repairs, and the potential that unapproved basin cleaning work may impact future sewer connections, the City should submit sewer cleaning data as each basin is completed.

As noted above, the City is already late in submitting its revised capacity assurance plan. The City must submit the revised plan as soon as possible but no later than 30 days from the date of this correspondence. If you have questions about this letter please contact Barbara VanTil of my staff at (312) 886-3164 or Erik Olson, Associate Regional Counsel, at (312) 886-6829.

Sincerely,



Sally K. Swanson, Chief  
Water Enforcement and Compliance Assurance  
Branch

Enclosure

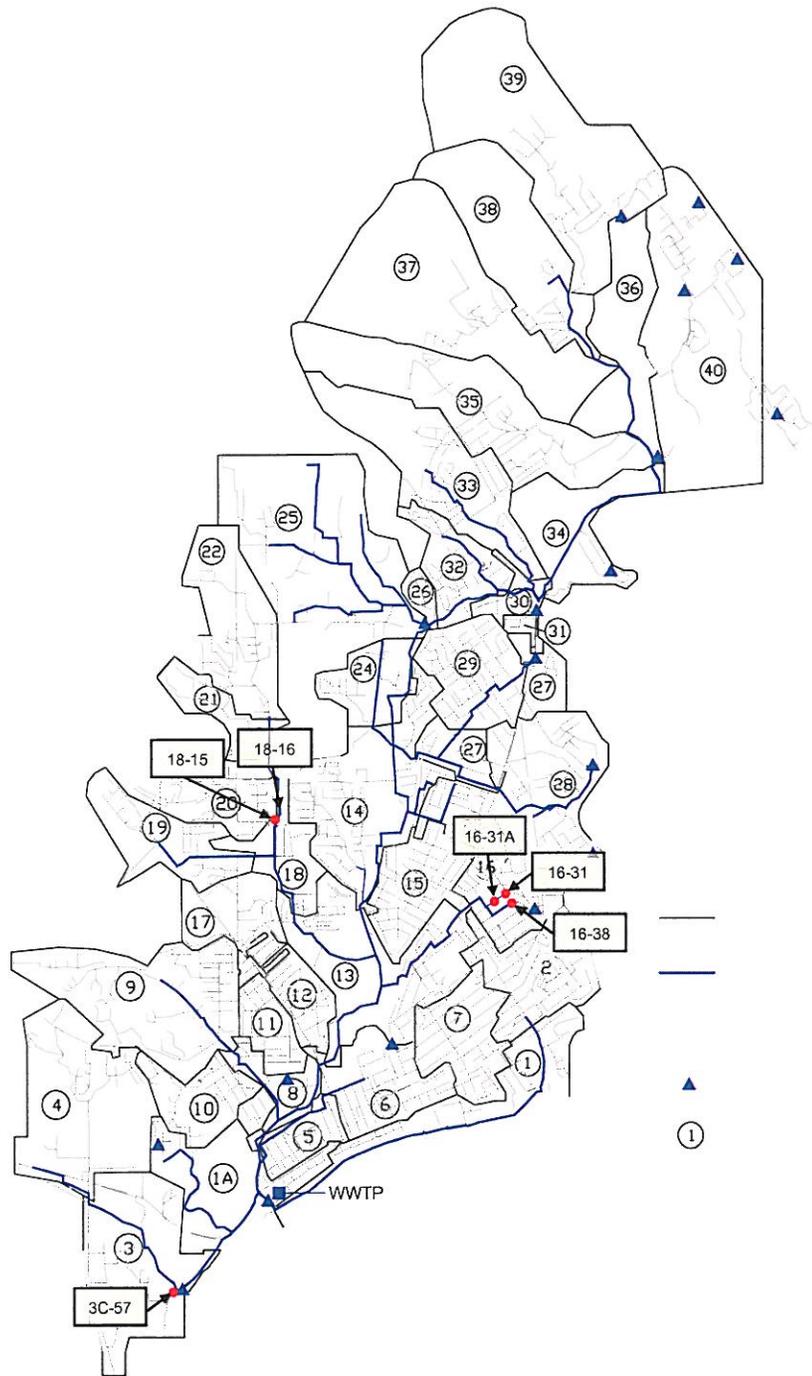
cc: Lee E. Buchanan  
810 E. Market Street  
New Albany, IN 47150

Thomas E. Kieper  
Assistant United States Attorney  
10 West Market Street, Suite 2100  
Indianapolis, IN 46204-3048

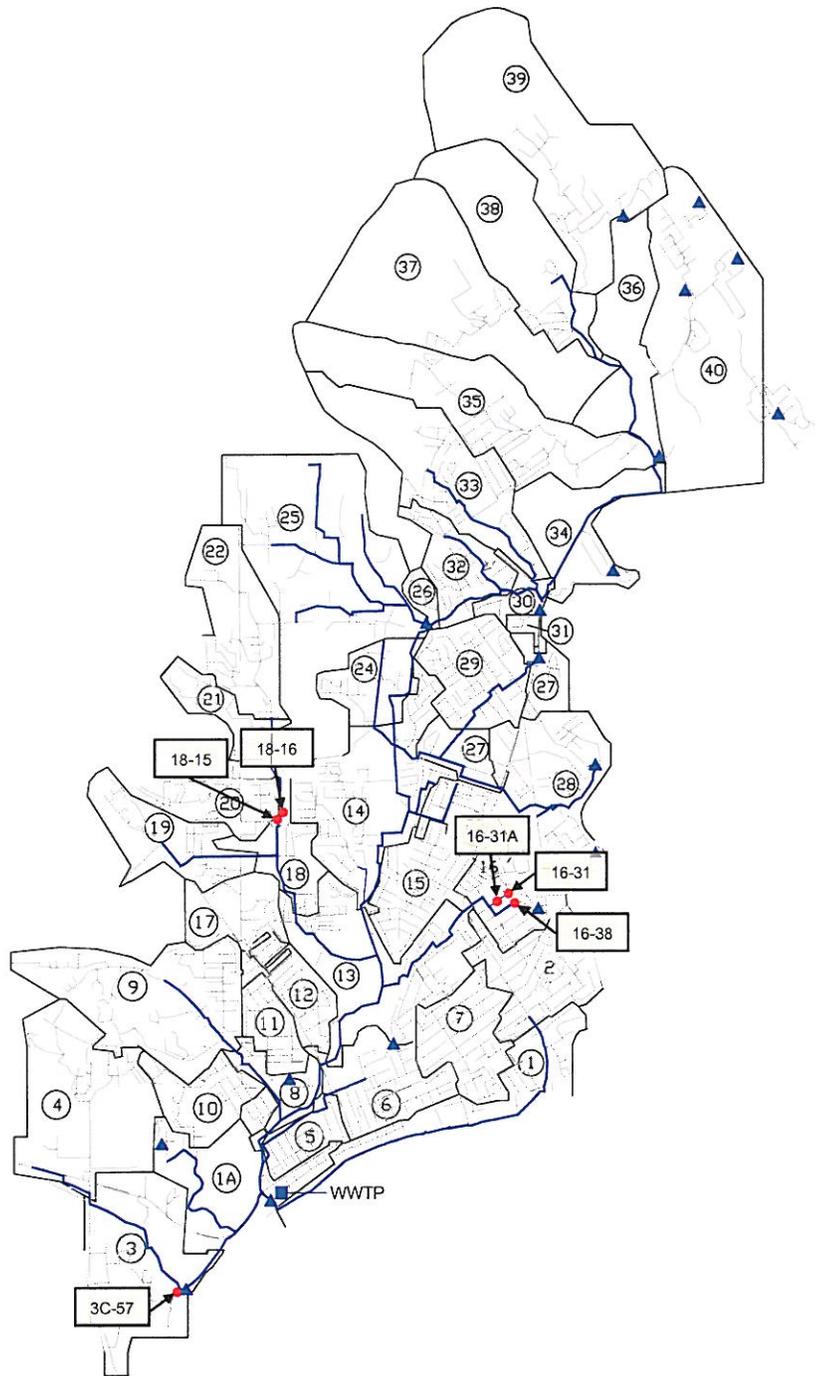
Mark Stanifer, IDEM  
Hala Silvey, IDEM

# **ATTACHMENT B**

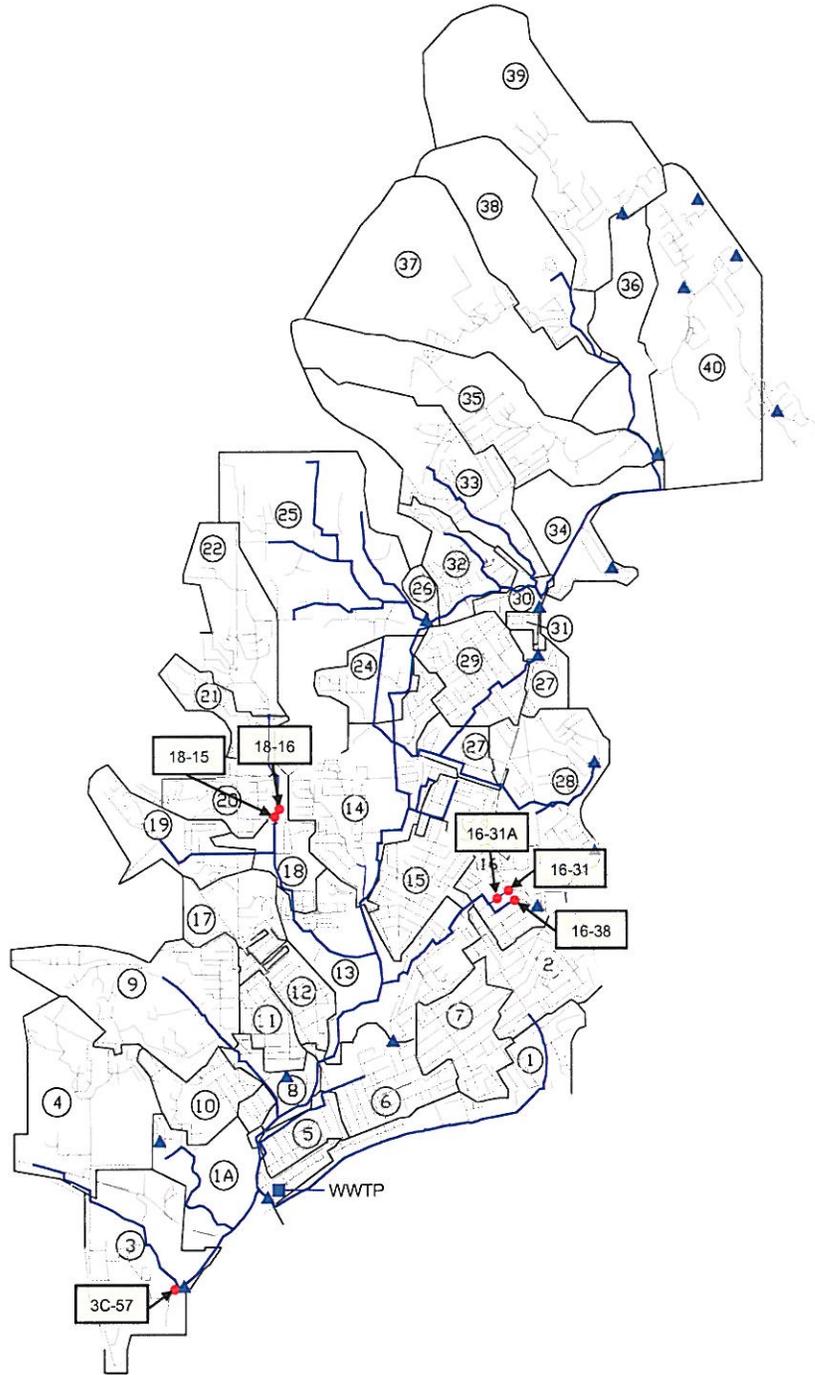
## **SSO Locations on Basin Maps**



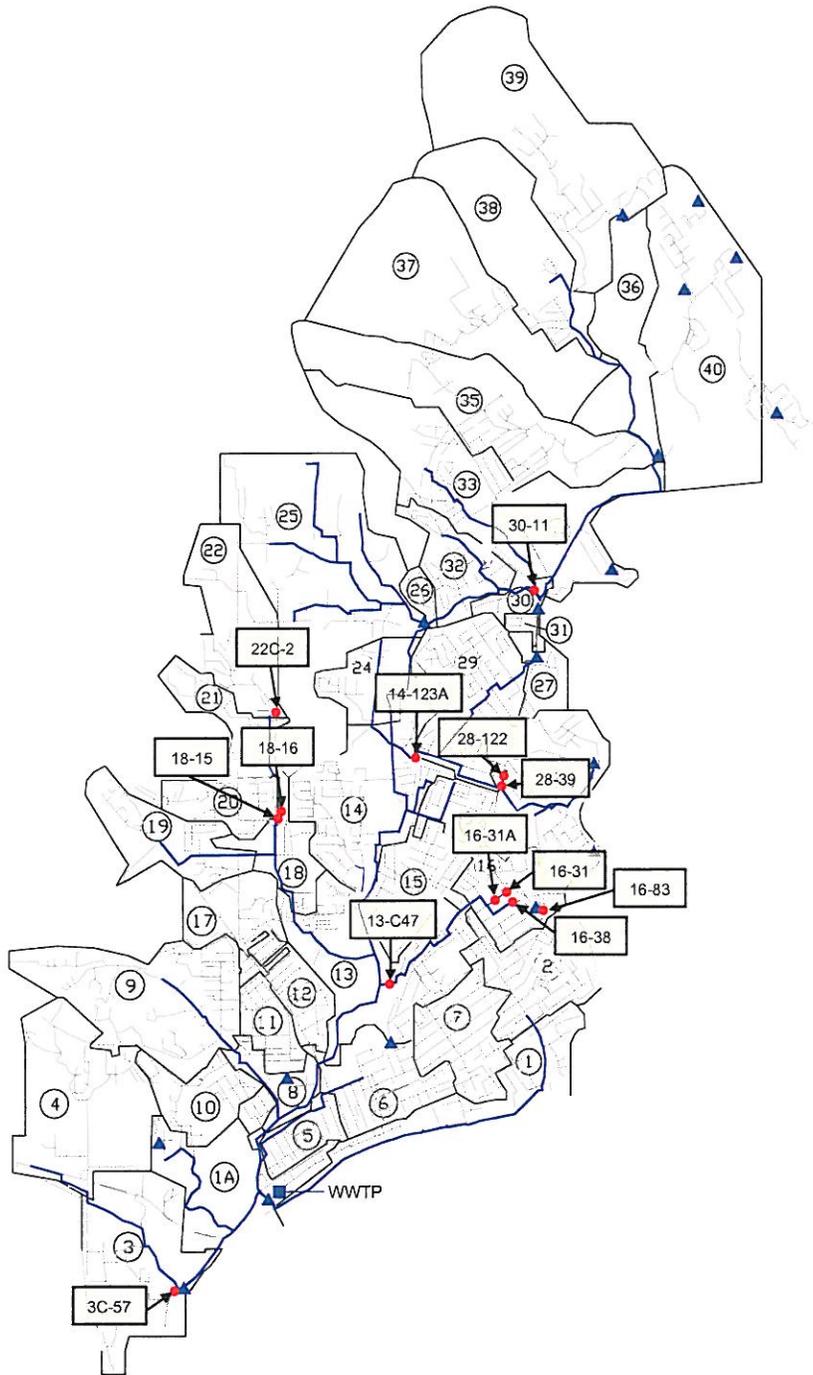
**SSO Locations 12-15-07 Storm Event**



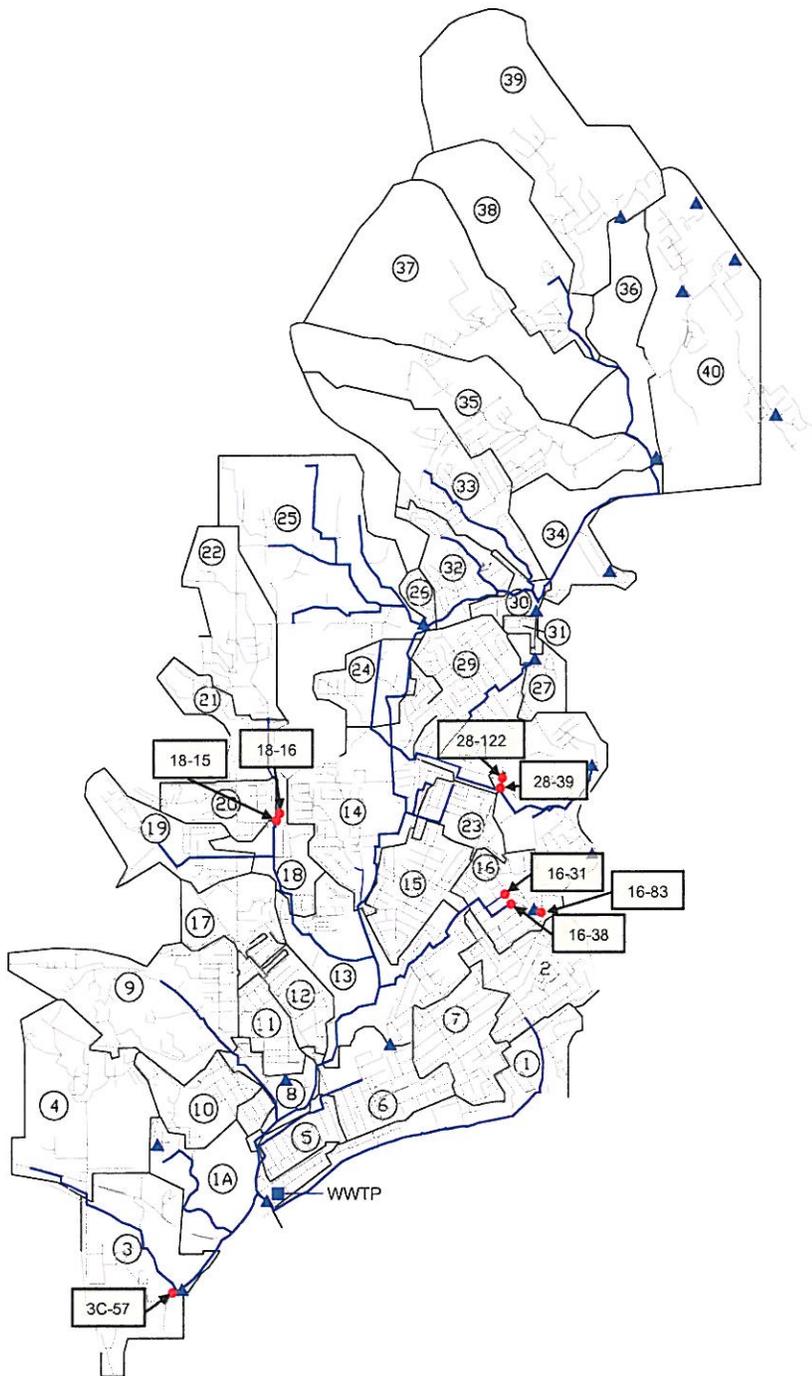
**SSO Locations February 5 – 6, 2008 Storm Event**



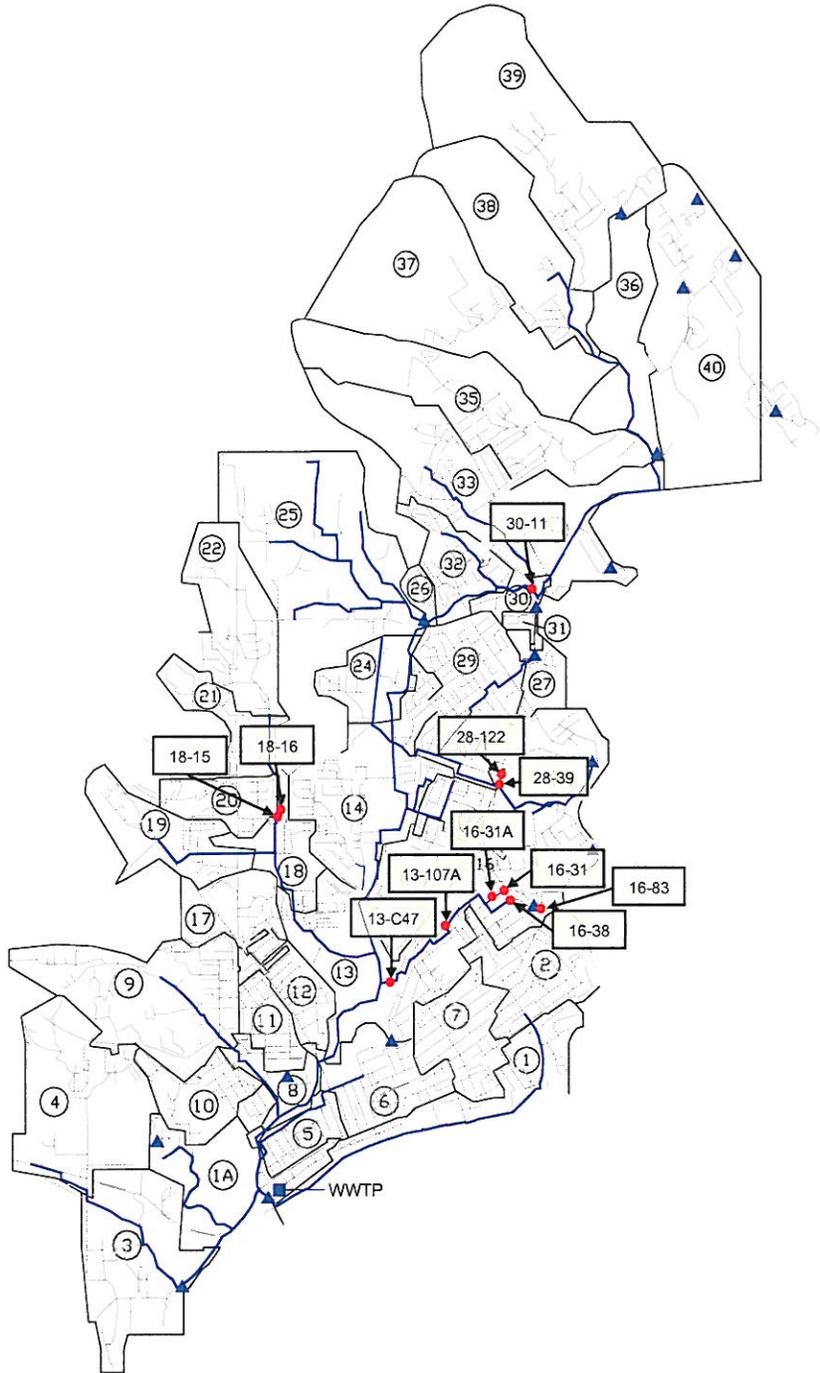
**SSO Locations March 3 – 4, 2008 Storm Event**



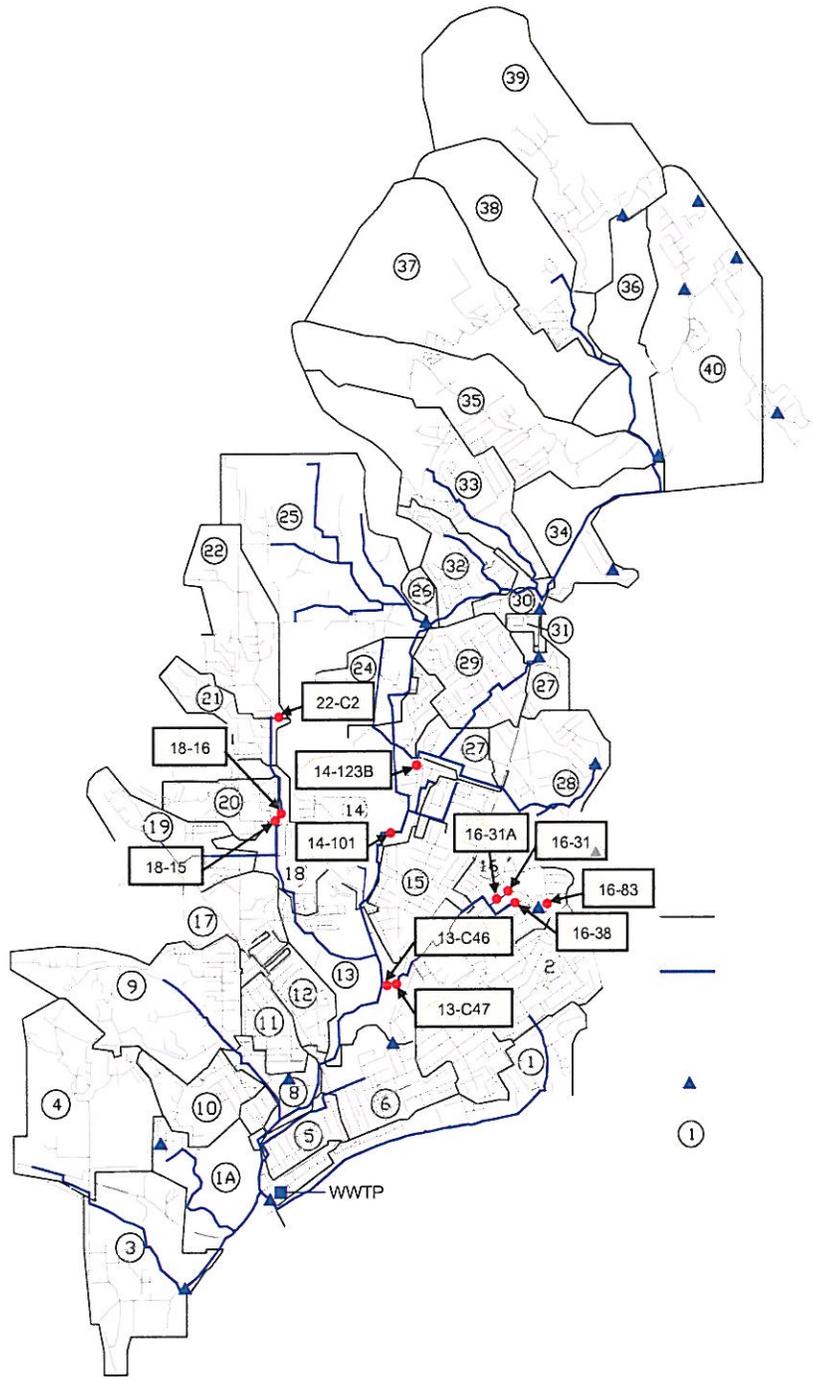
**SSO Locations March 18 – 19, 2008 Storm Event**



**SSO Locations March 26 – 28, 2008 Storm Event**



**SSO Locations April 3 – 4, 2008 Storm Event**



**SSO Locations May 2 – 3, 2008 Storm Event**

APPENDIX D

INFILTRATION AND INFLOW REPAIR WORK PLAN

This Appendix D exists to document the plan by which the City of New Albany, Indiana ("City") will accomplish removal of infiltration and inflow (I/I) to the City's sewer collection system. The Infiltration and Inflow Repair Work Plan ("Plan") is required as part of the Capacity Assurance Plan ("CAP") pursuant to Paragraph 32 of the Amended Consent Decree. This version of Appendix D includes changes negotiated by the parties and documented in the Memorandum of Understanding signed by the City on April 19, 2006, and by U.S. EPA on April 14, 2006.

Failure to implement repair work identified in the plan subjects the City to the enforcement provisions of the Amended Consent Decree.

The following applies to all of the Plan:

- A. The City may deviate from the plan by responding to emergency situations ahead of other sewer repairs to be completed under E(2), below. Emergency situation means sewer blockage or sewer collapse that could immediately cause loss of sewer service, sanitary sewer overflows or basement backups. The City must notify U.S. EPA, using the procedures in paragraph 112 of the Amended Consent Decree, of such an emergency situation and its location within 48 hours of discovering that the emergency exists. The City must submit and certify the following information to U.S. EPA within 14 days of completing the emergency repair: 1) when and how the City learned of the emergency situation; 2) description of the location, nature of the repair, any flow monitoring performed for sewer credits and bypass pumping; 3) for work performed by a private contractor, an inspection report by City utilities personnel of the completed project and certification by the Mayor that the specified work has been completed; and 4) for work completed by City personnel or Environmental Management Corporation (EMC), a copy of the work order for the project certified by the Mayor as having been completed.
- B. The City shall expend not less than \$500,000 per year in performing I/I removal work within the projects within the collection system, including without limitation the projects specified in Paragraph E(2) below. The City may apply any repair expenditures within any other basin subsequently determined as needed to remove I/I towards such annual expenditure requirement. In no event shall expenditures credited towards the City's annual obligation include (a) any labor allocation for employees of the City or the City's operator, (b) improvements intended to provide additional capacity (as opposed to having an I/I removal benefit, in whole or in part), or (c) cleaning or televising expenditures paid to any contractor.
- C. The City shall include a description of I/I repair activities with its monthly operations report, including a listing of all expenditures. Within the monthly operations report the City must certify that the I/I work specified therein has been completed and include the following documentation: (1) for work performed by a private contractor, an inspection

report by the City's utility personnel of the completed project and certification by the operations project manager and the Mayor that the specified work has been completed, or (2) for work completed by City personnel (or EMC), a copy of the work order for the project certified by the operations project manager and Mayor as having been completed. Within 30 days after the end of each calendar year that the Amended Consent Decree remains in effect the City shall further provide a detailed list and accounting of expenditures demonstrating compliance with its obligations under Paragraph B above.

D. Upon approval of this Appendix D to the CAP by the U.S. EPA, this Appendix D may be amended only upon subsequent written application to, and approval by, the U.S. EPA as provided under the provisions of the Amended Consent Decree.

E. The Plan consists of the following:

1. The City avers that it has cleaned, televised, and repaired all significant sources of I/I in the public sewer system within Basins 10, 11, 12, 6, 20, 18, and 26. Significant sources of I/I include, but are not limited to, roof drains, area and yard drains, catch basins, cross-connections with storm sewers, foundation drains, sump pump discharges, pipe defects such as cracks and holes; joint defects such as missing gaskets, failed gaskets, separated joints, and displaced joints; and defects in appurtenances such as manholes and other structures. The City shall promptly submit a completion report for these basin repairs including copies of all television tapes and repair logs for such basins to EPA and IDEM.

2. The City shall clean, televise, and repair Basins 28, 16, 23, 2, 5, 1, 15, 7, 8, 27, 29, 19, 22, 13, 30, 4, 33, 21, 14, and 17 (all of which were assigned a peaking factor of 6.0 or greater in the 1999 SSES Report). The City shall repair each condition identified on the television tapes that is a significant source of I/I. The City shall complete such work as promptly as reasonably practicable subject to financial constraints described in Paragraph B above. Upon completion of the work described in Section E(1) above for each basin, the City shall promptly send a completion report for the basin repairs including a copy of all television tapes and repair logs to EPA and IDEM.

3. EPA shall review the completion reports, tapes and logs of the I/I repairs submitted by the City pursuant Sections E(1) and E(2) above, and either approve the repairs or request additional information and/or additional repairs. If EPA does not approve the repairs or request additional information and/or repairs within 120 days of receipt of the tapes and logs, the repair work shall be deemed as sufficient to satisfy the City's obligation to complete I/I removal repairs within the identified basins. If EPA requests additional information, EPA shall have 90 days to approve the repairs from the date of receipt of adequately responsive information from the City. If EPA requests additional repairs, EPA shall have 90 days to approve the repairs from the date of receipt of certified repair logs documenting the completion of the required repairs.

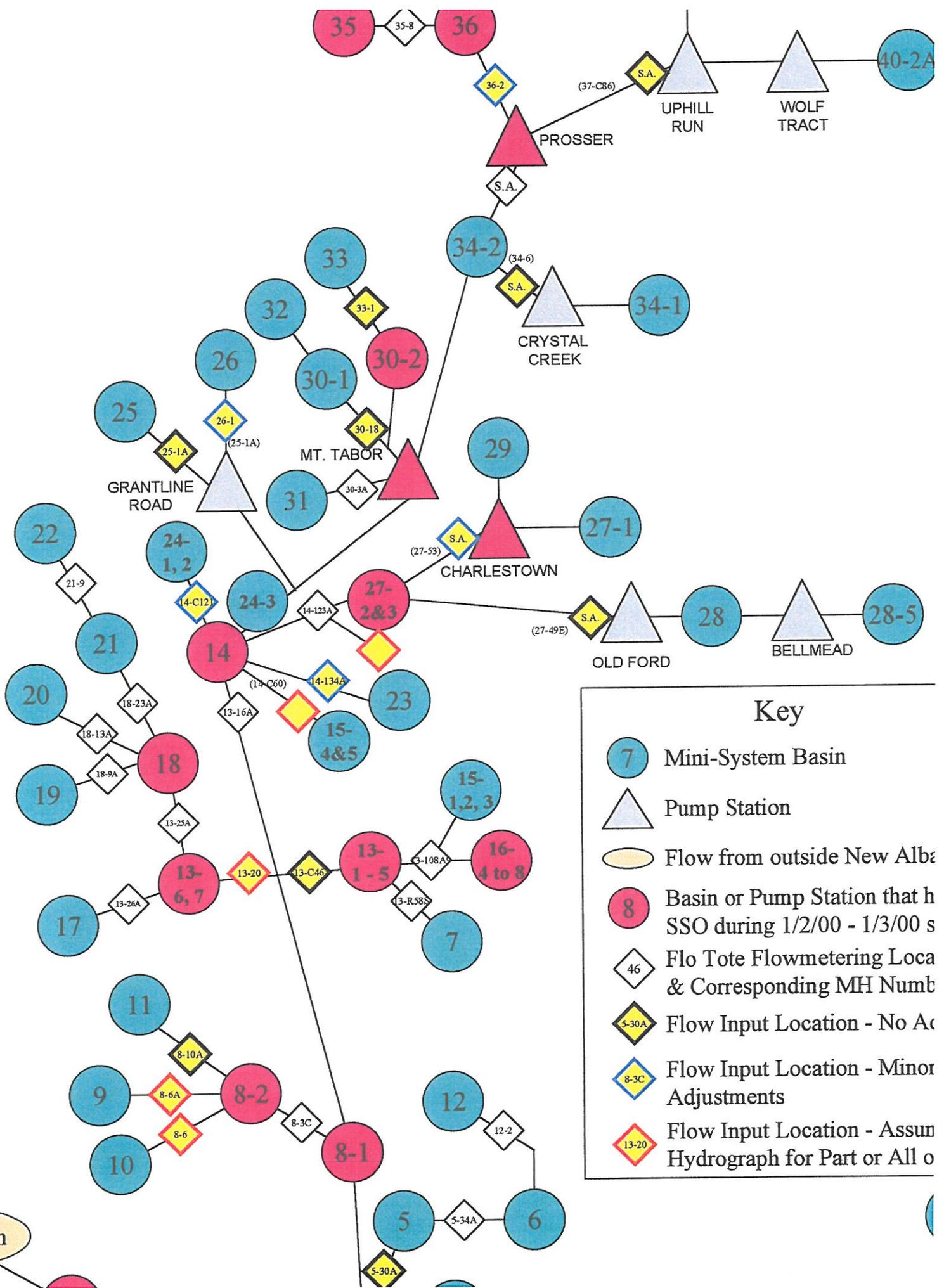
# **ATTACHMENT D**

## **Collection System Cleaning and Televising Schedule**



# **ATTACHMENT E**

## **Collection System Schematic from Original CAP**



### Key

- 7 Mini-System Basin
- ▲ Pump Station
- ◻ Flow from outside New Alb
- Basin or Pump Station that h SSO during 1/2/00 - 1/3/00 s
- 46 Flo Tote Flowmetering Loca & Corresponding MH Numb
- 5-30A Flow Input Location - No Acc
- 8-3C Flow Input Location - Minor Adjustments
- 13-20 Flow Input Location - Assum Hydrograph for Part or All o

OWN

