

**CONSENT DECREE  
PROGRESS REPORT**

**VOLUME 18  
2006**

**EIGHTEENTH QUARTERLY REPORT  
APRIL 1, 2006 THROUGH JUNE 30, 2006**



**July 2006**

## STATEMENT OF CERTIFICATION

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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 such 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.

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W. Malcolm Steeves, P.E.

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## **SECTION I: SUMMARY**

## SECTION I: SUMMARY

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### 1. Reporting Requirements

On January 24, 2002, the Board of Water and Sewer Commissioners of the City of Mobile entered into a Consent Decree (CD) with the United States, the State of Alabama and Mobile Bay Watch, Inc. (MBW). The following progress report consolidates the quarterly reporting requirements described in CD Paragraphs 44 and 98 regarding the following: (1) status of work performed; (2) unpermitted discharge information; and (3) water quality monitoring data. Additionally, this report includes the semi-annual analysis of wastewater collection and transmission systems and wastewater treatment facilities required by CD Paragraph 21.

### 2. Report Organization

Water Quality Monitoring Program data and Grease Control Program Tables can be found on the MAWSS website, [www.mawss.com](http://www.mawss.com), and are not included with this report. There are no narratives in Section II of this report for projects that have been completed for more than one year.

This report is divided into the following sections:

*Section I: Summary* – describes the reporting requirements of the CD, the report structure and includes a report summary.

*Section II: Performance of Consent Decree Work* – provides information described in CD Paragraph 98:

- CMOM measures pursuant to the CD implemented or discontinued during the previous quarter,
- Description of the status of compliance with the Consent Decree, and
- Summary of Sanitary Sewer Overflows (SSOs) during previous quarter.

*Section III: Water Quality Monitoring* – provides information regarding the status of the Water Quality Monitoring Program as required by CD Paragraph 38.

*Appendix A-1: Table of Sanitary Sewer Overflows and Unpermitted Discharges* – provides a listing of all sanitary sewer overflows and unpermitted discharges that occurred during the quarter as required by CD Paragraph 98.

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*Appendix A-2: Analysis of Wastewater Collection and Transmission Systems and WWTFs* – provides trend information with regard to Unpermitted Discharges and SSOs as required by CD Paragraph 21.

### 3. Report Summary

This status report is the eighteenth quarterly report required by the Consent Decree (CD) and covers the period from April 1 to June 30, 2006.

#### 3.1 Status of Compliance

All CMOM programs required by the CD have been submitted to the EPA for approval in accordance with the CD schedule.

##### 3.1.1 EPA Approved Programs

###### Water Quality Monitoring (CD Chapter IX)

On December 19, 2003, the EPA, having reviewed the Board's July 27, 2002 response to EPA comments, approved the Water Quality Monitoring Plan (WQMP). Periodic reviews regarding the effectiveness of the monitoring procedures have resulted in several changes to the Water Quality Monitoring Program. Further information regarding the WQMP can be found in Section III of this report.

##### 3.1.2 Status of Implementation

The Board continues with implementation of the CMOM programs. The Board is continuously reviewing and modifying its programs to find ways to be more effective in reducing SSOs. Additional information regarding the implementation of each program can be found in Section II of this report.

###### Supplemental Environmental Projects (CD Chapter X)

The Board has completed the requirements for all four of the Supplemental Environmental Projects. On January 26, 2005 the Board submitted the SEP 1 Completion Report to the EPA. In the cover letter accompanying the report, the Board provided brief summaries of previously completed SEPS 2, 3, and 4.

###### Appendix B

An annual project to replace private laterals using a portion of funds from the Appendix B account as stipulated by the Consent Decree was bid and subsequently awarded to Hughes

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Plumbing and Utility Contractors, Inc. The project is continuing in Mini-Basin A156A10 where, previously, SEP 1 funds were depleted prior to completing lateral replacement work. Thus far, 59 service laterals have been replaced. Service laterals will continue to be replaced until the allocated Appendix B funds are spent.

Civil Penalties (CD Chapter XI)

The Civil Penalties, \$99,000 to the United States and \$15,000 to Alabama, have been paid.

**3.1.3 Program Submittals**

To date, the Board has submitted all program reports in accordance with the CD schedule. The following presents the dates of program submittals, EPA comments, and the Board's responses:

December 21, 2001 Program Submittals

- Short-Term Collection and Transmission Systems Capacity Assurance Program (CAP)
- Short-Term CAP for WWTPs
- Preliminary Industrial Storm Water Discharge Report
- Reporting, Notification, and Record Keeping Program

January 31, 2002 Program Submittal

- Proposed SEP 1 project locations

February 28, 2002 Program Submittals

- Short-Term CAP for WWTPs – Follow-up Report
- Capacity Assurance – Decentralized Wastewater Treatment Systems
- Legal Support Programs for Sewer System (Ordinances)
- Water Quality Monitoring Program

April 29, 2002 Program Submittal

- Short-Term Pump Station Certification
- Lift Station Action Plan
- First Quarter 2002 CD Status Report (Volume 1)

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May 1, 2002 EPA Program Comments to Submittal Dated December 21, 2001

- Short-term Collection and Transmission Systems Capacity Assurance Program (CAP)
- Short-term CAP for WWTPs
- Preliminary Industrial Storm Water Discharge Report

May 2, 2002 EPA SEP 1 Comments to Submittal Dated January 31, 2002May 10, 2002 Responses to EPA SEP 1 Comments of May 2, 2002May 29, 2002 Responses to EPA Comments of May 1, 2002

- Short-Term Collection and Transmission Systems CAP
- Short-Term CAP for WWTPs
- Preliminary Industrial Storm Water Discharge Report

May 29, 2002 Program Submittals

- Grease Control Program
- Proposed Grease Ordinance
- Service Contract for Eating Establishments

May 30, 2002 EPA Program Comments to Submittal Dated January 31, 2002

- Water Quality Monitoring Program

June 27, 2002 Response to EPA Comments of May 30, 2002

- Water Quality Monitoring Program

July 30, 2002 Second Quarter & Semi-Annual CD Status Report (Volume 2)July 31, 2002 Program Submittals

- Long-Term Capacity Assurance Program for Wastewater Collection and Transmission Systems
- Long-Term Capacity Assurance Program for WWTPs
- Legal Support Programs for Sewer System and Wastewater Treatment Facilities (All Other Necessary Ordinances)
- Operations Contingency Plan for WWTPs
- Contingency Plan for Eslava Creek, Halls Mill, and Virginia Street Lift Stations and Force Mains
- Contingency Plan for Wastewater Collection and Transmission Systems
- Pump Station Operation Program

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- Corrosion Control Program
- Pump Station Preventative Maintenance Program
- Force Main Preventative Maintenance Program
- Gravity Line Preventative Maintenance Program
- Maintenance of Rights of Way Program
- Coordination with the City of Mobile and Other Governmental Bodies

August 7, 2002 Program Corrections

- Correct CD Quarterly Report Volume 2 regarding implementation of Water Quality Monitoring Program February 28, 2002.
- ADS Report on the flow monitoring of 20 private satellite collection systems was furnished to supplement information provided in July 31 submittal of Long Term Collection System Capacity Assurance Program. Schedules for implementing the remaining flow monitoring of private satellite collection systems were provided in the Long Term Collection System Capacity Assurance Program. Results of the aforementioned ADS report were not placed in the Program and were provided as an attachment to the August 7 submittal.

August 9, 2002 Program Modifications

- Due to the long-term plan to remove the Ziebach WWTP from service and the high cost of relocating the recycle stream, MAWSS proposed an alternative to apply the total cost of \$78,650 of relocating the recycle stream to either additional SEP 1 private property lateral replacements or additional rehabilitation work in the Ziebach area.

August 20, 2002 Corrections to August 9 Letter

- The post script to the August 9, 2002 letter should have stated that Williams WWTP fourth clarifier, which is required to treat the additional flows from the Ziebach WWTP following the Ziebach WWTP decommissioning, has been bid and awarded.
- A feasibility study for wastewater storage at the Board's Halls Mill, Eslava Creek, and Virginia Street lift stations is required to determine the need for and the effectiveness of such storage facilities at the aforementioned locations.
- Any product trials needed as identified in Montgomery Watson Harza corrosion control project (Task 2 and 3) report would occur after 9/31/02.

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August 26, 2002 EPA Response to August 9, 2002 Program Modifications

- The EPA agreed to the request to apply the cost of relocating the solids handling recycle stream at the Ziebach WWTP to either additional SEP1 private property lateral replacements or additional rehabilitation. The EPA requested that they receive notification of the specific plan to apply the additional funds.

September 16, 2002 Board Response to EPA August 26, 2002 Comments

- The Board will apply the cost for relocating the recycle stream at the Ziebach WWTP to replace a minimum of 39 laterals in the Ziebach area.

September 17, 2002 EPA Program Comments

- The Board received EPA comments and conditional approval of the Grease Control Program.

September 27, 2002 Response to EPA September 17, 2002 Comments

- The Grease Control Program is being modified from the initial submittal to the EPA to address comments received from the EPA and the Alabama Restaurant Association.

October 30, 2002 Third Quarter CD Status Report (Volume 3)November 26, 2002 Passage of Grease Control Ordinance

- The City of Mobile passed the Septage and Grease Hauler Ordinance requiring manifests for documenting proper disposal methods and disposal locations.

December 18, 2002 Letter to the EPA

- Identified delays for the Florida Street and Kerr McGee Lift Station projects as a result of property acquisition issues.
- Identified completion dates for software upgrades to record data related to the parshall flume modifications and installation of dissolved oxygen sensors at the Williams WWTP.
- A request to relocate the Public Document Repository to the new Dennis Moore Training Facility was made.

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January 30, 2003 Fourth Quarterly CD Status Report (Volume 4) & Semi-Annual AnalysisFebruary 17, 2003 Annual Summary Pursuant to CD Paragraph 21

- An annual summary of unpermitted discharges and overflows pursuant to Paragraph 21 was submitted to the EPA, ADEM, and Mobile Bay Watch. The information was also placed in the Public Document Repository and provided on the MAWSS website.

February 28, 2003 Program Submittal

- The Unscheduled Maintenance Program was submitted on February 28, 2003, completing all CMOM program submittals required by the Consent Decree.

April 29, 2003 Fifth Quarterly CD Status Report (Volume 5)May 22, 2003 Letter to the EPA

- Request to extend completion schedule for coating of wet wells under the Lift Station Action Plan from May 30, 2003 to July 31, 2003 due to investigations into more effective coating products. Request to limit the number of wet wells coated from ten to five.
- Request to extend the schedule by one year for building removal and renovations at 13 lift stations due to the addition of items outside the original recommendations that will allow for better monitoring, maintenance, and emergency response.
- Request to extend completion date of 90-day corrosion control field trial from June 30, 2003 to October 30, 2003. It was determined that the trial was outside the scope of the current annual contract and, therefore, required bidding of a new contract.
- Request to decrease the cleaning frequency of Cycle 5 and 6 category sewer lines. It was noted that, should sewer lines in these cycles be found to require more frequent cleaning, they can be reassigned to more frequent cleaning cycles such as Cycle 3 or 4.

July 23, 2003 Letter to the EPA

- Request for EPA to consider Force Majeure regarding 116 of the 122 overflows that reached waters of the State or United States during three large and intense rain events that occurred on May 18, June 6, and June 30 of 2003.

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July 30, 2003 Sixth Quarterly CD Status Report (Volume 6) & Semi-Annual AnalysisSeptember 25, 2003 Letter to the EPA

- Request to reverse the schedule of the Eslava Creek and Halls Mill Lift Station upgrades as stated in the *Pump Station Preventative Maintenance Program* submitted to the EPA on July 31, 2002. Under the proposed schedule swap, the Halls Mill Lift Station upgrades will be moved up to 2004 to expedite upgrades to the stand-by generator to address the vulnerability of the lift station to power outages. The Eslava Lift Station upgrades are under design and will be completed in 2005.

October 30, 2003 Seventh Quarterly CD Status Report (Volume 7)December 22, 2003 Letter to the EPA

- The Board presented findings from the feasibility study regarding the storage of wastewater in the event of catastrophic failure at the Eslava Creek, Halls Mill, and Virginia Street Lift Stations and force mains. The study concluded that the cost of constructing a facility far exceeds the benefit of such an endeavor.
- The letter also notified the EPA that one of the two isolation valves recommended in the *Contingency Plan for Eslava Creek, Halls Mill, and Virginia Street Lift Stations and Force Mains* already exists. The second recommended isolation valve will not be installed due to the cost required to relocate two 36 inch and 48 inch force mains.

December 29, 2003 EPA Approval of Water Quality Monitoring Plan

- The EPA gave final approval for the Board's Water Quality Monitoring Plan. The Plan is being implemented and is posted in the Public Document Repository and on the MAWSS website.

January 30, 2004 EPA Eighth Quarterly CD Status Report (Volume 8)April 27, 2004 EPA Ninth Quarterly CD Status Report (Volume 9)July 29, 2004 EPA Tenth Quarterly CD Status Report (Volume 10)

- In the cover letter accompanying the report, the Board requested minor changes to the Water Quality Monitoring Plan. Additionally, the Board informed the EPA of the project to reroute the Faye Lane Lift Station force main and the impact this would have on the previously submitted schedule to renovate nine other lift stations. Four of the

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five lift station renovations scheduled for 2004 will be rescheduled for completion by December 31, 2005 along with four other lift stations previously scheduled for 2005.

October 27, 2004 EPA Eleventh Quarterly CD Status Report (Volume 11)

- In the cover letter accompanying the report, the Board requested that the EPA grant Force Majeure status for all SSOs resulting from Hurricane Ivan. Abandonment of the Ziebach WWTP due to safety concerns resulted in the bypass of 1.1 million gallons of untreated flow into Mobile Bay. Additionally, there were eight other overflows attributed to Hurricane Ivan, seven of which were the result of power outages at lift stations.
- The cover letter also requested an extension of the December 31, 2004 deadline for initial investigations of Private Sanitary Sewer Collection Systems (PSSCSs) to June 30, 2005. The additional time will allow the Board more flexibility in working with customers in regard to scheduling smoke testing.

December 8, 2004 Letter to the EPA

- In a previous letter to the EPA dated July 29, 2004, the Board requested approval from the EPA to reschedule the deadline to the end of 2005 for all of the remaining lift station upgrades with the exception of the Bricord Lift Station. Emergency repairs to an interceptor sewer required the contractor to shift resources from the Bricord Lift Station project, delaying its completion. As a result, the Board requested approval from the EPA to extend the completion date of the Bricord Lift Station upgrades to February 15, 2005.

January 18, 2005 Submittals to the EPA

- The Board submitted the *Operations and Maintenance Procedures for the Halls Mill Creek and Eslava Force Mains*. A previous feasibility study referenced in a letter to the EPA on December 31, 2003 determined that storage of wastewater from the Halls Mill Creek, Eslava Creek, and Virginia Street Lift Stations was cost prohibitive. As a result, upgrades to the lift stations and an improved O&M program for the force main was pursued.

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- The Board submitted the Lift Station Force Main Action Plan. Development of the plan was an action item identified in the Force Main Preventative Maintenance Program submitted to the EPA on July 31, 2002.

January 26, 2005 Submittals to the EPA

- The Board submitted the SEP 1 Completion Report to the EPA as required by Paragraph 43 of the Consent Decree.
- SEPs 2, 3, and 4 were considered completed under the terms of the Consent Decree at the time funds were transferred to the respective parties. Summaries of these SEPs were included in the cover letter to the SEP 1 Completion Report submittal.

January 27, 2005 Twelfth Quarterly CD Status Report (Volume 12)

- In the cover letter accompanying the report, the Board informed the EPA that it had recently authorized a ten percent rate increase and the borrowing of \$25 million from the State Revolving Fund to accelerate collection system rehabilitation and other capital projects. Also, the Board stated that it may request an extension to the Consent Decree deadline after evaluating overflow reductions in 2005.

April 6, 2005 Letter to the EPA

- Request for EPA to consider Force Majeure regarding 54 overflows that reached waters of the State or United States as the result of a severe storm event that occurred on April 1, 2005. The storm event measured over 11 inches in certain areas of the MAWSS service area, indicating a 50 year rain event.

April 7, 2005 Letter to the EPA

- Request for EPA to consider Force Majeure regarding 11 overflows that reached waters of the State or United States as the result of a heavy rain event measuring 3.68 inches in 9 hours. The impact of this storm on the collection systems was exacerbated by the previous April 1 storm event which had created flood conditions and high groundwater levels.
- The letter also relayed information from the Coastal Weather Research Center (CWRC) regarding a Force Majeure request for rain events of May 18 to July 1 of 2003. The official rainfall total during this 44 day period (29.63 inches) was the second largest over that duration since records were first kept in 1871.

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April 8, 2005 Letter to the EPA

- Follow-up to the April 7 letter increasing the total number of overflows requested for Force Majeure status to 12.

April 19, 2005 Letter to the EPA

- The Board submitted a request to extend the deadline for completion of upgrades to the remaining eight lift stations from December 31, 2005 to March 31, 2006. The initial bid of the project was significantly over the engineer's estimate due to a short completion schedule. The time extension allowed the Board to rebid the project with a longer completion schedule thus reducing the cost. Since the upgrades were for equipment that is currently operational, the Board determined that the extension would not be detrimental to collection system performance.

April 7, 2005 Letter to the EPA

- Request for EPA to consider Force Majeure regarding 11 overflows that reached waters of the State or United States as the result of a heavy rain event measuring 3.68 inches in 9 hours. The impact of this storm on the collection systems was exacerbated by the previous April 1 storm event which had created flood conditions and high groundwater levels.

April 27, 2005 EPA Thirteenth Quarterly CD Status Report (Volume 13)May 2, 2005 Letter to the EPA

- Request for EPA to consider Force Majeure regarding 21 overflows that reached waters of the State or United States as the result of a severe storm event that occurred on April 29 and 30, 2005. Rain gauges recorded as much as 6.19 inches of rainfall in a 24 hour period. The highest intensity recorded was 5.0 inches in two hours, a 50 year storm event.

May 3, 2005 Letter to the EPA

- Submission of article from the Mobile Register providing information regarding widespread flooding as a result of the May 2 storm event. The article further cited the fact that April 2005 was the third wettest April in 164 years.

July 7, 2005 Letter to the EPA

- Request for EPA to consider Force Majeure regarding nine overflows that reached waters of the State or United States as the result of Tropical Storm Cindy that moved

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through the area on July 6, 2005. Rain gauges recorded as much as 6.34 inches of rainfall in a 24 hour period.

July 13, 2005 Letter to the EPA

- Request for EPA to consider Force Majeure regarding 10 overflows that reached waters of the State or United States as the result of Hurricane Dennis on July 10, 2005. Rain gauges recorded a maximum of 5.3 inches of rainfall during the storm. The Ziebach WWTP and the Perch Creek Lift Station were taken out of service in preparation for the anticipated storm surge.

July 28, 2005 EPA Fourteenth Quarterly CD Status Report (Volume 14)August 31, 2005 Email to the EPA

- Email informing the EPA of the record flooding caused by Hurricane Katrina. As a result, the Smith WWTP and the Three Mile Creek Lift Station were out of service for several hours on August 30, 2005. Additionally, generators at several other lift stations were flooded and inoperable.

September 8, 2005 Letter to the EPA

- Letter confirming and extending previous email correspondence. The power outages and the surge of high water from Hurricane Katrina resulted in 23 overflows reaching waters of the State or United States. Rain gauges recorded a maximum of 4.70 inches of rainfall.

October 27, 2005 Fifteenth Quarterly CD Status Report (Volume 15)

- In the cover letter accompanying the report, the Board requested approval from the EPA to change procedures within the Water Quality Monitoring Plan to reduce expenses on response and investigative monitoring and to improve the benefits of the program by investigating suspect storm drainage. Further, the Board indicated that it is contemplating a request to extend the Consent Decree beyond the current September 1, 2007 completion date.

October 31, 2005 Letter of Demand by the EPA for Stipulated Penalties and Force Majeure Determinations

- In the letter, the EPA assessed and demanded \$114,500 in stipulated penalties for Unpermitted Discharges dating from the CD Date of Entry (April 10, 2002) to June 30,

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2005. The EPA denied all of the Board's requests for Force Majeure status relating to severe weather events including tropical storms and hurricanes dating back to the first request submitted on July 23, 2003. However, the EPA did not demand stipulated penalties for those Unpermitted Discharges related to the Force Majeure requests.

November 8, 2005 Letter to the EPA

- The Board informed the EPA that payments of \$91,600 to the United States and \$22,900 to the State would be made via wire transfer on November 9, 2005 per the EPA's demand.

January 25, 2006 Sixteenth Quarterly CD Status Report (Volume 16)

- The report included additional information to meet the semi-annual reporting requirements of the Consent Decree.
- Also included in the submittal was the annual summary report of SSOs as required by the Consent Decree
- In the cover letter accompanying the submittals, the Board informed the EPA that completion of the Ridge Road Lift Station was being delayed by the contractor's repeated submittal of a control panel design that did not meet specifications. At the time, the Board anticipated that the delays would extend the completion date into early March 2006.

February 22, 2006 Letter from Mobile Bay Watch, Inc.

- Bay Watch informed the Board that they did not intend to seek a change in the EPA's position concerning the exclusion of certain Unpermitted Discharges from stipulated penalties. These Unpermitted Discharges were related to the Board's past requests for Force Majeure status.
- Bay Watch expressed concern over certain locations that they deemed to have persistent Unpermitted Discharges. They requested a response from the Board regarding past work and future plans to address these Unpermitted Discharges.

April 21, 2006 Letter of Response to Mobile Bay Watch, Inc.

- The Board informed Bay Watch of the past efforts to eliminate wet weather overflows in the Conti and Demouy and Gimon Circle areas.

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- The Board also explained ongoing efforts to monitor flows in the area to evaluate the feasibility of structurally modifying the collection system to transport greater wet weather flows.

April 24, 2006 EPA Seventeenth Quarterly CD Status Report (Volume 17)

July 6, 2006 Letter to Mobile Bay Watch, Inc.

- The Board informed Bay Watch of the results of a three part modeling study for the Conti and Demouy and Gimon Circle areas to address overflows.

**SECTION II: PERFORMANCE OF WORK  
(CD CHAPTER VIII)**

## SECTION II: PERFORMANCE OF CONSENT DECREE WORK

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### 1. System Capacity Assurance Program (SCAP) (CD Paragraph 20)

#### 1.1 Short-Term Capacity Assurance Program for New Connections

The *Short-Term Collection and Transmission Systems Capacity Assurance Report* and the *Short-Term Capacity Assurance Program for WWTPs* was submitted to the EPA on December 21, 2001. On February 28, 2002, a follow-up report was submitted to the EPA identifying WWTP Capacity Improvement Projects. Comments regarding the program were received from the EPA on May 2, 2002. On May 29, 2002, MAWSS submitted responses to the EPA's comments.

##### 1.1.1 Program Implementation

###### 1.1.1.1 Wastewater Collection and Transmission Systems

Requests for new connections continue to be passed through Volkert and Associates for collection system capacity evaluation. The Board is considering the transfer of this review process to in-house forces.

###### 1.1.1.2 Wastewater Treatment Plants (WWTPs)

###### C.C. Williams WWTP

###### *Reduction of Industrial Loads (December 18, 2002)*

Industrial Pretreatment contracts with reduced industrial loads requirements went into effect on January 1, 2003.

###### Wright Smith, Jr. WWTP

###### *Reduction of Industrial Loads (December 18, 2002)*

Industrial Pretreatment contracts with reduced industrial load requirements went into effect on January 1, 2003.

GAF Corporation and Mobile Paperboard have not yet completed plant requirements to comply with their 900 pounds per day BOD loading limitation. They are currently operating below the limit but will need modifications should they wish to increase production.

## **SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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### **1.2 Long-Term Capacity Assurance Program for New Connections**

Reports for both the Long-Term Capacity Assurance Program for Wastewater Collection and Transmission Systems and the Long-Term Capacity Assurance Program for WWTPs were submitted to the EPA for approval on July 31, 2002. Under the Long-Term CAP, hydraulic modeling uses flow data to determine the impact of proposed future connections on system capacity as defined by the Short-Term CAP.

#### **1.2.1 Wastewater Collection and Transmission Systems**

##### **1.2.1.1 Permanent Flow Monitoring**

Long term (permanent) flow monitors and rain gauges have been installed in accordance with the dates provided in the Long Term CAP for the collection and transmission systems. A total of 67 long term flow monitors are being used in the system.

Long term flow monitoring data is used to prioritize the locations at which temporary flow monitoring studies are needed. There are a total of 43 temporary flow meters and 15 temporary rain gauges installed throughout the collection systems. These flow monitors allow better isolation of I/I sources by monitoring smaller areas. Temporary flow monitors are being used in several areas including but not limited to Three Mile, Virginia, Halls Mill, and Eslava basin.

##### **1.2.1.2 Identification of Collection System Capacity**

The last model recalibration incorporates flow monitoring data through August 2005.

New requests for service continue to be routed from the Board to Volkert for collection system capacity assessment.

##### Three Mile Creek Basin

There are currently 25 temporary flow meters installed in the Three Mile Creek basin to further isolate I/I sources. During the past quarter, several monitors were moved to different sites to further evaluate flow within the basin. The monitor furthest downstream in this basin was removed so that repairs could be made to address a line failure.

## **SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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The latest model calibration continues to show capacity issues are present in the Conti and Demouy area of the Basin. A significant portion of the manholes and main lines in this area have previously been rehabilitated. MAWSS continues to replace or rehabilitate public laterals in the area to further reduce I/I.

A portion of the collection system serving the Conti and Demouy area transports flows to the Three Mile Interceptor. A recently completed hydraulic model of this area determined that a new lift station is required upstream of the Three Mile Interceptor to prevent high flows in the interceptor from creating surcharged conditions in the Conti and Demouy area sewer. Flow from this new lift station will be transported either to the Three Mile Interceptor or all the way to the Smith WWTP. Alternatives to the new lift station are currently being considered.

On April 7, 2006, the new Ridge Road Lift Station was placed in operation. This new lift station is expected to eliminate the occurrence of wet weather overflows in the Ridge Road area.

Since April 1, 2006, the Board has received 17 new applications for connections in the Three Mile Basin for a total capacity of 59,624 gpd. During this period, 16 applications for the basin were reviewed and approved for a total of 145,155 gpd. Since program implementation in August 2002, 189 requests for connection have been approved adding 935,609 gpd in the Three Mile Basin.

### Halls Mill Creek Basin

The lower portion of the Second Creek Interceptor continues to show capacity issues. The model also shows capacity concerns along the 10-inch diameter Airport Boulevard interceptor. Several temporary flow monitors have been installed to isolate areas of concern. MAWSS is awaiting a significant rain event to evaluate I/I in these areas.

Since April 1, 2006, 18 new applications for connection have been received requesting capacity for a total of 63,250 gpd. During this period, 20 applications were reviewed and approved for a total of 64,500 gpd. Since the

## **SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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program implementation, 290 requests for connection have been approved for a total of 2.6 MGD in added peak flow.

### Eslava Creek Basin

The model continues to indicate surcharge conditions on the Eslava Creek Interceptor during the design storm. The extent of the surcharge conditions are within one to two feet of the Board's definition of full capacity as described in the Capacity Assurance Program.

MAWSS is continuing with flow monitoring, I/I investigations, video inspection and hydraulic cleaning to improve the performance of this basin. There are 17 long term flow monitors and nine temporary flow monitors installed within the Basin.

A portion of the Conti and Demouy area collection system flows to the Crenshaw Street Lift Station which transports flow to the Eslava Creek Interceptor. A recently completed hydraulic model of this area determined that a portion of the gravity sewer system and the lift station do not have sufficient capacity to transport heavy wet weather flows in the area. A higher capacity pump has already been ordered and design of the pump installation is underway to meet a scheduled bid date of August 21. In the interim, a temporary pump configuration has been installed at the lift station to alleviate overflows until the project is completed. In addition to the upgrades at the lift station, 2,400 LF of the gravity sewer system will either be paralleled with a relief sewer or increased in size.

The discharge of the Crenshaw Street Lift Station flows through the Eslava Creek Interceptor, which passes through the Gimon Circle area downstream. The Gimon Circle area is another location where SSOs are recurring in heavy rainfall. A recently completed modeling study determined that surcharging of the interceptor sewer during wet weather events is creating backwater conditions in the Gimon Circle area. The most effective approach to minimize surcharging of the interceptor sewer is to divert peak wet weather flows to a severe weather attenuation tank (SWAT) to be located at the Eslava Creek Lift Station. Pumping configurations and the size of the SWAT are being determined prior to initiating full design.

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Since April 1, 2006, 8 new applications for connection have been received requesting a total capacity of 7,060 gpd of peak flow. During this period, 8 applications for the basin were reviewed and approved for a total of 7,060 gpd of additional peak flow. Since the implementation of the program, 136 requests for connection have been approved to allow an additional 477,708 gpd of peak flow.

### Virginia Street Basin

It has been determined that upgrades will be required at the Water Street Lift Station to address the future capacity needs of the RSA Tower under construction. The upgrades are currently being designed.

MAWSS is continuing with flow monitoring, I/I investigations, video inspection and hydraulic cleaning to improve the performance of this basin. There are currently eight long term flow monitors and seven temporary flow monitors installed within the basin. Five of the seven temporary flow monitors have been installed in the RSA Tower vicinity.

Since April 1, 2006, 4 requests for connection have been received for a total of 15,375 gpd of additional peak flow. During this period, 5 applications for the basin were reviewed and approved for a total of 41,823 gpd of additional peak flow. Since program implementation, 38 requests for connection have been approved based on the available capacity and capacity gained from I/I removal. The total amount of peak flow approved for these connections is 218,667 gpd.

### Ziebach Basin

The project to upgrade the existing Perch Creek Lift Station and re-route the force main to the 48-inch Eslava Creek Lift Station force main discharging to the Williams WWTP is complete. All flow from the Ziebach Basin is now pumped to the Williams WWTP. The Ziebach WWTP is no longer in service.

The most recent recalibration of the model found that rehabilitation work has improved available capacity within the Ziebach Basin by reducing peak flow rates during rain events. There are currently two long term flow monitors installed within the Basin.

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Since April 1, 2006, 6 requests for connection have been received and subsequently approved to allow a total of 3,750 gpd of additional peak flow. During this period, 6 applications for the basin were reviewed and approved for a total of 3,750 gpd of additional peak flow. Since the implementation of the program, 68 requests have been approved based on the available capacity and capacity gains from I/I removal. The total amount of peak flow approved for these connections is 67,860 gpd.

**Theodore Area Basin**

MAWSS continues routine inspection in this basin to identify and remove I/I. There are currently three long term flow monitors installed within the basin.

Since April 1, 2006, 11 applications for connection have been received requesting capacity for a total of 25,000 gpd of peak flow. During this period, 13 applications for the basin were reviewed and approved for a total of 54,375 gpd. Since program implementation, 141 requests for connection have been approved to allow an additional peak flow contribution of approximately 1.17 MGD.

**Eight Mile Creek Basin**

This basin's capacity is limited by the capacity of the lower Three Mile Trunk and the Smith WWTP. Capacity gains in the lower Three Mile Trunk have been realized through cleaning and I/I removal.

Since April 1, 2006, the Board has received 2 applications for connection requesting capacity for 4,297 gpd. During this period, one application for the basin was reviewed and approved for a total of 625 gpd in additional peak flow. Since the implementation of the program, 37 requests for connection have been approved adding 333,182 gpd of peak flow.

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**1.2.1.3 Information Management System for Calculating the Net (Cumulative) Increase or Decrease in Wastewater Volume**

Volkert and Associates continues to maintain the “Capacity Bank” for the Board’s wastewater collection and transmission systems. New requests for service are routed through the Board’s Mapping and Connections Department and then to Volkert for capacity analysis.

**1.2.1.4 Identification and Elimination or Reduction of Industrial and Other Stormwater Discharges**

A report on Industrial Stormwater Discharges was submitted to the EPA on December 21, 2001. On May 2, 2002, MAWSS received comments from the EPA regarding the program. MAWSS submitted responses to these comments on May 29, 2002.

**Industrial and Non-Industrial Private Sanitary Sewer Systems**

The Board smoke tested 65 Mobile County Schools and 133 other Industrial and Non-Industrial Private Sanitary Sewer Collection Systems (PSSCSs). All defects identified were subsequently repaired by the customers.

Six PSSCSs chose to conduct I/I investigations in-house. After submitting an I/I inspection plan and schedule for review, the customers completed their I/I investigations. None of these customers identified any I/I related issues.

Two PSSCs, Kimberly Clark and Glenn Valley Apartments, did not grant access to MAWSS for smoke testing. The discharge from Kimberly Clark is metered at a lift station and billed accordingly. Installation of a temporary flow monitor at the discharge of the Glenn Valley Apartments did not indicate significant I/I issues.

**1.2.2 Wastewater Treatment Plants (WWTPs)**

Several projects related to long-term capacity assurance are in progress.

**SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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**1.2.2.1 C.C. Williams WWTP**Infiltration and Inflow (I/I) Reduction Program

During the past quarter, closed circuit television inspection (CCTV) was performed on 140,905 feet of pipe. Additionally, approximately 164,071 LF of pipe was smoke tested to identify potential sources of I/I. The Board has in place annual contracts for CIPP, manhole rehabilitation, point repairs, and public lateral replacement. The contracts in addition to in-house forces are being used to make repairs to the collection system.

See Section 1.2.1.2 for information regarding the recent removal of I/I from the C.C. Williams WWTP Collection System.

**1.2.2.2 Bill Ziebach WWTP**Infiltration and Inflow (I/I) Reduction Program

During the past quarter, closed circuit television inspection (CCTV) was performed on 4,311 feet of pipe. Additionally, approximately 19,910 LF of pipe was smoke tested to identify potential sources of I/I. Inspections continue to find sources of I/I. The Board has in place annual contracts for CIPP, manhole rehabilitation, point repairs, and public lateral replacement. The contracts in addition to in-house forces are being used to make repairs to the collection system.

See Section 1.2.1.2 for information regarding the recent removal of I/I from the Bill Ziebach WWTP Collection System.

Modify Perch Creek Lift Station (January 9, 2004)

Modifications to the Perch Creek Lift Station are complete. The work increased the station's capacity and rerouted the force main to discharge into the Halls Mill/Eslava force main which transmits all Ziebach flow to the Williams WWTP.

Remove Ziebach WWTP From Service (March 26, 2004)

The Perch Creek Lift Station modifications are complete and the Ziebach WWTP has been removed from service.

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### **1.2.2.3 Wright Smith, Jr. WWTP**

#### Infiltration and Inflow (I/I) Reduction Program

During the past quarter, closed circuit television inspection (CCTV) was performed on 146,353 feet of pipe to determine sources of I/I. Additionally, approximately 14,461 LF of pipe was smoke tested to identify potential sources of I/I. The Board has in place annual contracts for CIPP, manhole rehabilitation, point repairs, and public lateral replacement. The contracts in addition to in-house forces are being used to make repairs to the collection system.

See Section 1.2.1.2 for information regarding the recent removal of I/I from the Smith Basin.

#### Plan to Relocate Treatment and Effluent Discharge of Smith Wastewater Treatment Facility

This project involves a joint venture study of alternative regional wastewater disposal and treatment sites being developed according to the work plan in an EPA sponsored special projects grant. The study began with an agreement between the Mobile Area Water & Sewer System and the Sewer Board for the City of Chickasaw to evaluate potential for a regional wastewater discharge system that would allow study participants to abandon existing discharges to shallow area tributaries. The possibility of a combined wastewater treatment system is also included. The consulting engineering firm of Malcolm Pirnie is directing the work. Community meetings were held in the study area during 2004 and early 2005, while cost estimates and performance feasibilities were developed. Project review meetings were held with the study participants in April 2005 and February 2006. During the intervening period, the City of Satsuma and the Water Works & Sewer Board of the City of Prichard decided to participate in the regional study effort. A Committee representing each of these participants has been formed. This Committee is developing organizational procedures, bylaws, and legislative requirements for the to-be-formed regional wastewater authority. Due to delays caused by Hurricane Katrina, on March 17, 2006, EPA agreed to a requested extension to October 30, 2006 to complete the study project. Since that extension was approved

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MAWSS has received the Committee's approval to add the MAWSS Williams Wastewater Treatment Facility to the program, significantly increasing the scope by almost tripling the volume of anticipated wastewater participation. If EPA approves this additional participation, engineering evaluations on treatment and discharge sites is expected to require an additional extension of project time that is currently undetermined.

### **2. Sanitary Sewer Overflow (SSO) Reporting, Notification & Record Keeping Program (CD Paragraph 21)**

#### **2.1 Program Development**

The *Sanitary Sewer Overflow Reporting, Notification and Record Keeping Program* was submitted to the EPA on December 21, 2001.

#### **2.2 Program Implementation**

The Board continues to report overflows to ADEM, the MS4 Storm Water Authority (Mobile Engineering), Bay Watch, the Mobile County Health Department and the local media per guidelines set forth in the program submittal.

##### **2.2.1 SSO Information Summary**

During the second quarter of 2006 there were 76 sanitary sewer overflows (SSOs). Of this amount, 48 reached waters of the State or US Waters. The remaining overflows were contained or returned to the collection system.

Tables listing the overflow occurrences during the past quarter can be found in Appendix A-1.

### **3. Legal Support Programs for Sewer System and Wastewater Treatment Facilities (CD Paragraph 22)**

#### **3.1 Grease Control Program**

##### **3.1.1 Program Implementation**

The Board continues to initiate grease control contracts with food service facilities (FSFs). Through June, 2006, a total of 1127 contracts have been mailed. Five

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hundred and twenty-seven (527) FSFs have been removed from the program because investigations by MAWSS staff determined that these facilities did not prepare food on site, changed ownership, or closed since the contract was mailed. Five hundred and eighty-four (584) FSFs remain in the program and have returned signed contracts.

The grease hauler's manifest ordinance is proving to be beneficial. The Board is investigating inconsistencies in grease hauling and disposal manifests. It appears that some haulers are not delivering grease to proper disposal facilities. The investigation of this matter is ongoing.

### **3.2 Maintenance of Adequate Legal Staff**

The Board continues to retain the Atchison Firm, PC to assist the Board in interpreting and fulfilling the obligations under the CD. The firm has adequate resources and personnel to meet the needs of the Board in this regard.

## **4. Contingency Plan for Sewer Systems and Wastewater Treatment Facilities (CD Paragraph 23)**

### **4.1 Wastewater Collection and Transmission Systems**

#### **4.1.1 Capital Improvements**

A number of capital improvements have been completed to eliminate or minimize collection and transmission failures during emergencies and severe natural events.

Installation of emergency backup systems for pumps greater than 15 horsepower (December 31, 2005)

Thirteen (13) auxiliary diesel pumps were installed in 2004. Ten (10) backup systems were installed during 2005. In early 2006, the Board applied for additional generator funding through FEMA. After failing to receive any funding, MAWSS has reapplied to FEMA.

Three backup pumps were bid and awarded to Pioneer Pumps. The pumps will be utilized at the Water Street Lift Station, Crenshaw Street Lift Station, and the Ralston Road Lift Station. There are currently existing generators at the Water Street

**SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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and Crenshaw Street lift stations that will be relocated to other lift station sites following the installation of new backup pumps.

**5. Corrosion Control Program (CD Paragraph 25)****5.1 Program Implementation**

Tasks identified in the Corrosion Control program are currently being implemented.

Chemical Addition

US Filter's Bioxide is currently being used to address odor and corrosion at the Virginia Street, Abilene, Florida Street, Columbus Street, Deer River, Ghent Street, and Snow Road Extension Lift Stations. It is no longer in use at the Faye Lane Lift Station.

MAWSS continues to study the use of new odor control technology at the Eslava Creek Lift Station. The Vapex system utilizes ozone and a water vapor fog to reduce H<sub>2</sub>S gases. Hurricane Katrina flooded the Vapex unit, requiring another unit to be installed. After a month of testing in October, the system appeared to be effective in limiting hydrogen sulfide levels below 2 ppm. MAWSS is testing the Vapex unit at the headworks of the Williams WWTP. If the test is successful, the unit will likely be installed at the Eslava Creek Lift Station. Fiberglass panels to enclose open sections of the wet well are scheduled for installation at the end of July.

**6. Grease Control Program (CD Paragraph 26)****6.1 Program Development**

The Grease Control Program was submitted to the EPA on May 29, 2002. The EPA provided conditional approval on September 17, 2002.

**6.2 Program Implementation**

During the second quarter of 2006, four FSFs were visited (initial visit) to review grease trap size requirements and provide training in grease disposal. Since the start of the program, 596 initial visits have been completed.

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After the initial visit, FSFs that do not have the required grease trap capacity are required to submit action plans that provide details and a schedule for addressing undersized grease traps. No action plans were approved this past quarter.

During the quarter, the Pretreatment Department inspected 163 FSFs for compliance. Two facilities were found to be in violation of the Grease Control Program requirements regarding the handling of grease.

Monthly compliance sampling was conducted at 29 FSFs. None of those sampled had results greater than the 200 mg/l limit. To date, 57 FSFs have completed 12 months of sampling. This quarter, no FSF had 12 month averages under the compliance limit of 140 mg/l allowing quarterly inspections and random sampling. No FSFs exceeded the 140 mg/l limit during the past quarter.

Inspectors are also performing proper grease disposal training at area schools. Thus far, inspectors have visited 56 schools to perform the training.

The Board continues to inform the public of the adverse impact of grease on collection system performance. Door hangers are being placed in areas where video inspection of the sanitary sewer indicates grease control education is needed. MAWSS continues to explore the possibility of an education program to be presented to elementary students explaining the problems associated with fats, oils, and grease and how to properly dispose of these items. The Board has hired a public affairs manager to develop programs that will educate the public about water and sewer issues. The Board has identified two trial sites for the installation of grease collection receptacles. The public affairs manager is currently developing a means to make the public aware of the grease collection receptacles.

The Board is investigating inconsistencies in the grease hauling and disposal manifests. These inconsistencies raise the concern that substantial quantities of grease may have been pushed or dumped into the collection system by grease haulers.

### **6.3 Grease Control Compliance Table**

The Grease Control Compliance Table can be found on the MAWSS website at [www.mawss.com/consentdecreedocs.htm](http://www.mawss.com/consentdecreedocs.htm). The table lists FSFs under contract, the dates of the initial visits, required grease trap size, actual grease trap size, and enforcement

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actions. The dates on which FSFs are inspected are not included in the table unless there is an enforcement action taken.

### **7. Pump Station Preventative Maintenance Program (CD Paragraph 27)**

#### **7.1 Short-Term Pump Station Certification**

The recommendations from the *Inspection and Evaluation of Lift Stations* report submitted to the EPA in 2002 were incorporated into a Lift Station Action Plan. Tasks to address the recommendations were grouped according to priority rating. Ongoing or recently completed tasks are presented below.

##### Clean Lift Stations

MAWSS staff continues to clean lift stations. A combination cleaning truck along with a new pumper truck is assigned to the Lift Station Operations and Maintenance Department. During the past quarter, 57 lift stations were cleaned.

##### Consultant Category 2 Priority Tasks (revised March 31, 2006)

Consultant Category 2 Priority Tasks involves building removal and major lift station renovations to thirteen stations. The Faye Lane Lift Station was added as a priority and is also complete. Renovations for all of the lift stations are complete. The last station upgraded was placed into service on April 14, 2006 following power restoration by Alabama Power.

### **8. Force Main Preventative Maintenance Program (CD Paragraph 28)**

Development of the *Force Main Preventative Maintenance Program* was submitted to the EPA for approval on July 31, 2002.

#### **8.1 Air Release Valve Maintenance Program**

The Air Release Valve Maintenance Program identifies the necessary personnel and equipment, documents procedures, and identifies maintenance performance measures. There are 26 force mains that have air release valves (ARVs). All ARVs are inspected annually.

As previously stated, MAWSS is following the recommendations of the transient flow study regarding the installation of ARVs and air vacuum valves along the Halls Mill and

## **SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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Eslava Force Main. Two additional ARVs were installed on the Halls Mill and Eslava Force Main during the past quarter. All 12 ARVs recommended for replacement by the study have been replaced. Two ARVs were installed on the Halls Mill Force Main at the end of April 2006.

### **8.2 Valve Exercise Program**

The Valve Exercise Program was developed to establish scheduling and procedures for the routine exercise of force main gate valves. Valves have been identified at 183 lift stations. Valves are being exercised annually.

### **8.3 Program Implementation**

#### Initial Inspection and Maintenance of Force Mains (December 31, 2004)

All force mains visually inspected from above ground annually to determine if any leakage from the force mains was evident.

The 36-inch/48-inch Halls Mill Creek and Eslava Creek Lift Stations force main and the Pinto Island lift Station force main, which passes under Mobile River, have been identified as the force mains with the most critical needs for maintenance and/or replacement.

The Halls Mill and Eslava Lift Station force main is constructed of pre-stressed concrete cylinder pipe (PCCP) and has been extensively evaluated to determine its condition. No defects or significant signs of corrosion were found.

The Pinto Island force main was replaced because a bulkhead on the east side of Mobile River where the force main rises at the river bank had been damaged repeatedly by barges and/or ships. The new force main was directionally drilled HDPE pipe and was aligned to rise far enough away from the river bank to eliminate the need for a bulkhead.

Work is underway to replace a portion of the Florida Street Lift Station Force Main as part of a project to replace gravity sewer on Florida Street. The force main is old cast iron and is being replaced while the street surface is removed. A new Virginia Street Lift Station Force Main is being designed. The age of the existing 36-inch steel force main and the development of a container port at the location of the force main make replacing it now the prudent thing to do.

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### Lift Station Force Main Action Plan (December 31, 2004)

The *Station Force Main Action Plan*, submitted to the EPA on January 18, 2005, details the means to evaluate the Board's oldest lift station force mains as well as identified maintenance activities for the Board's 4-inch to 16-inch diameter lift station force mains. Coupons have been taken from approximately a number of the force mains. Thus far, the coupons do not indicate that force main replacement is needed at this time.

## **9. Gravity Line Preventative Maintenance Program (CD Paragraph 29)**

### **9.1 Program Development**

Development of the Gravity Line Preventative Maintenance Program was submitted to the EPA for approval on July 31, 2002.

### **9.2 Program Implementation**

During the past quarter, MAWSS cleaned approximately 389,864 feet of gravity sewer and conducted television inspection on approximately 291,569 feet of pipe.

The Board currently operates ten combination cleaning trucks. Four of the trucks are assigned to cleaning sewer lines not previously cleaned, one combination unit and a jet truck is dedicated to overflow response and other work order related issues, two are dedicated to routine preventative maintenance cleaning, two are dedicated to customer response items such as stoppages and backups, and one combination unit and a new pumper truck is assigned to the Lift Station Department for the cleaning of wet wells.

Additionally, the Board has four video trailers for television inspection of sewer lines. One camera has the ability to video laterals from within the sewer main. Two older units serve as standby units in the event that one of the four newer units goes out of service.

A project to quickly assess the condition of 190,000 LF of gravity sewer using an in-line camera is ongoing. Once the project is complete, all gravity sewer lines greater than or equal to 12-inches in diameter will have been inspected by video.

Three clean and video contracts are underway. One contract is for preventive cleaning on cycles. The second contract is for cleaning and video inspecting 19 depressed sewers that are 14-inch diameter and larger and have not previously been video inspected. The third contract is an annual contract for general cleaning and video inspection.

**SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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**10. Maintenance of Rights-of-Way Program (CD Paragraph 30)****10.1 Program Development**

The Maintenance of Rights-of-Way Program has been implemented since 2001. Program documentation was submitted to the EPA for approval on July 31, 2002.

**10.2 Program Implementation**

During the past quarter, the Grounds and Maintenance Department cleared approximately 25,200 feet of sewer line easement. A contract was awarded to Jerdan Services, Inc. to cut approximately 100,000 feet of easements under the supervision of MAWSS personnel. Work is scheduled to begin in July 2006.

Confirm Sewer Line Stream Crossings

Following development of the GIS for the collection systems, GPS features collected in the field were overlaid with the previously developed hydrology layer to create a map layer of stream crossings. Initially, 2,509 stream crossing were identified in the GIS. This total includes sewer line crossings under drainage ditches. MAWSS has determined that there are 37 aerial stream crossings. Initial visual inspection of these crossings was completed in the fourth quarter of 2004. Damaged or deteriorated pilings that were identified have been repaired or replaced. A crew has been assigned to conduct inspection of aerial sewer lines.

In addition to aerial stream crossings, there are a total of 199 depressed sewers under streams or storm drains. Depressed sewers are routinely cleaned as part of the Gravity Line Maintenance Program.

**11. Unscheduled Maintenance Program (CD Paragraph 31)****11.1 Program Development**

The Board submitted the Unscheduled Maintenance Program to the EPA for approval on February 28, 2003. The Program documents the process for receiving and responding to customer complaints.

**SECTION II: PERFORMANCE OF CONSENT DECREE WORK**

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**12. Coordination with the City of Mobile and Other Governmental Bodies (CD Paragraph 32)****12.1 Program Development**

A report detailing the coordination responsibilities and activities relating to City, County, and State personnel was submitted to the EPA for approval on July 31, 2002.

**12.2 Program Implementation**

The Board continues to coordinate Right of Way (ROW) activities with the City.

**SECTION III: WATER QUALITY MONITORING  
(CD CHAPTER IX)**

## SECTION III: WATER QUALITY MONITORING

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### 1. Establishing a Plan (CD Paragraph 33)

#### 1.1 Program Development

The *Water Quality Monitoring Program* report was submitted to the EPA on February 28, 2002. Comments regarding the program were received from the EPA on May 30, 2002. MAWSS submitted responses to these comments on June 27, 2002. On December 19, 2003 the EPA accepted the responses and approved the program.

#### 1.2 Program Implementation

The Water Quality Monitoring Program is fully implemented.

A web-based data archive for the Water Quality Monitoring Program has been developed by Barry Vittor & Associates, Inc. (BVA) to present data summaries and to facilitate the downloading of monitoring data.

The data along with a map of sampling locations can be accessed through both the MAWSS website at [www.mawss.com/consentdecreedocs.htm](http://www.mawss.com/consentdecreedocs.htm) and the Barry Vittor & Associates, Inc. website at [www.bvaenviro.com](http://www.bvaenviro.com). Monitoring data is provided and summarized on a monthly basis.

### 2. Routine Water Quality Monitoring (CD Paragraph 34)

#### 2.1 Program Development

The procedures for routine water quality monitoring of the Halls Mill, Eslava, Three Mile, Eight Mile, Ziebach, and Muddy Creek drainage basins were included in the *Water Quality Monitoring Program* report.

#### 2.2 Program Implementation

Barry Vittor and Associates, Inc. (BVA) is continuing the biweekly, routine water quality monitoring which was initiated in June 2003. Routine water quality monitoring is currently being conducted at 25 monitoring stations. The data collected to date is presented on both the MAWSS website and BVA's website.

### **SECTION III: WATER QUALITY MONITORING**

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Following a review of the program's effectiveness, BVA has eliminated the previous 75<sup>th</sup> quartile threshold and is now relying on previous experience to determine whether or not investigative monitoring is warranted for a particular high fecal coliform measurement.

Wet background monitoring, completed on June 15, 2004, indicated increased levels of fecal coliform concentrations compared to dry background levels. The increased fecal coliform concentrations could indicate a natural build-up during dry conditions, which is washed into streams during rain events. Preliminary data indicated that fecal levels in storm drains can be several times greater than background levels in streams.

Under contract with MAWSS, in 2005, the US Geological Survey (USGS) published a Scientific Investigations Report 204-5302, Assessment of Water Quality, Benthic Invertebrates, and Periphyton in the Threemile Creek Basin, Mobile, Alabama, 1999-2003. Modifications have been made to the Investigative Water Quality Monitoring portion of the *Water Quality Monitoring Program* as a result of a review of the USGS report and past investigative monitoring activities.

### **3. Investigative Water Quality Monitoring (CD Paragraph 35)**

#### **3.1 Program Development**

Investigative water quality monitoring procedures to determine the source of pollution indicated by public complaints or the Routine Water Quality Monitoring Program were included in the *Water Quality Monitoring Program* report.

#### **3.2 Program Implementation**

Dye testing results for trunk lines within the Three Mile, Eslava, and Milk House drainage basins are available on both the MAWSS and BVA web sites.

At the present time, dye test results do not indicate any compromises along the major trunk lines in the Three Mile, Eslava, and Milk House drainage basins. However, routine water quality monitoring indicates high fecal coliform concentrations in specific regions of these systems. BVA recommended shifting the focus of dye testing away from wet weather testing of major trunk lines to the testing of smaller sewer lines (less than 18 inches in diameter) in targeted areas of the collection systems where potential problems have been identified. The dye testing activities are coordinated with studies of storm

### **SECTION III: WATER QUALITY MONITORING**

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drains to investigate the source of high fecal coliform concentrations that are consistently found in specific areas of the collection systems.

In February 2006, BVA and MAWSS began investigating unusually high fecal bacteria levels in Three Mile Creek from a storm sewer outfall beneath Springhill Ave. BVA conducted a dye study of the sanitary sewer lines running along Catherine St. and a sewer lift station at old Providence Hospital. The results of the dye studies were negative. MAWSS crews performed video inspections and smoke testing in the area and identified several defects that were subsequently repaired. Recent sampling indicates fecal concentrations have decreased to nearly background levels. Sampling will continue in order to confirm decreased fecal concentrations over time.

#### **4. Water Quality Monitoring for Spill Impact (CD Paragraph 34)**

##### **4.1 Program Development**

Procedures for water quality monitoring to determine the impact of unpermitted discharges were included in the *Water Quality Monitoring Program* report.

##### **4.2 Program Implementation**

Water quality monitoring for spill impact began on February 1, 2004. Spill assessment data collected during the past quarter can be found on the MAWSS website and BVA's website.

BVA has modified the spill impact water quality monitoring procedures as part of a recent review of the program's effectiveness. BVA is now relying on experience to determine whether the monitoring of a spill is warranted. Additionally, BVA will use experience to determine the extent of the monitoring. It has been found that monitoring results vary significantly with the size of the spill in relation to the size of the receiving stream.

Should the overflow be significant enough to warrant water quality monitoring, BVA and MAWSS determines the number of downstream stations needed to characterize the spill (dependent on magnitude of spill, stream order and other physical parameters). Immediate water quality and fecal coliform sampling takes place at each station. The information collected during the site assessment will be evaluated to formulate a spill monitoring sampling plan. The spill monitoring plan includes further water quality

**SECTION III: WATER QUALITY MONITORING**

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monitoring to gauge the impacts to and recovery of the stream system to background levels.

**APPENDIX A-1: SSO AND UNPERMITTED DISCHARGE TABLES  
(CD PARAGRAPH 98)**



**APPENDIX A-1: SSO AND UNPERMITTED DISCHARGE TABLES**

Table 2: Unpermitted Discharges **Reaching** Waters of the State or United States (April 1, 2006 through June 30, 2006)  
 Related to Severe Natural Events (see Section II, 2.2.1)

OCURRENCE ID	COLLECTION SYSTEM	DISCHARGE DATE	CAUSE OF DISCHARGE	DURATION (HOURS)	ESTIMATED VOLUME (GAL.)	DISCHARGE SOURCE	DISCHARGE LOCATION	FLOW DESTINATION (STREAM)	CORRECTIVE ACTION
077	WILLIAMS	4/10/2006	BLOCKAGE (GREASE)	2	1200	MAIN LINE	2556 FARNELL DR	BOLTON BRANCH	PLACE ON CLEANING CYCLE
080	SMITH	4/13/2006	BREAK	1	700	MAIN LINE	2804 EXTER DR	ESLAVA CREEK	POINT REPAIR
083	WILLIAMS	4/14/2006	BLOCKAGE (GREASE)	3	900	MAIN LINE	814 TEXAS ST @ JEFFERSON PLACE APTS	ESLAVA CREEK	POINT REPAIR
086	WILLIAMS	4/15/2006	BLOCKAGE (GREASE)	2.5	480	MANHOLE	6216 BRYNOLYN CT	CAMPGRND BR CRK	PLACE ON CLEANING CYCLE
088	WILLIAMS	4/19/2006	3RD PARTY-BLOCKAGE (DEBRIS)	2	60	STORM DRAIN CATCH BASIN	910 FAIRMONT ST	ESLAVA CREEK	INSTALL MAIN LINE LINER
089	WILLIAMS	4/19/2006	BLOCKAGE (GREASE)	0.5	15	MANHOLE	758 ST MICHAEL ST	THREE MILE CREEK	INSTALL MAIN LINE LINER
093	WILLIAMS	4/30/2006	INFIL/INFLOW	3	27000	MANHOLE	MOHAWK ST & ELIZABETH ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
094	SMITH	4/30/2006	INFIL/INFLOW	5	30500	MANHOLE	CONTI & DEMOUY	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
095	SMITH	4/30/2006	INFIL/INFLOW	4	2400	MANHOLE	LAUREL AND DAVITT ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
096	WILLIAMS	4/30/2006	BLOCKAGE (GREASE)	1	600	MANHOLE	4601 DOGWOOD DR S	BOLTON BRANCH CREEK	NO FURTHER ACTION
098	SMITH	5/1/2006	BLOCKAGE (GREASE)	1.5	900	MANHOLE	309 SIMINGTON DR (ROGER WILLIAMS)	THREE MILE CREEK	PLACE ON CLEANING CYCLE
099	SMITH	5/1/2006	BREAK	2.75	1650	FORCE MAIN	3289 FRANKLIN COURT	EIGHTMILE CREEK	POINT REPAIR
103	SMITH	5/5/2006	BLOCKAGE (ROOTS)	2	120	LAMPHOLE	60 FEARNEWAY DR	THREE MILE CREEK	POINT REPAIR
104	SMITH	5/8/2006	BLOCKAGE (DEBRIS)	1	216	LIFT STATION	1569 HOMESTEAD DR (BEHND)	HAMILTON CREEK	NO FURTHER ACTION
105	WILLIAMS	5/8/2006	BLOCKAGE (GREASE)	0.5	100	MANHOLE	2671 DAUPHIN ISLAND PKWY	ROBINSON BAYOU	PLACE ON CLEANING CYCLE
106	WILLIAMS	5/9/2006	3RD PARTY-BREAK	0.75	50	FORCE MAIN	7180 PIERSON DR -LOT 20	HALLS MILL CREEK	POINT REPAIR
107	DECENTRALIZED	5/10/2006	3RD PARTY-BREAK	4.5	50	FORCE MAIN	9594 DOWNINGWAY S	TURKEY CREEK	POINT REPAIR
108	SMITH	5/11/2006	BLOCKAGE (ROOTS)	0.75	45	MAIN LINE	61 SILVERWOOD ST	THREE MILE CREEK	PLACE ON CLEANING CYCLE
109	DECENTRALIZED	5/11/2006	BREAK	1.5	160	FORCE MAIN	7180 PIERSON DR	TURKEY CREEK	POINT REPAIR
110	WILLIAMS	5/12/2006	BREAK	0.75	225	FORCE MAIN	2688 ROSEBUD DR	SECOND CREEK	POINT REPAIR
111	WILLIAMS	5/12/2006	BLOCKAGE (GREASE)	1.25	350	MANHOLE	5472 INN ROAD	HALLS MILL CREEK	PLACE ON CLEANING CYCLE
112	ZIEBACH	5/14/2006	BLOCKAGE (GREASE)	1.5	475	MANHOLE	3054 PICKELL DR	ROBINSON BAYOU	PLACE ON CLEANING CYCLE
113	SMITH	5/16/2006	BREAK	2	2400	FORCE MAIN	3800 WULFF RD	CROOKED CREEK	POINT REPAIR
118	DECENTRALIZED	5/22/2006	BREAK	4	450	FORCE MAIN	BRIDLE CT - LOT 85	HALLS MILL CREEK	POINT REPAIR
119	WILLIAMS	5/22/2006	BLOCKAGE (GREASE)	2	360	MANHOLE	1501 SPRINGHILL AVE	THREE MILE CREEK	POINT REPAIR
120	SMITH	5/22/2006	BLOCKAGE (GREASE)	1.5	800	MAIN LINE	1001 BALTHROP ST	THREE MILE CREEK	POINT REPAIR
121	WILLIAMS	5/22/2006	3RD PARTY-BLOCKAGE (SAND)	1	1200	MAIN LINE	3907 MICHAEL BLVD	BOLTON BRANCH CREEK	NO FURTHER ACTION
122	DECENTRALIZED	5/22/2006	BREAK	0.5	1200	FORCE MAIN	9614 SADDLEBROOK DR S	HALLS MILL CREEK	POINT REPAIR
123	DECENTRALIZED	5/22/2006	BREAK	4	480	FORCE MAIN	BRIDLE CT LOT 82	HALLS MILL CREEK	POINT REPAIR
125	SMITH	5/25/2006	BLOCKAGE (GREASE)	1.5	90	MANHOLE	1000 WOODSIDE DRIVE	THREEMILE CREEK	INSTALL MAIN LINE LINER



**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND  
TRANSMISSION SYSTEMS AND WWTFs**

## **APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

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### **1. Introduction**

The following semi-annual analysis of wastewater collection and transmission systems and wastewater treatment facilities meets the requirements set forth in Paragraph 23 of the CD. Overflow, rehabilitation, operations, and maintenance information from July 1, 2005 through June 30, 2006 is included in the analysis.

### **2. Trends in Rehabilitation, Operation, and Maintenance**

#### **2.1 Gravity Line Maintenance**

##### **2.1.1 Hydraulic Cleaning**

Approximately 1,444,048 linear feet (LF) of gravity sewer has been cleaned since July 1, 2005. Of this total, approximately 719,592 LF of gravity sewer was cleaned for the first time. Excluding repeat cleaning of lines, 63 percent of the entire collection system has been cleaned since implementation of the program in 2000. Figure 2.1.1-1 shows the amount of cleaning and video inspection completed since July 1, 2005.

MAWSS continues to place a high priority on the cleaning and television inspection of lines not previously cleaned or televised. Approximately 50 percent of the sewer lines cleaned during the past year had not previously been cleaned. In addition to maintaining and inspecting lines not previously cleaned or televised, MAWSS crews continued to maintain areas of the collection systems that require high frequency cleaning schedules such as inverted siphons, sand traps, and overflow locations.

Contractors are being utilized to assist in cleaning and video inspection operations. One contractor is close to completion on a project using an in-line camera to provide a quick assessment of pipe conditions for all gravity sewer lines 12 inches and greater not previously inspected. Three other clean and video contracts are also underway. One contract is for preventive cleaning on cycles. The second contract is for cleaning and video inspecting 19 depressed sewers that are 14-inch diameter and larger and have not previously been video inspected. The third contract is an annual contract for general cleaning and video inspection.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

*Figure 2.1.1-1: Footage of Gravity Sewer Cleaned and Televised*

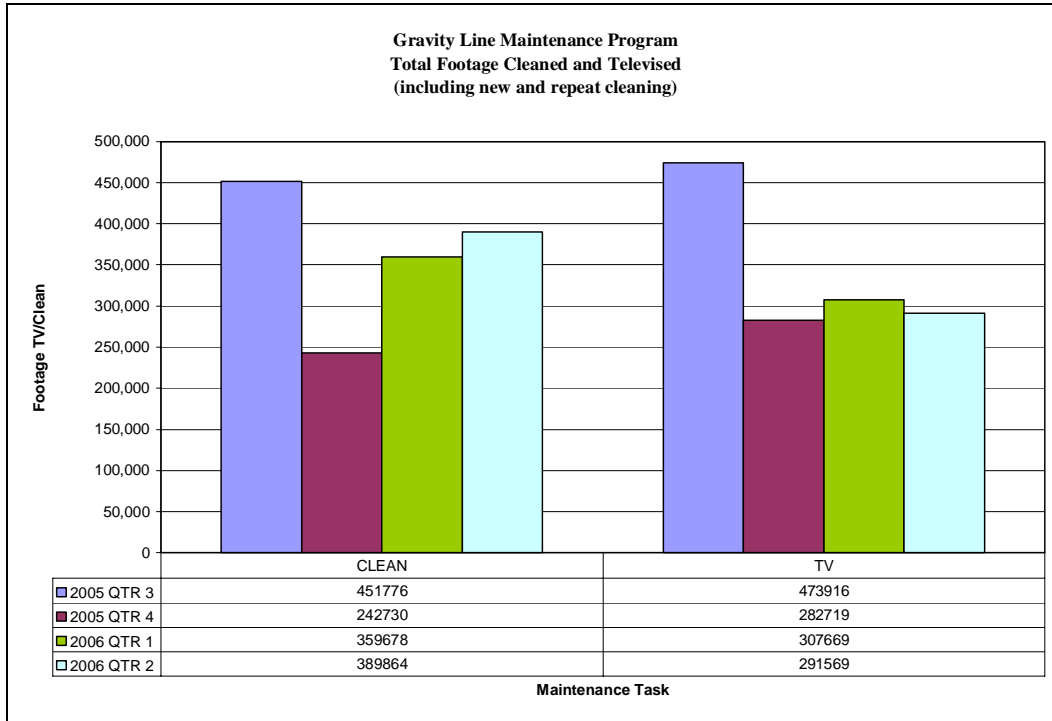
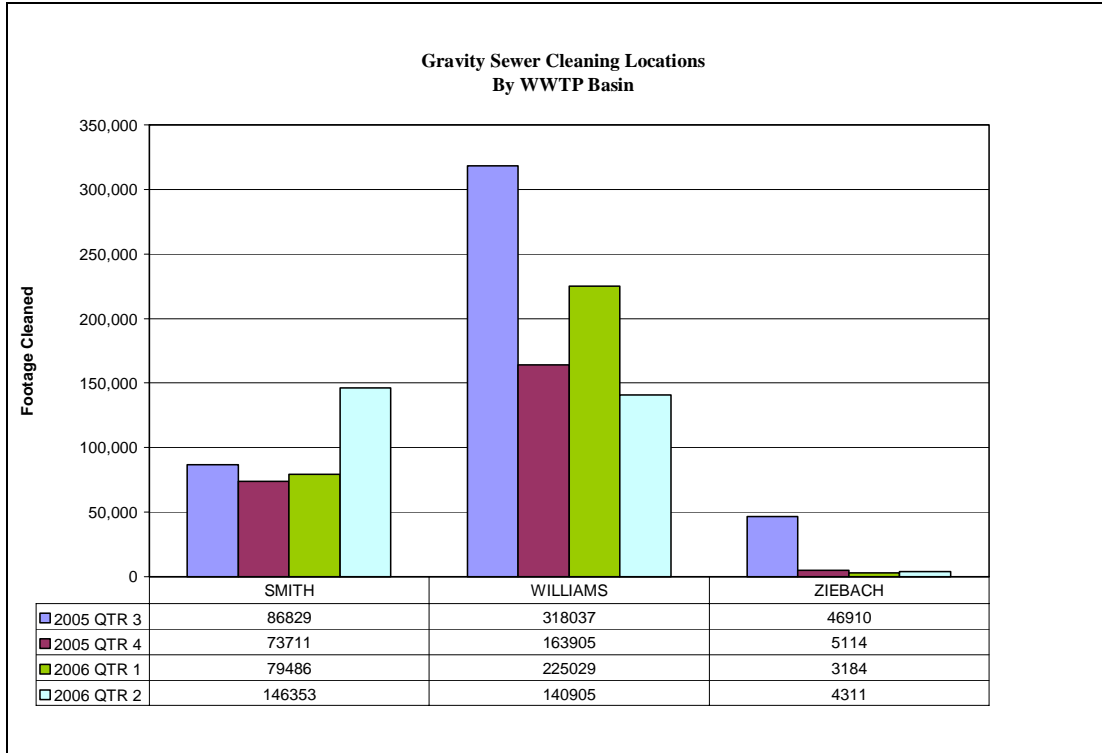


Figure 2.1.1-2 shows the distribution of cleaning efforts in each WWTP basin.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

*Figure 2.1.1-2: Location of Gravity Line Cleaning*



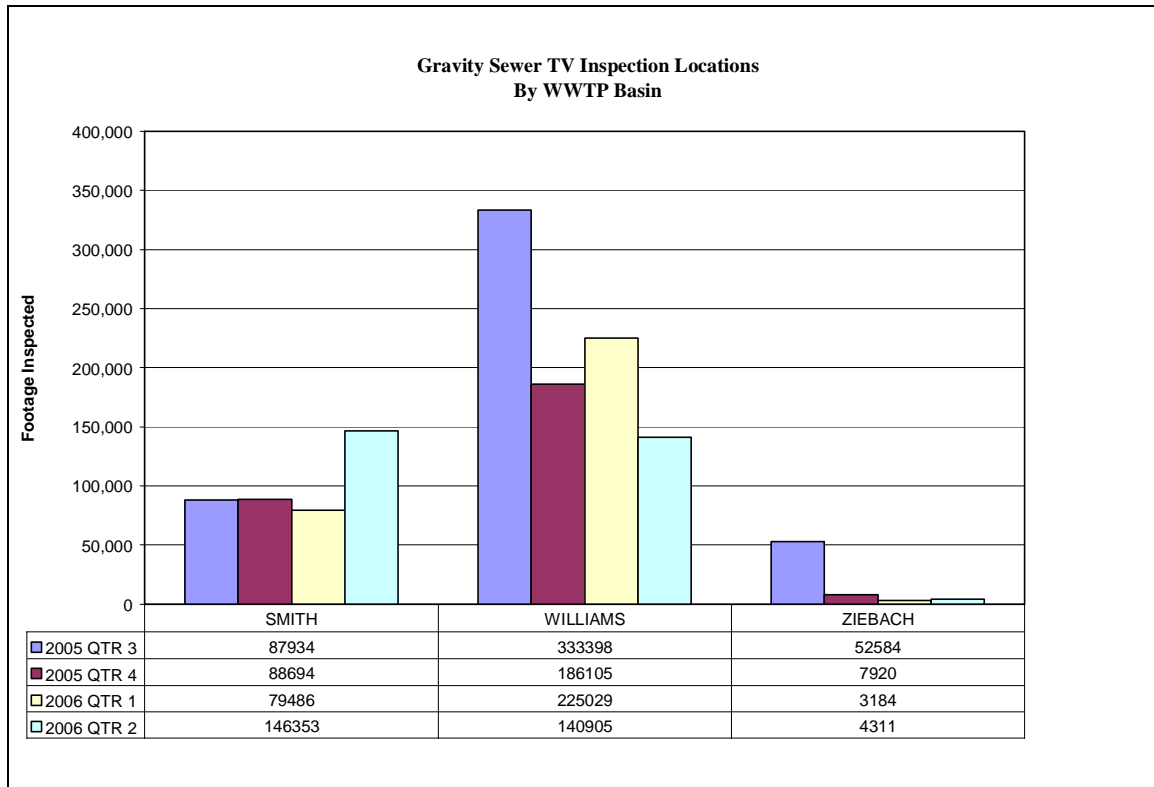
**2.1.2 Closed Circuit Television Inspections**

In addition to hydraulic cleaning, over 1,355,873 LF of gravity sewer was inspected by closed circuit TV since July 1, 2005. Figure 2.1.2-1 shows the distribution of inspection efforts in each WWTP basin. Since implementation of the program, approximately 66 percent of the collection systems have been inspected by TV.

Figure 2.1.2-1 shows distribution of TV inspection activities in each WWTP basin.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

*Figure 2.1.2-1: Location of Gravity Line TV Inspection*



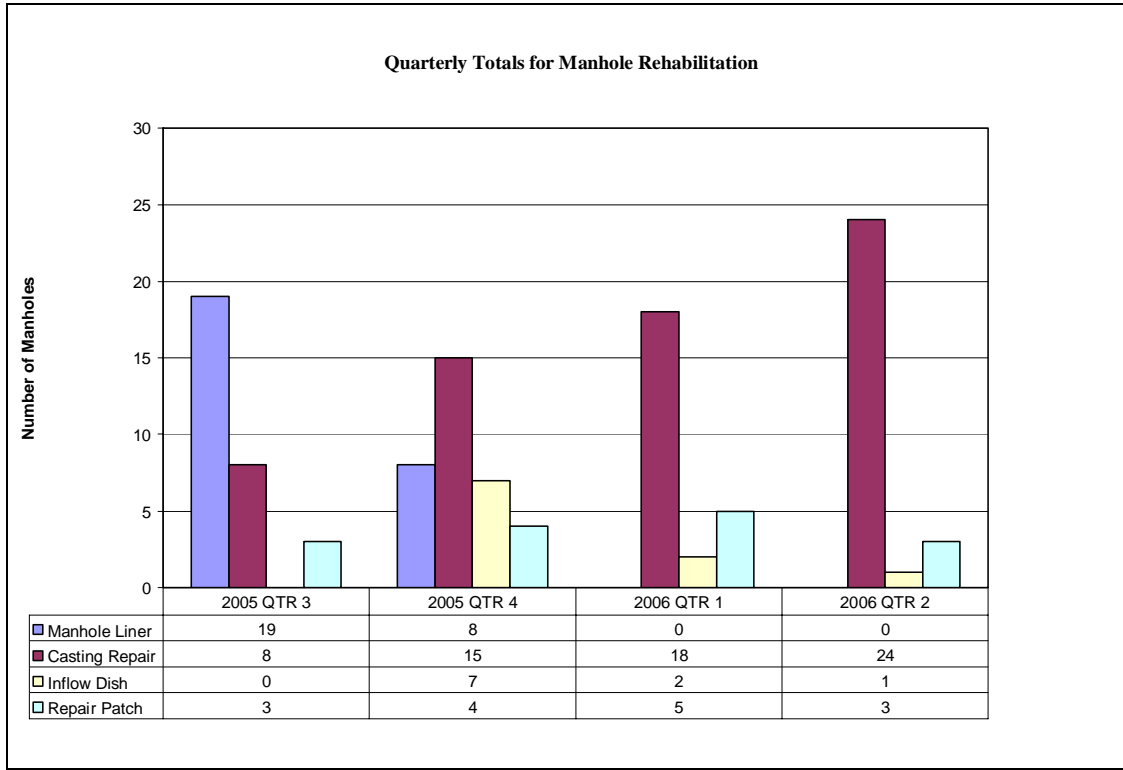
**2.2 Collection System Rehabilitation**

**2.2.1 Manhole Rehabilitation**

Manhole rehabilitation activities such as installation of inflow dishes, applying repair patches, and sealing or replacement of manhole castings are being completed by in-house personnel in order to address I/I sources. The Board has an annual contract for manhole repair and rehabilitation. Manhole rehabilitation is being performed by the contractor as needed. Figure 2.2.1-1 shows quarterly totals for manhole rehabilitation.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

*Figure 2.2.1-1: Totals for Manhole Rehabilitation*



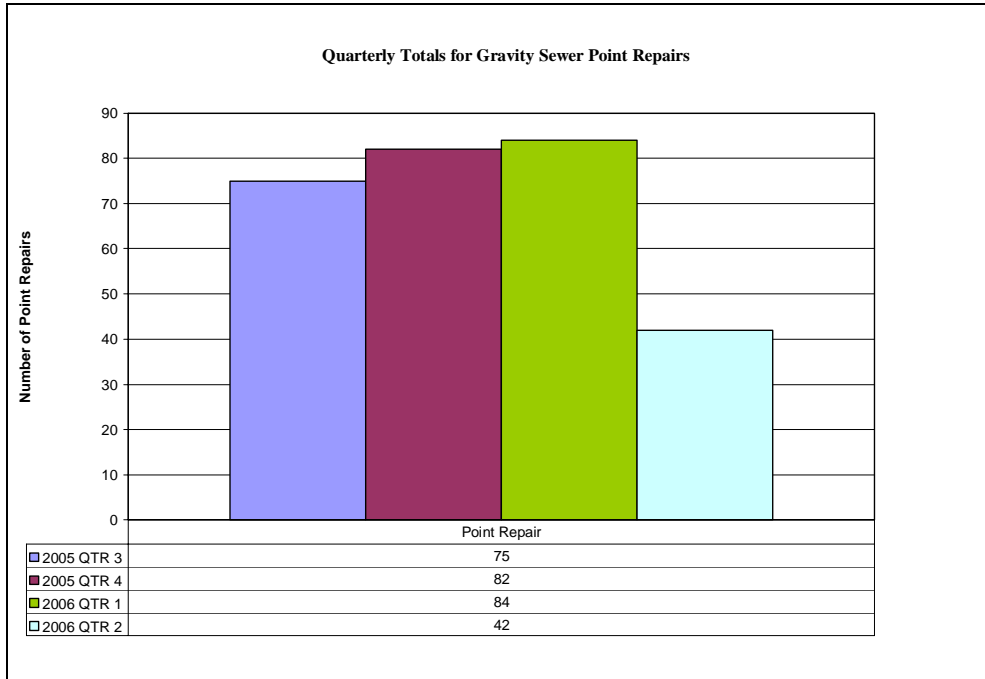
**2.2.2 Gravity Sewer Rehabilitation**

In January 2005, Insituform, Inc. began an annual contract to install cured-in-place liners in gravity sewer lines. Approximately 106,900 LF of sewer has been lined since July 1, 2005.

In addition to this work, contractor and in-house crews completed 283 point repairs since July 1, 2005. Figure 2.2.2-1 shows quarter totals for point repairs completed by the annual contractor and in-house forces.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

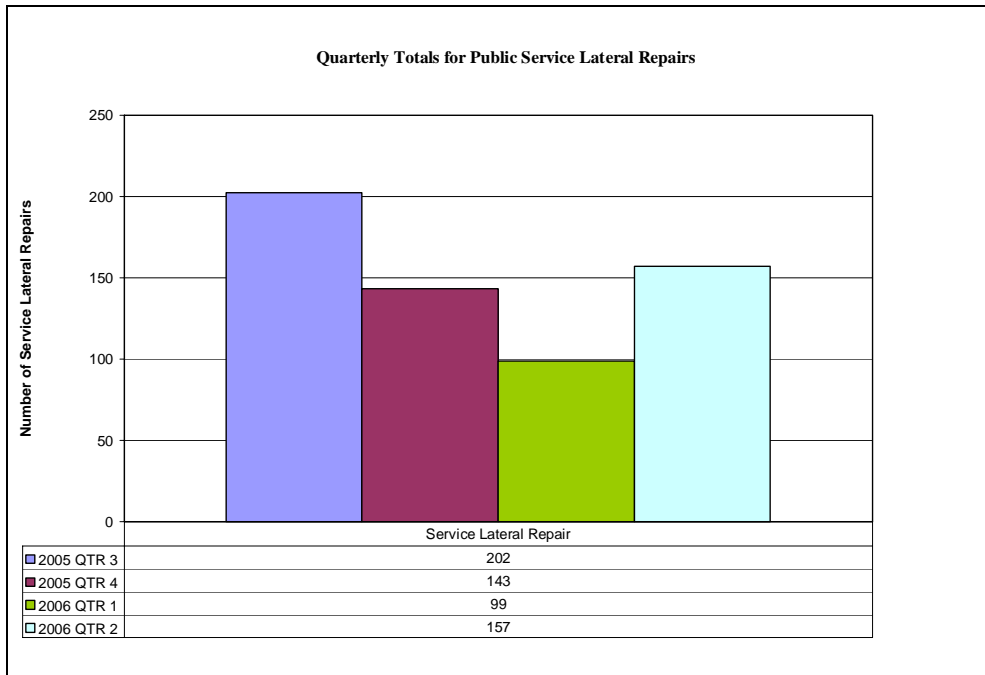
*Figure 2.2.2-1: Totals Gravity Sewer Point Repairs*



**2.2.3 Service Lateral Rehabilitation**

A total of 601 public service laterals were repaired or replaced by contractors and in-house forces. Figure 2.2.3-1 shows quarterly totals for public service lateral repairs.

*Figure 2.2.3-1: Totals Service Lateral Repairs*



**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

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**3. Analysis of Unpermitted Discharges and SSOs****3.1 Trend in Number of and Volume of Unpermitted Discharges and SSOs**

A total of 278 sanitary sewer overflows (SSOs) were reported since July 1, 2005. Of this amount, 182 (65%) were identified as having reached waters of the State or United States, and as a result, were classified as Unpermitted Discharges. Of the 182 SSOs reaching waters, 35 are considered to be the result of Force Majeure Events that occurred in the third quarter of 2005 - leaving 147 SSOs reaching waters in non-Force Majeure circumstances.

In the preceding semi-annual reporting period of January 1, 2005 through December 31, 2005, 91 SSOs reached waters in non-Force Majeure circumstances. In the reporting period of July 1, 2004 through June 30, 2005, 67 SSOs reached waters in non-Force Majeure circumstances.

Three Force Majeure requests were submitted in the third quarter of 2005 for Tropical Storm Cindy, Hurricane Dennis, and Hurricane Katrina. Thirty-five SSOs reached waters as the result of these events. The date of the Force Majeure letters sent to EPA and a brief summary of each event is shown below. Since the third quarter of 2005, there have not been any further Force Majeure requests.

July 7, 2005 – Tropical Storm Cindy

On July 6, 2005, as much as 6.34 inches of rain fell in a 24 hour period as feeder bands from Tropical Storm Cindy moved through the area.

July 10, 2005 – Hurricane Dennis

On July 10, 2005, three days following Tropical Storm Cindy, Hurricane Dennis caused up to 5.3 inches of rainfall and scattered power outages. MAWSS removed the Perch Creek Lift Station and the Ziebach WWTP from service in anticipation of the forecasted storm surge.

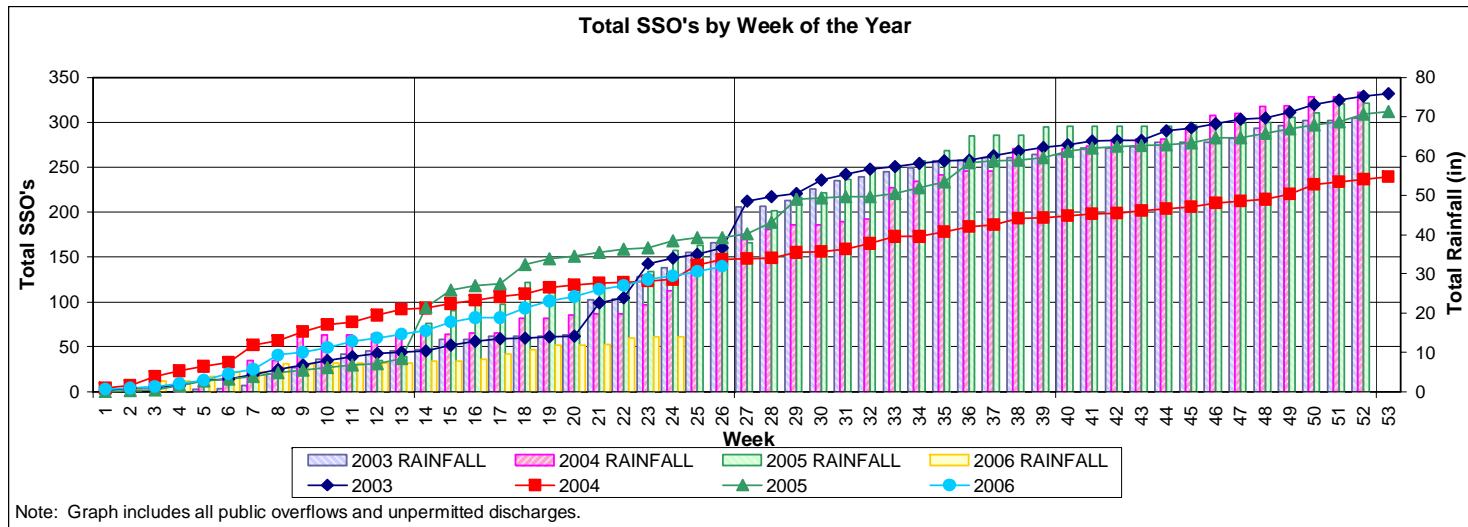
August 30, 2005 email and September 8, 2005 follow-up letter – Hurricane Katrina

On August 29, 2005, the storm surge from Hurricane Katrina caused severe flooding in the MAWSS service area. The level of Three Mile Creek at the Smith WWTP was three feet higher than the previous record set in 1981 causing the Smith WWTP intake station to become inundated. The Williams WWTP was also out of service for several hours. In addition to the storm surge, there was also wide spread power outages. Several generators at lift stations were damaged by the flooding and were inoperable.

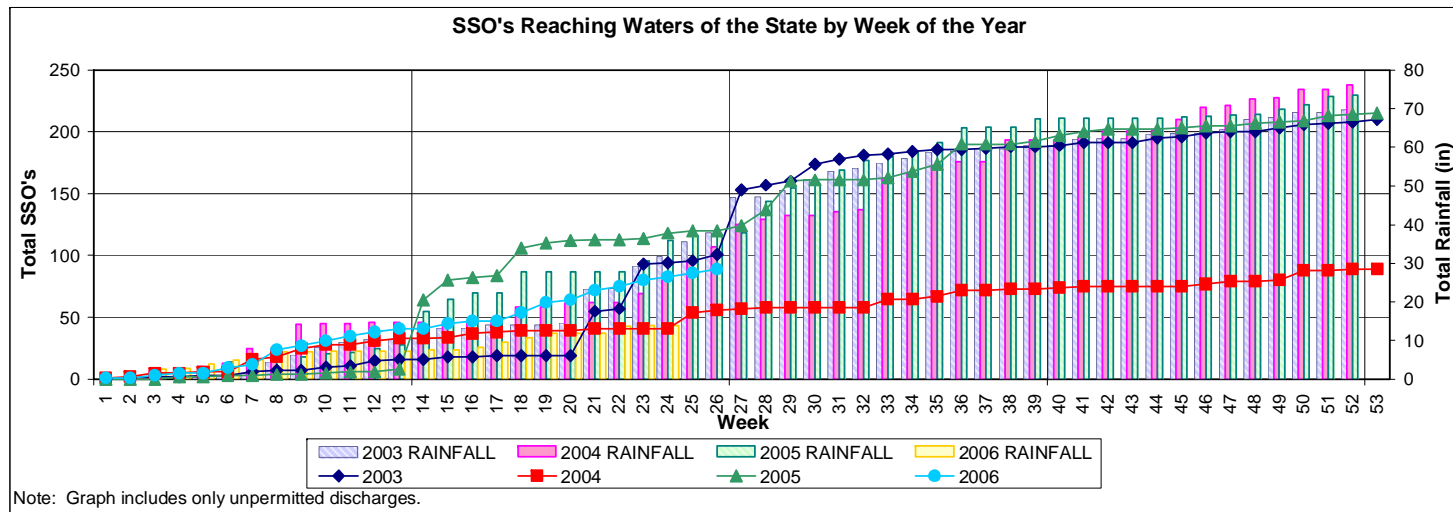
Figure 3.1-1 and 3.1-2 illustrates the cumulative totals of rainfall along with total overflows and total Unpermitted Discharges by week for each year since 2003.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

*Figure 3.1-1: Cumulative Overflow Totals by Week of the Year*



*Figure 3.1-3: Cumulative Unpermitted Discharge Totals by Week of the Year Including Force Majeure Events*



**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

Figure 3.1-5 shows the quarterly overflow totals for the past four quarters. Of the 94 overflows that occurred in the third quarter of 2005, 40 were related to Force Majeure requested events.

*Figure 3.1-5: Trend in Number of Unpermitted Discharges and SSOs*

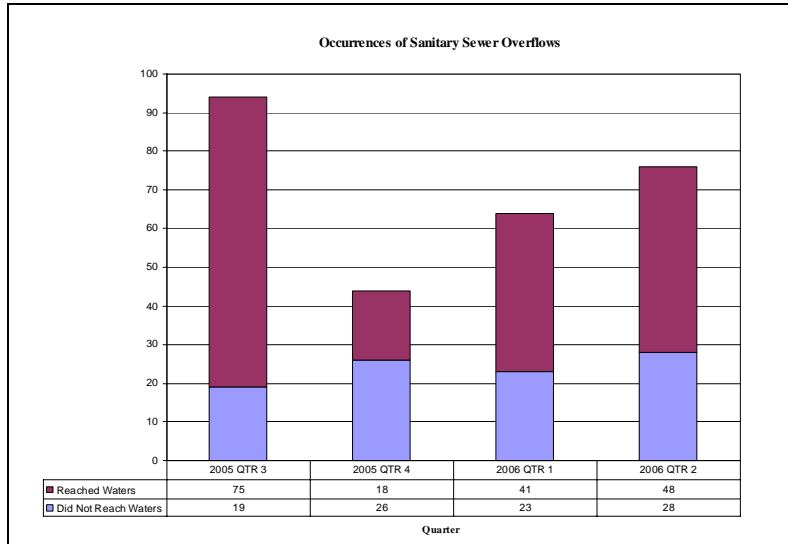
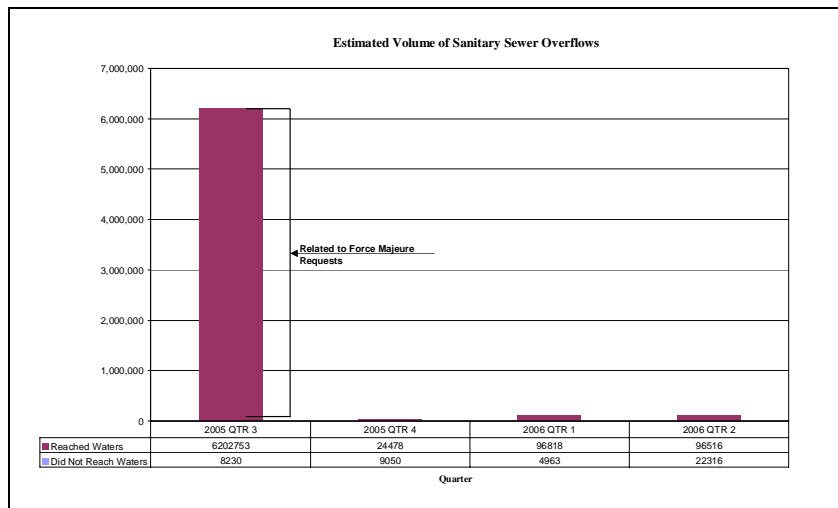


Figure 3.1-6 shows the quarterly total estimated volumes of reported overflows. Ninety-eight percent of the estimated overflow volume reported during the third quarter of 2005 is related to Force Majeure requested events. Individual overflow reports estimated the total volume of overflows for Hurricane Katrina to be near five million gallons. This estimate is likely understated by almost half due to the difficulty in obtaining accurate overflow volumes.

*Figure 3.1-6: Trend in Volume of Unpermitted Discharges and SSOs*

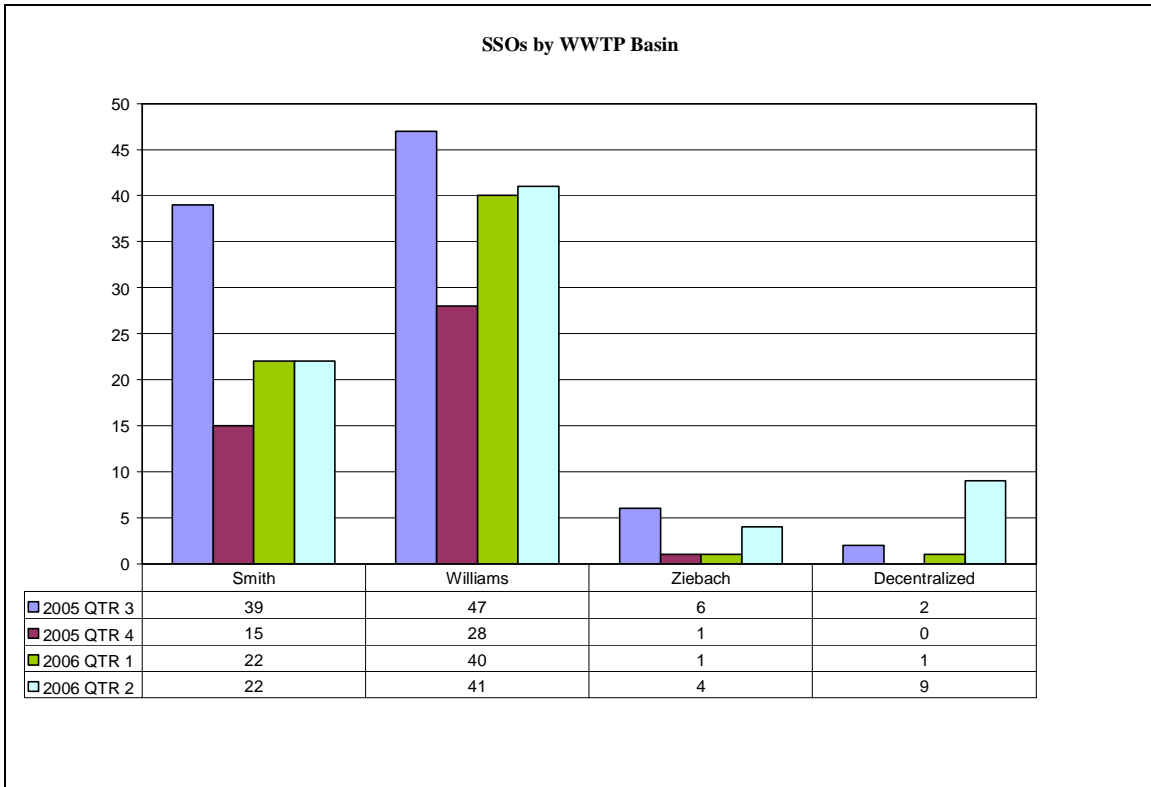


**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTF'S**

**3.2 Trend in the Location of Unpermitted Discharges and Overflows**

Quarterly overflow totals per basin are provided below. Reported overflow occurrences in the Smith and Williams WWTP basins have increased during the first two quarters of 2006

*Figure 3.2-1: Trend in Location of Unpermitted Discharges and SSOs*

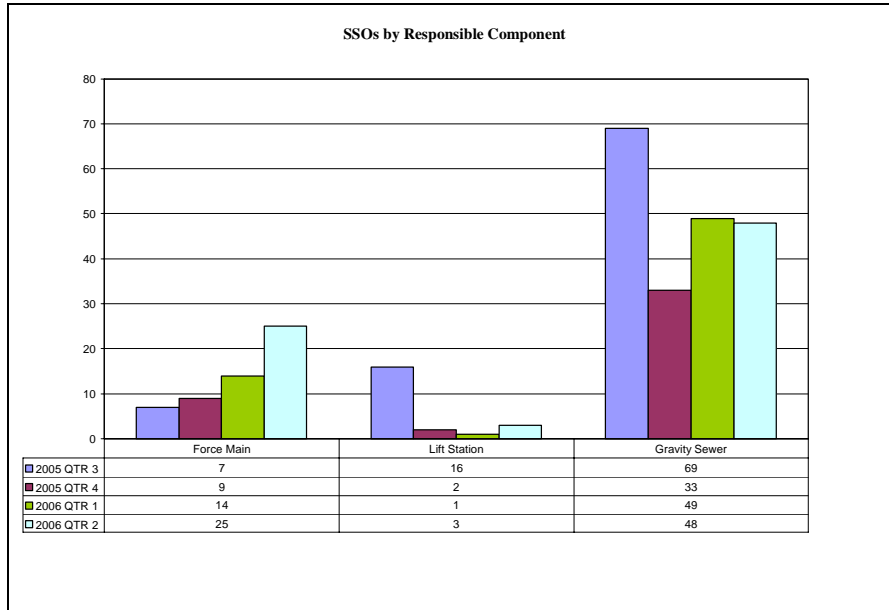


**3.3 Trend in the System Component Responsible for Unpermitted Discharges and SSOs**

Figure 3.3-1 identifies the distribution of SSOs between force mains, lift stations, and gravity sewers per quarter. All of the overflows attributed to lift station failures and a significant number of overflows along the gravity sewer system reported in the third quarter of 2005 were related Force Majeure requested events.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

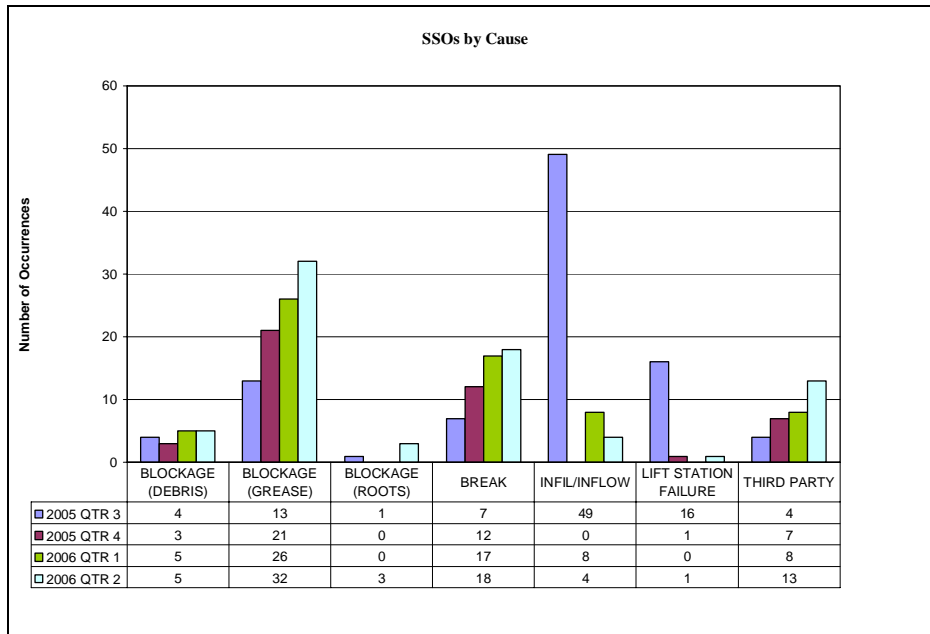
*Figure 3.3-1: Trend in System Components Responsible for Unpermitted Discharges and SSOs*



**3.4 Trend in the Suspected Cause of Unpermitted Discharges and Overflows**

Figure 3.4-1 identifies the trend in causes of Unpermitted Discharges and SSOs for the past four quarters.

*Figure 3.5-1: Trend in Causes of Unpermitted Discharges and SSOs*



**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

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**4. Conclusions**

The Board is continuing its efforts to decrease SSOs. Each year SSOs are reviewed and programs or projects are implemented to address the trends in dry or wet weather SSOs. In recent years, the Board has experienced increased numbers of wet weather SSOs resulting from very heavy rain events. In 2006, Mobile is experiencing a drought and dry weather SSOs are the priority. Below are the programs and projects that the Board is pursuing to address both wet and dry weather SSOs.

The Board intends to complete video inspection of nearly all of the collection system by September 1, 2007. A small portion of the collection system may take longer to clean because of access issues, easement acquisition, etc. Cleaning and television inspection efforts are targeted in areas where no prior cleaning or television inspection had been conducted. The purpose of this effort is to identify structural defects for repair and remove impediments to flow, such as roots, grease, debris, etc.

In 2005, the Board expanded its hydraulic cleaning forces to ten combination cleaning trucks and six video units. Four of the trucks and camera units are assigned to cleaning sewer lines not previously cleaned and video inspected; two trucks and camera units are dedicated to overflow response and other work order related clean and video needs; two trucks are dedicated to routine preventative maintenance cleaning; one truck is dedicated to customer response items such as blockages and backups, and one is assigned to lift station cleaning. In addition to the ten combination units, the Board has a jet cleaning truck working customer response and a new pumper truck assigned to lift station cleaning.

In addition to cleaning and televising the collection system with in-house forces, the Board has also established contracts for annual cleaning and video inspection. A contract is ongoing to provide a quick assessment of pipe conditions using an in-line camera for all gravity sewer lines 12 inches and greater not previously inspected. Also, the Board is currently using two annual contracts for cleaning and video inspection. One contract assists in-house forces with the cleaning and inspection of sewer lines with no prior maintenance or inspection history. The other contract is used to assist with routine preventative maintenance cleaning. The Board also has a contract underway to clean and inspect 19 depressed sewers of diameters 15 inches and larger.

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

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In an effort to meet the September 1, 2007 deadline, the Board will be bidding contracts to clean and video inspect nearly 1 million feet of pipe that has not been previously video inspected. In-house forces will continue to clean and video as well.

The Board continues to address grease related overflows through the following: extensive monitoring and compliance enforcement of food service facilities; investigation of gravity sewers associated with grease related overflows to address secondary causes; and, finally, public awareness activities.

The Board has reviewed grease hauling manifests and determined that large quantities of grease is not being properly disposed of after it is pumped from grease traps. The Board strongly suspects that grease haulers have been dumping or pushing grease back into the collection system in lieu of hauling the grease to a proper disposal facility. This illegal dumping is in direct opposition to the Board's efforts to remove grease from the system and reduce grease related SSOs. The Board is fully investigating this matter and will take steps to stop this practice.

For each non-I/I related overflow, the gravity sewer is inspected with closed circuit television (CCTV) cameras to determine the cause of the overflow. Video from these inspections is reviewed each week by staff to determine further actions that may be necessary to prevent a reoccurrence of the overflow. A large number of overflows attributed to grease related blockages are due to grease accumulation associated with pipe defects such as severely offset joints, sags, and roots. Roots and dropped joints are either addressed by in-house forces, annual rehabilitation contracts, or contracts specific to a line repair. Sewer lines with shallow grades or sags that are accumulating grease remain on a cleaning cycle until the lines can be re-laid at a steeper grade, if possible. These defects are identified in the clean and video effort mentioned above.

The Board continues to place door hangers in areas where overflows have resulted from heavy grease accumulation informing the public of the adverse effects of grease on collection system performance. The Board also hired a public affairs manager to assist in developing programs that will educate the public about water and sewer issues.

The Board will be reevaluating the preventive cleaning program and the resources necessary to clean grease from the system. Additional resources are needed to re-clean pipe that has already been cleaned and video inspected in the clean and video program mentioned above.

Recurring wet weather SSOs in the Conti/Demouy and Gimon Circle areas have not been eliminated by I/I removal efforts. Although greater rain events are necessary to cause SSOs in

**APPENDIX A-2: ANALYSIS OF WASTEWATER COLLECTION AND TRANSMISSION SYSTEMS AND WWTFs**

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these areas, adequate removal of I/I will be a long term endeavor. The Board is now pursuing the conveyance and storage of peak wet weather flows to further reduce SSOs in these priority areas.

Capacity upgrades to the Crenshaw Street lift station and 2400 feet of gravity sewer are currently under design to evacuate peak flows from the western portion of the Conti/Demouy area. This project will bid on August 21 with completion anticipated by the end of 2006.

A lift station and force main are being contemplated to isolate the interceptor sewer that serves the eastern portion of the Conti/Demouy area from the Three Mile Trunk Main. The isolation will ensure flows from the aforementioned interceptor are not impeded by surcharging in the Three Mile Trunk Main. Design of this project is expected to begin before the end of August. When the project is ready for the design phase, a schedule will be determined.

Volkert and Associates is currently sizing a severe weather attenuation tank for shaving peak wet weather flows in the Eslava Creek Trunk Main. The Gimon Circle area sanitary sewers discharge into the Eslava Creek Trunk Main. It is anticipated the storage tank will reduce surcharging in the Eslava Creek Trunk Main during severe rain events, thus eliminating wet weather SSOs in the Gimon Circle area for most rain events. Volkert is expected to complete the sizing of the tank and identify the pumping configuration in August. This project is also expected to move into the design phase in August.

I/I reduction in the above areas is being pursued using flow monitoring and smoke testing to identify defects. Recent smoke testing indicates at least 55 percent of smoke test defects are occurring on private property. On the public side, public laterals are the primary source of smoke defects. The Board is continuing to make public lateral repair a priority. Additional public education and attention to private side defects is forthcoming.

Over the past 12 months, approximately 107,000 LF of gravity sewer was lined with cured-in-place pipe (CIPP). Further, contractors and in-house forces completed 283 point repairs on gravity mains and repaired or replaced 601 public laterals. Additionally, an annual manhole rehabilitation project was bid on July 10, 2006 to address defective manholes.

In addition to continued efforts to increase the performance of the collection system, the Board has also made significant operational improvements to lift stations. Over the past two years, backup systems such as diesel pumps and backup generators have been installed at 23 lift stations. Three backup pumps were recently bid for the Water Street, Crenshaw Street, and Ralston Road Lift Stations.

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The Virginia Lift Station, Florida Street Lift Station, Halls Mill, and Eslava Creek Lift Stations have all been renovated. The Faye Lane Lift Station has been upgraded and a new Ridge Road Lift Station has been constructed to address overflows in their respective areas. In addition to these lift stations, 13 other lift stations have been renovated.

The Ziebach WWTP, which had capacity limitations and was susceptible to storm surges from hurricanes, was removed from service following upgrades to the Perch Creek Lift Station and the rerouting of its force main to the Halls Mill/Eslava Creek Lift Station Force Main which transmits flow to the Williams WWTP.

In the previous semi-annual report to the EPA, it was mentioned that the Board would pursue \$25 million a year for the next four years through the State Revolving Fund. The Board received one \$25 million loan from SRF and then decided to pursue additional funds via a bond issue. The Board is issuing \$105 million in Water and Sewer Revenue Bonds. The proceeds from the bond sale will be used for both water and wastewater capital projects.

The Board modified portions of the Water Quality Monitoring Program as recommended by Barry Vittor and Associates. The modifications allow the Board to save expense on response and investigative monitoring, while improving the benefits of the program by investigating storm drainage systems suspected of contributing to elevated fecal coliform levels in two tributaries. In the area of one tributary, the Board has minimal sanitary sewer infrastructure. That infrastructure was inspected and no sources of wastewater leakage to the tributary were found. In the other tributary, repairs were made to the public sanitary sewer and a private lateral. Fecal coliform levels are believed to have dropped to background levels after the repairs. Additional testing over time will be conducted to confirm the levels are at background. Barry Vittor and Associates is developing a program for dye testing smaller sewers to detect leakage into storm drains where prior water quality monitoring indicates leakage to the storm drain may be occurring.

With the exception of a few lift station punch list items, all capital construction projects identified in the Consent Decree and the Board's submitted programs are complete.

The Board continues to contemplate requesting an extension to the Consent Decree. While the Board has significantly improved the performance of the wastewater collection, transmission, and treatment systems and has significantly improved the efficiency and extent of operations and maintenance activities, there are concerns that the occurrences of overflows may not drop to a consistently acceptable level by the current September 1, 2007 CD completion date.