

**CONSENT DECREE  
PROGRESS REPORT**

**VOLUME 17  
2006**

**SEVENTEENTH QUARTERLY REPORT  
JANUARY 1, 2006 THROUGH MARCH 31, 2006**



**April 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**

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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; (3) water quality monitoring data; and (4) the status of the Supplemental Environmental Projects (SEPs).

### 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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### 3. Report Summary

This status report is the seventeenth quarterly report required by the Consent Decree (CD) and covers the period from January 1 to March 31, 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 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. Forty-five private laterals have been assigned to the contractor for replacement. Fifteen

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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.

**Delays in Completion**

On April 4, 2005 the lift station renovation project for the remaining eight stations was bid. The bids received were significantly above the engineer's estimate due to the short completion schedule for the project. The project was subsequently rebid with the performance (construction) period increased by two months. On April 19, 2005 the Board submitted a request to the EPA to extend the deadline for completion of the upgrades from December 31, 2005 to March 31, 2006. Seven of the stations were placed in service prior to the revised deadline. One station is currently awaiting power restoration before being placed in service.

Completion of the new Ridge Road Lift Station was expected in March 2006. Delays in getting power to the station by the local power utility pushed the startup of the station to April 7, 2006.

**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

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- 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)

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

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- 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
- 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.

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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.

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.

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- 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.

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.

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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.

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.

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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 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.

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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.
- 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

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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.

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.

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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 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

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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, 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

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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.

**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 and four rain gauges 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 50 temporary flow meters and 11 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 basin 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 31 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. Cured-In-Place Pipe (CIPP) is being installed in service laterals to evaluate its effectiveness.

The Conti and Demouy area consists of two mini-basins that have recurring SSOs in heavy rainfall. The two mini-basins and the interceptors that carry flow away from these mini-basins are being modeled and closely studied to determine a means of transporting the elevated wet weather flows to the treatment plants. One mini-basin, A047A01, outfalls through the Eslava Creek Interceptor to the Eslava Creek Lift Station. It is discussed under Eslava Creek Basin. Phases I and II of the modeling effort are in the Eslava Creek Basin.

The other mini-basin, BS06A01, outfalls through the Three Mile Creek collection system to the Wright Smith WWTP. The modeling effort in Three Mile Creek is Phase III. This model is currently being developed. Completion of this model and the identification of possible solutions is not expected until May of this year.

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 January 1, 2006, the Board has received 13 new applications for connections in the Three Mile Basin for a total capacity of 159,125 gpd. During this period, 14 applications for the basin were reviewed and approved for a total of 79,125 gpd. Since program implementation in August 2002, 171 requests for connection have been approved adding 778,420 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

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

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installed to isolate areas of concern. MAWSS is awaiting a significant rain event to evaluate I/I in these areas.

Since January 1, 2006, 18 new applications for connection have been received requesting capacity for a total of 246,444 gpd. During this period, 19 applications were reviewed and approved for a total of 294,569 gpd. Since the program implementation, 271 requests for connection have been approved for a total of 2.54 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 currently, 17 long term flow monitors and nine temporary flow monitors installed within the Basin.

Phase I of the modeling effort for the Conti and Demouy area study is nearly complete. Mini-basin A047A01 flows to the Crenshaw Street Lift Station. The preliminary results of the study indicate that the Crenshaw Street Lift Station needs a capacity upgrade. Also, several sanitary sewer line segments upstream of the station must be increased in size or supplemented with a parallel relief line to transport elevated flows to the station. Mini-basin A047A01 has also been video inspected and smoke tested. Repairs are being made where defects were found.

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. Phase II of the modeling study is expected to identify ways to increase the capacity of the Eslava Creek Interceptor so that it can both carry the increased flows from the Crenshaw Street Lift Station and prevent wet weather

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

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SSOs at Gimon Circle. Preliminary solutions to this matter are expected to be identified in April.

Since January 1, 2006, seven new applications for connection have been received requesting a total capacity of 78,555 gpd of peak flow. During this period, eight applications for the basin were reviewed and approved for a total of 79,180 gpd of additional peak flow. Since the implementation of the program, 129 requests for connection have been approved to allow an additional 471,274 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 six temporary flow monitors installed within the basin. Four of the six temporary flow monitors have been installed in the RSA Tower vicinity.

Since January 1, 2006, three requests for connection have been received for a total of 307,250 gpd of additional peak flow. During this period, three applications for the basin were reviewed and approved for a total of 5,000 gpd of additional peak flow. Since program implementation, 33 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 176,844 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.

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

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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.

Since January 1, 2006, two requests for connection have been received and subsequently approved to allow a total of 1,250 gpd of additional peak flow. During this period, three applications for the basin were reviewed and approved for a total of 1,875 gpd of additional peak flow. Since the implementation of the program, 62 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 64,110 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 January 1, 2006, 11 applications for connection have been received requesting capacity for a total of 65,225 gpd of peak flow. During this period, 16 applications for the basin were reviewed and approved for a total of 77,045 gpd. Since program implementation, 127 requests for connection have been approved to allow an additional peak flow contribution of approximately 1.1 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.

Installation of approximately 11,780 LF of a new 6-inch and 8-inch diameter force main along Schillinger Road was completed on April 3, 2005 to increase capacity in the Semmes area.

Since January 1, 2006, the Board has received one application for connection requesting capacity for 27,187 gpd. During this period, one application for the basin was reviewed and approved for a total of 27,187 gpd in additional peak flow. Since the implementation of the program, 36 requests for connection have been approved adding 332,557 gpd of peak flow.

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

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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. Completion dates for each project are in parentheses.

**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 224,418 feet of pipe. Additionally, approximately 68,000 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 3,184 feet of pipe. 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.

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

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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 54,324 feet of pipe to determine 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 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. 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. Engineering evaluations on three remaining treatment and discharge sites are expected to be completed by the end of June, 2006. A final public meeting will be held soon thereafter, to be followed in short order with a decision by the study participants regarding a selected alternative.

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

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### **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 fourth quarter of 2005 there were 64 sanitary sewer overflows (SSOs). Of this amount, 41 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.

Seven storm events met the severe natural event criteria described by CD Paragraph 23a, *Contingency Planning Process*.

##### Severe Natural Event (January 1-2, 2006)

During this event, the largest volume of rainfall recorded was 0.88 inches. Rainfall intensities of 0.63 inches over 15 minutes exceeded the criteria for severe natural events described in CD Paragraph 23a. No overflows were attributed to this storm event.

##### Severe Natural Event (February 2-3, 2006)

During this event, the largest volume of rainfall recorded was 1.76 inches. Rainfall intensities of 0.76 inches over 15 minutes exceeded the criteria for severe natural events described in CD Paragraph 23a. No overflows were attributed to this storm event.

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

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Severe Natural Event (February 25-26, 2006)

During this event, the largest volume of rainfall recorded was 2.26 inches. Rainfall intensities of 1.02 inches over 15 minutes exceeded the criteria for severe natural events described in CD Paragraph 23a. Eight overflows totaling 66,150 gallons were attributed to this storm event.

**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 March 31, 2005, a total of 1112 contracts have been mailed. Five hundred and twenty-four (524) 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.

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

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**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. Ongoing improvements are presented below. Scheduled completion dates are in parentheses.

Feasibility Study to evaluate on-site wastewater storage at the three primary pump stations (June 30, 2003)

The feasibility study for the storage of wastewater at the Halls Mill, Eslava Creek, and Virginia Street Lift Stations concluded that the cost of constructing adequate containment far exceeds the benefit of such an endeavor due to the minimal risk of catastrophic failure.

Coupons taken from the force main indicate that it is in good condition. A coating has been applied to the force main where it is exposed above ground. A transient flow study was also completed and the Board is following its recommendations regarding the installation of air release valves and air vacuum valves. Additionally, the *Operations and Maintenance Procedures for the Halls Mill Creek and Eslava Creek Force Main* was submitted to the EPA on January 18, 2005. The Board has also further decreased the risk of lift station failure by installing standby pumps, adding generating capacity, by-pass piping, and other upgrades to the three lift stations.

Halls Mill Creek and Eslava Creek Pump Station Contingency Projects (July 1, 2005)

The Halls Mill Creek Lift Station upgrade was completed on October 29, 2004. The Eslava Creek Lift Station upgrades were completed on July 7, 2005.

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

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### 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. The Board has applied for additional generator funding through FEMA. Efforts will continue to be made to add auxiliary systems to lift stations. The Board plans to relocate five generators from facilities that have been upgraded.

## **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 has decided to retest the system during June through August of 2006 to determine its effectiveness during warmer months when hydrogen sulfide levels are highest.

## **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.

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

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### **6.2 Program Implementation**

During the first 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.

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 158 FSFs for compliance. Three facilities were found to be in violation of the Grease Control Program requirements regarding the handling of grease.

Monthly compliance sampling was conducted at 28 FSFs. Two (2) of those sampled had results greater than the 200 mg/l limit. Fines resulting from monthly compliance sampling totaled \$400. To date, 51 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 30 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 recycling program is scheduled to begin in May 2006.

As previously stated, 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.

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

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### **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 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 tasks are presented below. Scheduled completion dates are in parentheses.

#### Clean Lift Stations (July 15, 2002)

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, twenty-five 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. Five (5) of the thirteen lift stations are complete. The Faye Lane Lift Station was added as a priority and is also complete. Renovations for all but one of the eight remaining lift stations are complete. The remaining station is ready for operation but is awaiting power restoration by Alabama Power.

#### In-House Category 1 Priority Tasks (December 31, 2004)

In-house Category 1 priority tasks are complete.

#### Consultant Category 1 Priority Tasks (December 31, 2004)

Category 1 priority tasks are complete. Work to install lift station lighting was completed by the end of 2004.

#### Halls Mill, Eslava, and Virginia Street Lift Station Upgrade Schedule (July 1, 2005)

Upgrades to the Virginia Street, Halls Mill, and Eslava Lift Stations are complete.

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

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### **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 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 are scheduled for installation 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**

Several tasks identified in the Force Main Preventative Maintenance Program are complete. Ongoing tasks are presented below with scheduled completion dates in parentheses.

##### Force Main Inventory (December 31, 2003)

All force mains were located by the end of 2003. The wooded easements for force mains were cleared. Force main materials, sizes, locations, lengths, and age were determined in the inventory.

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

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

All force mains have been visually inspected from above ground to determine if any leakage from the force mains was evident. No leakage was identified. Walking the force mains to inspect for leaks will be a maintenance item performed at least once each year.

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.

A portion of the Florida Street Lift Station Force Main will be replaced as part of a project that will replace gravity sewer on Florida Street. The force main is old cast iron and will be 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.

### 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.

During the field investigations that were conducted for the development of the plan, it was determined that the Martin Drive Lift Station force main warranted replacement. Work to replace the force main was completed during the second quarter of 2005. Thus far, coupons have been taken from approximately 50 force mains. The coupons do not indicate that force main replacement is needed at this time.

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

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**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 334,103 feet of gravity sewer and conducted television inspection on approximately 281,926 feet of pipe.

In 2005, the Board expanded its hydraulic cleaning forces to 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 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.

During the first half of 2005, MAWSS contracted the hydraulic cleaning of 19 large diameter inverted siphons. This work removed over 350 tons of debris. Additionally, the Board completed hydraulic cleaning and television inspection of 4,500 LF of the upper portion of the Three Mile Interceptor sewer. In the Ziebach basin, contractors completed cleaning of 5,640 LF of the 30-inch and 36-inch Perch Creek Interceptor sewer, removing approximately 300 tons of debris.

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

Two clean and video contracts will be bid in April 2006. One contract will be for preventive cleaning on cycles. The other contract will be for 19 depressed sewers that are 14-inch diameter and larger and have never been video inspected.

**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 19,700 feet of sewer line easement. In addition, the department assisted in grass cutting activities at MAWSS facilities when one of the contractors assigned to this work quit.

A bid for mechanical clearing of easements is scheduled for April 2006 while a bid to spray easements with herbicide is currently under design.

**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 crossings 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 quarterly 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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Previously, under the Routine Water Quality Monitoring Program, any coliform datum collected from a station during routine (biweekly) monitoring which exceeds the 75<sup>th</sup> quartile was flagged for further investigative monitoring as set out in the *Water Quality Monitoring Program*. This threshold level for investigative monitoring was arbitrarily set as BVA, initially, did not have data from comparable studies. Experience has determined that the fecal coliform concentration at a given station can vary considerably based upon the time of year, temperature, rainfall, cumulative rainfall, and number of consecutive days without rainfall. As part of a recent 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.

BVA surveyed the storm water outfalls of an unnamed tributary to Three Mile Creek in the downtown Mobile area. BVA identified more than 60 storm drains emptying into the tributary, two of which had flow and elevated fecal coliform levels. BVA and MAWSS investigated the storm water system and found three potential sources. One was a damaged private lateral that was cross connected with the storm water system on private property. The lateral was subsequently repaired. Another was a leaking joint in a sewer line crossing through the top of a storm drain. It has also been repaired. The third potential source was a plugged sewer crossing that was backing up into a storm drain at a restaurant. This source was also repaired.

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.

## SECTION III: WATER QUALITY MONITORING

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### 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.

BVA has modified the trunk line dye testing plan to provide more useful information on the integrity of the MAWSS collection systems. The initial sampling plan called for dye testing during dry and wet conditions. The rationale for dye testing during wet conditions was to ensure that sewer lines were surcharged when sampling took place. 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 recommends 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 to be coupled with studies of storm 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 ruling out compromises in the sewer lines. MAWSS is currently carrying out video analyses and smoke tests of the storm sewer lines in an attempt to localize the high fecal concentrations so that further dye tests can be undertaken.

### SECTION III: WATER QUALITY MONITORING

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#### 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. The majority of overflows that BVA responds to are the result of I/I from major storm events. Often, a brief spike in fecal coliform levels occurs; however, this increase is transitory in nature and concentrations quickly return to background. These observations are based on over two years of biweekly monitoring data and spill response data. It is determined that these spills are not typically due to breaks in the collection system but are the result of capacity overloads. 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 will consist of further water quality 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 (January 1, 2006 through March 31, 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
003	WILLIAMS	1/7/2006	BLOCKAGE (GREASE)	1	60	MAIN LINE	1207 DAUPHIN ISLAND PKWY	ESLAVA CREEK	POINT REPAIR
006	WILLIAMS	1/18/2006	BLOCKAGE (GREASE)	2	480	MANHOLE	1803 EAST CARDINAL DR	ESLAVA CREEK	PLACE ON CLEANING CYCLE
007	SMITH	1/19/2006	BLOCKAGE (GREASE)	2.5	3000	MANHOLE	860 MEMORY LANE	THREEMILE CREEK	PLACE ON CLEANING CYCLE
009	WILLIAMS	1/27/2006	BLOCKAGE (GREASE)	1	100	MANHOLE	1905 OLD SHELL ROAD	THREE MILE CREEK	PLACE ON CLEANING CYCLE
010	WILLIAMS	1/27/2006	BLOCKAGE (GREASE)	6.5	7480	MANHOLE	7292 BOWERS LANE	RABBIT CREEK	PLACE ON CLEANING CYCLE
016	WILLIAMS	2/7/2006	BREAK	2	120	PUBLIC SERVICE	3113 AIRPORT BLVD	ESLAVA CREEK	POINT REPAIR
017	WILLIAMS	2/7/2006	3RD PARTY-BREAK	2	400	FORCE MAIN	3543 COUNTRY WOOD CT	HALLS MILL CREEK	POINT REPAIR
019	WILLIAMS	2/8/2006	BLOCKAGE (SAND)	1.5	180	MANHOLE	429 BEL AIR BLVD	ESLAVA CREEK	POINT REPAIR
022	WILLIAMS	2/10/2006	BLOCKAGE (DEBRIS)	1.25	240	PUBLIC SERVICE	454 AZALEA RD @ DRIVEWAY	BOLTON BRANCH CREEK	PLACE ON CLEANING CYCLE
025	WILLIAMS	2/13/2006	BLOCKAGE (DEBRIS)	0.5	60	PUBLIC SERVICE	4318 DOWNTOWNER LOOP NORTH	ESLAVA CREEK	PLACE ON CLEANING CYCLE
026	WILLIAMS	2/13/2006	BLOCKAGE (GREASE)	0.5	150	MANHOLE	5551 QUAIL RUN E	HALLS MILL CREEK	PLACE ON CLEANING CYCLE
027	WILLIAMS	2/13/2006	BREAK	1	300	FORCE MAIN	8000 AIRPORT BLVD	SECOND CREEK	REPLACE CLEANOUT CAP
030	WILLIAMS	2/20/2006	BLOCKAGE (GREASE)	1.5	45	MANHOLE	250 3RD COURT	THREE MILE CREEK	PLACE ON CLEANING CYCLE
031	WILLIAMS	2/20/2006	BREAK	2	120	PRIVATE SERVICE	504 BROAD ST	ESLAVA CREEK	POINT REPAIR
034	SMITH	2/22/2006	BLOCKAGE (GREASE)	1.25	148	MANHOLE	4014 MOFFETT CT	THREE MILE CREEK	POINT REPAIR
037	SMITH	2/23/2006	BLOCKAGE (GREASE)	1.75	1100	MAIN LINE	901 DR THOMAS AVE	THREE MILE CREEK	POINT REPAIR
038	SMITH	2/25/2006	INFIL/INFLOW	3	50	MANHOLE	1721 SPRINGHILL AVE	THREE MILE CREEK	CONDUCT I/I REHAB IN AREA
039	SMITH	2/25/2006	INFIL/INFLOW	3.5	63000	MANHOLE	CONTI & DEMOUY	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
040	WILLIAMS	2/25/2006	INFIL/INFLOW	1	300	MANHOLE	MOHAWK & ELIZABETH ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
041	WILLIAMS	2/25/2006	INFIL/INFLOW	1.75	475	MANHOLE	DEMOUY & MURRAY AVE	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
042	SMITH	2/25/2006	INFIL/INFLOW	1	750	MANHOLE	LAUREL & DAVITT ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
043	SMITH	2/25/2006	INFIL/INFLOW	2	600	MANHOLE	LAUREL & DAVITT ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
044	SMITH	2/25/2006	INFIL/INFLOW	1.5	475	MANHOLE	65 MONTEREY ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
045	SMITH	2/25/2006	INFIL/INFLOW	1	500	MANHOLE	LAUREL & DAVITT ST	ESLAVA CREEK	CONDUCT I/I REHAB IN AREA
046	SMITH	3/1/2006	3RD PARTY-LIFT STATION FAILURE	0.5	300	MANHOLE	3600 SPRINGHILL BUSINESS PARK	MONTLIMAR CREEK	REPAIR BYPASS PUMP
047	SMITH	3/1/2006	BREAK	6	900	MAIN LINE	6400 WILLOWBROOK RUN EAST	TWELVE MILE CREEK	POINT REPAIR
048	SMITH	3/2/2006	BREAK	8	960	MAIN LINE	1621 SPRINGHILL AVE	THREE MILE CREEK	POINT REPAIR
049	WILLIAMS	3/6/2006	BREAK	2.5	50	PUBLIC SERVICE	10 MOHAWK ST	THREE MILE CREEK	POINT REPAIR
050	WILLIAMS	3/7/2006	BREAK	1.5	200	FORCE MAIN	3543 COUNTRYWOOD CT	HALLS MILL CREEK	POINT REPAIR
051	WILLIAMS	3/8/2006	BLOCKAGE (DEBRIS)	2.5	1500	MANHOLE	1000 S CODY ROAD	MILKHOUSE CREEK	PLACE ON CLEANING CYCLE

