



## Sewerage and Water Board of New Orleans

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Sewer System Evaluation  
and Rehabilitation Program

Final Technical Report  
Grant No. 2  
Assistance ID No. XP996732-01-3

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# SEWERAGE & WATER BOARD of NEW ORLEANS

## SEWER SYSTEM EVALUATION and REHABILITATION PROGRAM

### FINAL TECHNICAL REPORT - GRANT NO. 2

Assistance ID No. XP996732-01-3

GRANT BUDGET PERIOD ENDING March 31, 2004

#### Introduction

This Final Technical Report is submitted to Region 6 EPA pursuant to award conditions described in the EPA Assistance Agreement, Assistance ID No. XP996732-01-3. Included in this report are the following:

- Description of work completed during the reporting period
- Standard Form 5700-52A, "MBE/WBE Utilization Under Federal Grants, Cooperative Agreements, and Interagency Agreements"
- Expenditures by category during the reporting period (USEPA ACH Payment Request Form)

#### Description of Work Effort

To facilitate an understanding of the work to be accomplished under this grant, each work item included in the Work Plan is first described in italics, followed by the actual work accomplished during the reporting period.

#### Planning & Design/CMS Phase Services (MWH Contract)

*MWH has been retained to serve as program manager for this program. As program manager, MWH is responsible for all activities leading to the successful completion of the Sewer System Evaluation and Rehabilitation Program. A complete description of MWH's responsibilities can be found in the original grant application.*

#### Work Accomplished

##### A. Management

- The SSERP Master Schedule was developed as a receptacle for activities included in the SSERP. Activities are loaded with cost and sequence logic in a way that tracks the current status of the cost and schedule as well as forecasts future monetary and time requirements. The SSERP Master Schedule is updated on a monthly basis.

- The Document Controls Filing System and Database were developed and refined. All incoming and outgoing documents are electronically scanned and cataloged in an electronic database while hard copies are filed according to the subject matter. Digital images of scanned documents are available through the document controls database.
- Community Outreach efforts included attendance at meetings of the Lakeview Civic Improvement Association, events sponsored by the Lake Pontchartrain Basin Foundation, and public hearings regarding the Board's proposed rate increases.

#### B. Planning

- Ground water monitoring wells were installed at four sites throughout the system. Twenty-four long term and fourteen short-term flow monitors were also installed and collected data used in calibration of the system-wide model, development of which was initiated as part of Work Plan No. 1.
- Existing land usage information was gathered and input into ArcView GIS software for use in the hydraulic model development.
- Manhole survey data was completed for each of the ten service areas in the system. Quality assurance checks were conducted on manhole survey data for each of the service areas in the system. Discrepancies found in the survey data were corrected. The data was formatted to aid in development of the system wide hydraulic model.
- Data on future sewage flow projections was collected and incorporated into the wet-weather model and the Corrective Action Plan.
- Individual dry weather models were developed for the basins. Once the individual models were completed and joined together, development of the wet weather model began.
- A simplified static model of the East Bank force main system was developed. Information gathered from this effort was used to conduct a preliminary force main capacity assessment. A report of the findings of this assessment was submitted to the S&WB.
- Efforts to develop and calibrate the system-wide wet weather model were initiated in October, 1998. Model calibration was completed in December, 1998 and the model report was submitted to the USEPA in the first quarter of 1999.
- Model analysis was performed to determine system response to dry and wet weather flows. Results of these model runs were reviewed in workshops with the S&WB (during 1998 and 1999) and were used to develop the Corrective Action Plan (CAP). The workshops culminated with the submittal of the draft Corrective Action Plan for the East Bank

Wastewater Collection System. The Corrective Action Plan was submitted in the fourth quarter of 1999.

- Assistance to the S&WB was provided for the Gentilly, Uptown and Mid-City basin CSES proposal development. Assistance was also provided to the S&WB for the CBD/FQ basin CSES.
- The Final CSES Report for the CBD/FQ Basin was submitted to EPA on March 27, 1998 for approval. EPA approved the Final CSES Report for the CBD/FQ Basin on April 19, 1998. MWH used the results of the report to develop the RMAP.
- Sonar and TISCIT inspections were completed for surcharged sewer lines in the following service areas: Mid-City, Lakeview, Gentilly, and CBD. Reports of these inspections were submitted to the S&WB.

#### C. Design

- The CBD/FQ RMAP was submitted to EPA on August 7, 1998. Final approval of the RMAP was granted by EPA Region 6 in September 1998.
- Development of standard specifications and drawing details, initiated as part of Work Plan No. 1, continued under Work Plan No. 2.
- Rehabilitation measures for the Central Business District/French Quarter (CBD/FQ) basin sewer manholes and gravity pipelines were developed into contract documents for construction. Design consultant Camp Dresser and McKee, Inc. performed the design services. The preliminary design phase for this effort was performed under Work Plan No. 2. The final design phase, bid and award phase, and engineering services during construction phase were performed under Work Plan No. 3.

#### D. Construction

- MWH provided construction management and resident inspection services. Efforts included full-time resident inspection, conducting bi-weekly progress meetings, review of contractor submittals, and processing of contractor payment requests for the following construction contracts:
  - Contract No. 3900 – East Lakeview Area sewer Rehabilitation Manhole Rehabilitation
  - Contract No. 3901 – Lakeview Area Sewer Rehabilitation Cleaning & CCTV Inspection
  - Contract No. 3905 – West Lakeview Rehabilitation Phase 1 Pipe Lining and Repair

-Contract No. 3908 – East Lakeview Sewer Rehabilitation No. 1 Pipe Lining and Repair

-Contract No. 3909 – West Lakeview Area Sewer Rehabilitation Manhole Rehabilitation

#### Open Cut Sewer Restoration

*In response to sewer system failures, the S&WB must respond and repair collapsed pipe as quickly as possible. In addition, as the CSES efforts continue, it is expected that sewers will be identified that are in immediate need of improvement.*

*The work to be performed under this contract consists of furnishing all labor, material, supervision, equipment, and supplies as necessary for the restoration of gravity sewers by excavation and replacement at scattered sites throughout Orleans Parish. As sites are identified, information justifying the need for the sewer replacement will be provided to EPA Region 6 prior to a notice to proceed being given to the contractor.*

#### Work Accomplished

The original Work Plan included this effort. However, this effort was removed from this Work Plan. Although the construction of sewer facilities included in this effort was removed from this Work Plan, this construction was subsequently included in Work Plan No. 4.

#### Fold & Form Sewer Restoration

*In lieu of open cut and replacement, a second option for restoration of sewers 8 – 12 inches in diameter is fold and form trenchless technology. This option would be used whenever possible to minimize disruption to the environment.*

*The work to be performed under this contract consists of furnishing all labor, material, supervision, equipment, and supplies as necessary for the restoration of gravity sewers by the fold and form lining method at scattered sites throughout Orleans Parish. As sites are identified, information justifying the need for the sewer replacement will be provided to EPA Region 6 prior to a notice to proceed being given to the contractor.*

#### Work Accomplished

The original Work Plan included this effort. However, this effort was removed from this Work Plan.

#### Cured-in-Place Pipe Sewer Restoration

*Another option for restoration of sewers 8 – 30 inches in diameter is cured-in-place pipe. This lining method will also be used whenever possible to minimize disruption to the environment.*

*The work to be performed under this contract consists of furnishing all labor, material, supervision, equipment, and supplies as necessary for the restoration of gravity sewers by the cured in place lining method at scattered sites throughout Orleans Parish. As sites are identified, information justifying the need for the sewer replacement will be provided to EPA Region 6 prior to a notice to proceed being given to the contractor.*

#### Work Accomplished

The original Work Plan included this effort. However, this effort was removed from this Work Plan. Although the construction of sewer facilities included in this effort was removed from this Work Plan, this construction was subsequently included in Work Plan No. 4.

#### Lakeview Rehabilitation Projects

*The design of the Lakeview sewer rehabilitation projects, as described in the Lakeview Remedial Measures Action Plan (RMAP) was included in Work Plan No. 1. The Lakeview sewer rehabilitation projects were initiated during calendar year 1998, with funding provided under Grant No. 1. Additional work was continued under Grant Nos. 2 and 3. The work effort included manhole and sewer rehabilitation.*

#### Work Accomplished

The following projects were completed in the Lakeview basin as part of Work Plan No. 2:

- Contract No. 3924 – East Lakeview Area Sewer Rehabilitation Phase 2 Pipe Lining and Repairs

Detailed information on this project can be found in **Appendix A**.

#### Infrastructure Rehabilitation Projects

*The S&WB participates in Capital Improvement Programs initiated by various departments of the City of New Orleans. The S&WB takes advantage of these programs, such as the Streets Paving Program, to evaluate and rehabilitate the wastewater collection system prior to the paving of the street. By participating in these programs, the S&WB is able to reduce the cost of sewer rehabilitation by avoiding costs associated with roadway restoration.*

*Grant No. 2 includes the performance of sewer repairs in coordination with capital improvement projects initiated by the City of New Orleans. The contractor to rebuild the streets and rehabilitate sewers will be selected based on standard competitive bidding requirements meeting federal guidelines.*

#### Work Accomplished

The following projects (sewer portion only) were completed under the City of New Orleans Capital Improvement Program as part of Work Plan No. 2:

- DPW Project No. 92-5 – Esplanade Avenue
- DPW Project No. 95-4 – MacArthur
- DPW Project No. 95-5 – Fountainbleu
- DPW Project No. 95-13-E – Cerney-Dreux
- DPW Project No. 95-13-1C – Hudson-Eton
- DPW Project No. 93-13-1D – Clouet

#### Sewage Pump Station Rehabilitation

*The S&WB is currently replacing the pumps within Pump Station B. The contractor performing the rehabilitation was selected based on standard competitive bidding requirements meeting federal guidelines.*

#### Work Accomplished

The following project was completed under Work Plan No. 2:

- Contract No. 3597-Replacement of Two 12” x 43” Pumps at Sewage Pump Station B

#### CBD Initial Rehabilitation Projects

*Design of the recommended improvements included in the Remedial Measures Action Plan (RMAP) for the Central Business District/French Quarter Basin has begun. Construction of the improvements began during calendar year 2000, the third year of this grant. The work effort includes manhole and sewer rehabilitation.*

#### Work Accomplished

The following projects were completed in the CBD/FQ basin as part of Work Plan No. 2:

- Contract No. 3914 – CBD/FQ Area Sewer Rehabilitation Cleaning and CCTV

Detailed information on this project can be found in **Appendix A**.

### **Schedule**

Work efforts under Work Plan No. 2 have been completed.

### **MBE/WBE Utilization**

MBE utilization through the grant period is provided in the MBE Final Report.

### **Expenditures**

Expenditures through the grant period are provided in the Final Financial Status Report.

# **Appendix A**

**Service Area:** Lakeview  
**Contract Number:** 3924  
 (Formerly Contract No. 3910)

**Council Districts:** A & D  
**Contract Name:** East Lakeview Area Sewer  
 Rehabilitation Phase 2 Pipe Lining and Repairs

**Original Contract Duration (calendar days):** 300

**Description of Work:**

The work consists of sewer line rehabilitation by cured-in-place lining of approximately 26,720 feet of existing sanitary sewer lines from 8-inch to 18-inch diameter, 1,080 feet of sewer service lateral replacements, 33 internal point repairs, and 166 service connection repairs by short length service lateral lining or excavation. The contract also provides for restoration and sewer flow control. The work sites for this contract are primarily east of the Orleans Avenue Canal.

<b>Design Dates</b>	
<b>Start Preliminary Design:</b>	9/29/97
<b>Start Final Design:</b>	4/6/99

<b>Bid and Award Dates</b>	
<b>Advertisement Date:</b>	2/9/00
<b>Bid Opening Date:</b>	3/10/00
<b>Contract Award Date:</b>	4/12/00

<b>Construction Dates (Projected)</b>	
<b>Start Date:</b>	7/24/00
<b>33% Completion Date:</b>	12/15/00
<b>66% Completion Date:</b>	1/26/01
<b>End Date:</b>	5/20/01

<b>Construction Dates (Actual)</b>	
<b>Start Date:</b>	7/24/00
<b>33% Completion Date:</b>	10/13/00
<b>66% Completion Date:</b>	11/24/00
<b>End Date: *</b>	6/15/01

\*Contract Change Orders are summarized as follows:

<b>Contract Status</b>	<b>Contract Time (Days)</b>	<b>Contract End Date</b>
Original	300	5/20/01
Change Order No. 1	25	6/15/01

The contract was completed and was granted final acceptance on October 10, 2001 (Resolution No. R-197-2001).

**Service Area:** Central Business District/French Quarter  
**Contract Number:** 3914

**Council Districts:** B & D  
**Contract Name:** Central Business District/French Quarter Sewer Line Cleaning and CCTV Inspection

**Original Contract Duration (calendar days):** 330

**Description of Work:**

The proposed work consists of the cleaning and CCTV inspection of approximately 346,800 feet of existing 6-inch to 45-inch diameter main lines, cleaning of approximately 10,000 feet of existing 54-inch to 72-inch diameter main lines, cleaning of 325 service laterals, and CCTV inspection of 145 service laterals, including sewer flow control, labor, equipment, tools and materials. The project is generally located in Orleans Parish, bounded by Esplanade Avenue to the east, the Mississippi River to the south, Third Street to the west, and Claiborne Avenue to the north.

<b>Design Dates</b>	
<b>Start Preliminary Design:</b>	2/8/99
<b>Start Final Design:</b>	6/28/99

<b>Bid and Award Dates</b>	
<b>Advertisement Date:</b>	4/12/00
<b>Bid Opening Date:</b>	5/12/00
<b>Contract Award Date:</b>	6/21/00

<b>Construction Dates (Projected)</b>	
<b>Start Date:</b>	10/30/00
<b>33% Completion Date:</b>	4/22/01
<b>66% Completion Date:</b>	7/25/01
<b>End Date:</b>	9/25/01

<b>Construction Dates (Actual)</b>	
<b>Start Date:</b>	10/30/00
<b>33% Completion Date:</b>	3/16/01
<b>66% Completion Date:</b>	6/22/01
<b>End Date:</b>	6/28/02

\*Contract Change Orders are summarized as follows:

<b>Contract Status</b>	<b>Contract Time (Days)</b>	<b>Contract End Date</b>
Original	330	9/25/01
Change Order No. 1	+276	6/28/02

The contract was completed and was granted final acceptance on August 21, 2002 (Resolution No. R-119-2002).