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## **1.0 Executive Summary**

Materials Management Group, Inc. (MMG) has completed a Phase I Environmental Site Assessment (PI-ESA) on behalf of the U.S. Army Corps of Engineers (USACE) New Orleans District (NOD) under IQRC (Indefinite Quantity Requirements Contract) contract number DACW29-03-D-0014, Task Order 24. MMG completed the PI-ESA in accordance with the American Society for Testing and Materials (ASTM) “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (E 1527-05).

The environmental site assessment was conducted at the locations of the proposed navigable closure structure (gates) located in the Gulf Intracoastal Waterway (GIWW) and in the Mississippi River Gulf Outlet (MRGO) (near the Bayou Bienvenue-Michoud Canal corridor). The property of interest (Property) includes two floodgates and the levee corridor connecting these two gates. The levee corridor is approximately one mile long.

The investigative activities of this Phase I included data reviews of environmental data, site reconnaissance of the Property, and interviews of owners and other related parties. The main objective was to identify possible Recognizable Environmental Conditions that may require a follow-up Phase II Environmental Site Assessment.

The environmental data base review included commercially available EDR report and the EPA Enforcement and Compliance History Online. The review did not produce any significant environmental concern to the Property. The site reconnaissance conducted throughout proposed levee and floodgates area. There were five barges (with two sunken) east of the proposed GIWW gate structure could be the Recognized Environmental Condition (REC). MMG also conducted interview of owners and other related parties. The interview did not result in any significant environmental concern.

This Phase I ESA reveals one Recognized Environmental Condition (REC) in connection with the Property. The REC is the presence of sunken barges about 200 yards east of the GIWW floodgate location (near Michoud Canal). It is recommended to investigate the contents of these barges and the impact to the surrounding environment including surface water and sediment. In addition, the sediment at the Property will likely require further investigation to ascertain its hazardous nature for waste management as well as the potential dispersion in the surrounding aquatic environment during the construction phase.

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## 2.0 Introduction

The U.S. Army Corps of Engineers (USACE) New Orleans District (NOD) has contracted Materials Management Group, Inc. (MMG) under IQRC (Indefinite Quantity Requirements Contract) DACW29-03-D-0014, Task Order 24 to conduct a Phase I Environmental Site Assessment (PI-ESA) at its proposed navigable closure structure (gates) located in the Gulf Intracoastal Waterway (GIWW) and in the Mississippi River Gulf Outlet (MRGO) (near the Michoud Canal and Bayou Bienvenue corridor). The property of interest (Property) includes two floodgates and the levee corridor connecting these two gates. The levee corridor is approximately one mile long. Please refer to Figure A1 in Appendix A.

### 2.1 Purpose

The purpose of this PI-ESA was to complete an assessment in a good commercial and customary fashion at the Property with respect to the range of hazardous substances, pollutants, or contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and for petroleum product contaminants. The PI-ESA has been completed to determine the potential for contamination by means of appropriate inquiries into previous ownership and into uses of the Property consistent with good commercial or customary practices. It is in compliance with the requirements for conducting “All Appropriate Inquiry” (AAI) under EPA rule.

### 2.2 Scope of Services

MMG was contracted to identify Recognized Environmental Conditions (RECs) per the ASTM E 1527-05 standard as well as the USACE ER 11165-2-131 Regulation. RECs for the purposes of this report are defined as the presence or likely presence of any hazardous substance or petroleum product on the Property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum product into structures on the Property or into the ground, groundwater, or surface water of the Property.

### 2.3 Significant Assumptions

As MMG was not provided with a survey map of the Property, MMG has made the assumption that the area of interest at the time of the site investigation (as delineated by the maps and drawings and geographical coordinates provided by the USACE) was in fact the limits of the Property.

### 2.4 Limitations and Exceptions

At the request of the USACE, MMG conducted records review within a 2-mile radius of the geographic coordinates of the gates at both the GIWW and MRGO

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locations. The site reconnaissance activities were conducted throughout the levee corridor that connects the two gates, approximately one mile in length. The potential recognized environmental concerns were determined based on the available database and results of site reconnaissance activities. No sampling and analysis of environmental media or environmental modeling were conducted for this PI-ESA.

## **2.5 Special Terms and Conditions**

The findings of this report are confidential. MMG will not release information about the Property without the USACE's permission.

## **2.6 User Reliance**

Materials Management Group, Inc. hereby releases to USACE use and reliance of this Phase I - Environmental Site Assessment Report, subject to any stipulated limitations in the report. Should there be a substantial lapse in time (> 12 months) or if physical changes are made to the Property, this PI-ESA will need to be updated.

## **3.0 Property Description**

### **3.1 Location and Legal Description**

#### **3.1.1 Location**

The Property is divided into three parts:

1. Proposed floodgate construction site in the GIWW east of Michoud Canal (geographic coordinates: longitude = 89°53.85' W and latitude = 30°0.95' N)
2. Proposed floodgate construction site in MRGO east of the confluence of Bayou Bienvenue and the MRGO (geographic coordinates: longitude = 89°54.47' W and latitude = 29°59.74' N)
3. Approximately one-mile corridor of levee connecting these two floodgates. This corridor will be constructed through the marsh and wetlands.

Please refer to Figures A2 and A3 in Appendix A for site location maps.

#### **3.1.2 Legal Description**

The Property has no municipal street address. However, the Environmental Data Resources, Inc. (EDR) database used for this PI-ESA provided the physical address as Michoud Canal, New Orleans, LA 70129 for the GIWW floodgate site, and Bayou Bienvenue, New Orleans, LA 70129 for the MRGO floodgate site.

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**3.2 Subject Property and Vicinity General Characteristics**

The Property is located between the GIWW and MRGO, approximate one mile east of the confluence of the GIWW and MRGO. The Property and surrounding vicinity are undeveloped except to the north and west of the proposed GIWW floodgate site.

**3.3 Current Use of the Property**

At the time of the survey, there was no usage of the Property (see Photographs 1 and 2 in Appendix B).

**3.4 Description of Structures, Roads and Other Improvements on the Property**

There are no structures, roads, or other improvements on the Property.

**3.5 Current Uses of Adjoining Properties****3.5.1 Northern Property**

To the north of the GIWW gate location is an uninhabitable area as well as the eastern edge of Bayou Sauvage National Wildlife Refuge Area. See Photographs 3 and 4 in Appendix B.

**3.5.2 Southern Property**

To the south of the MRGO gate location is the spoil area for MRGO. See Photographs 5 and 6 in Appendix B.

**3.5.3 Western Property**

To the west of the GIWW floodgate site is the industrial complex along the east bank of Michoud Canal. Further west beyond the west bank of Michoud Canal is the Michoud NASA facility. West of the remainder of the Property is mostly marsh and wetlands. See Photographs 7 and 8 in Appendix B.

**3.5.4 Eastern Property**

To the east is primarily marsh and wetlands. See Photographs 9 and 10 in Appendix B.

**4.0 User Provided Information****4.1 Title Records**

There was no title record provided.

**4.2 Environmental Liens or Activity and Use Limitations**

There were no environmental liens nor activity and use limitations provided.

**4.3 Specialized Knowledge**

The USACE provided two documents related to the Property. The first one was the analytical results from Michoud Canal and MRGO, conducted by Analytical and Consulting Laboratories, of Houston, Texas, between September 1994 and November 1994. The second document provided was the “Final Environmental Baseline Survey and Site Survey Report for the Proposed Relocation of the U.S. Coast Guard, New Orleans, La, Integrated Support Command to the NASA Michoud Assembly Facility” by Montgomery Watson Harza Co., September 2004. Please refer to Section 7.5 for summary.

**4.4 Owner, Property Manager, and Occupant Information**

Based on the contact information provided by USACE, MMG was able to receive the owners' information of the Property from Ms. Lisa Richardson of the Port of New Orleans. The Property is owned by multiple owners. The owners' information is summarized below:

| <b>Owner</b>            | <b>Contact Information</b>   |
|-------------------------|--|
| Hayne/Vincent Family    | Mr. Frank B. Hayne, III<br>2531 Chesnut St., New Orleans, LA 70130<br><br>Mr. C. Peck Hayne<br>5037 Loyola Ave., New Orleans, LA 70115   |
| Trinity Church          | Mrs. Emily H.W. Mehaffie<br>117 Chateau St. Michel Dr., Kenner, LA 70065   |
| University of Virginia  | Mr. Rob Walker Freer<br>Director, University of Virginia Investment Management Co.<br>P.O. Box 400215, Charlottesville, Virginia 22904   |
| Tulane Educational Fund | Mr. Peter J. Baricev<br>Tulane University Real Estate Department<br>800 E. Commerce Road, Suite 201, Harahan, LA 70123<br><br>Mr. Ed Pointer, Esq.<br>Tulane University<br>Gibson Hall – Room 300,<br>6823 St. Charles Ave., New Orleans, LA 70118 |

**4.5 Reason for Performing PI-ESA**

The USACE is investigating the most effective means to create a line of defense against hurricane-induced storm surge from Lake Borgne and Lake Pontchartrain entering the IHNC that may add strain to the interior levees and floodwalls that protect portions of Orleans and St. Bernard Parishes. Possible design options are based on the central goal of closing off the IHNC during severe storm events to reduce high water and wave action in the canal.

The USACE is proposing to construct two gated structures east of the confluence of the GIWW and MRGO. These gates will be connected by a levee. One gate structure will be built east of Michoud Canal on the GIWW and another will be built to the east of the Bayou Bienvenue on the MRGO. The exact placement of such structures and their ultimate design depends on a number of factors, including construction and mitigation costs as well as environmental/species and cultural impacts. This PI- ESA focused on possible Recognizable Environmental Conditions that may require a follow-up Phase II Environmental Site Assessment.

#### 4.6 Other

No additional information was collected.

## 5.0 Records Review

The purpose of the records review is to obtain and review records that will help identify RECs in connection with the Property. MMG has accessed reasonably ascertainable sources as described within the ASTM standard, as well as within the time frame and cost allotted by the USACE. Accuracy and completeness of record information varies among information sources, including government sources. MMG has made every effort to compensate for obvious mistakes or insufficiencies in information reviewed based on other information of which the environmental professional has actual knowledge.

### 5.1 Standard Environmental Record Sources

The Federal and State record sources reviewed were based on a 2-mile search distance from gate locations at GIWW and MRGO that was taken from the information provided by Environmental Data Resources, Inc. (EDR) (See Appendix C). The findings are summarized in the following tables (Tables 1 and 2) with detailed discussion in the following subsections:

Table 1: Federal and State Record Search at the GIWW Gate Location

| Records Source  | No. of Sites Found at Search Distance (Miles) from Property |       |         |          |       |     |
|---|---|-------|---------|----------|-------|-----|
|   | Property  | 0-1/8 | 1/8-1/4 | 1/4- 1/2 | 1/2-1 | 1-2 |
| National Priority List (NPL)  | 0   | 0     | 0       | 0        | 0     | 0   |
| Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) - NFRAP | 0   | 0     | 0       | 0        | 2     | 2   |
| Resource Conservation and Recovery Act (RCRA-LQG) – Large Quantity Generators                         | 0   | 0     | 0       | 0        | 1     | 5   |

|   |   |   |   |   |    |     |
|---|---|---|---|---|----|-----|
| Resource Conservation and Recovery Act (RCRA-SQG) – Small Quantity Generators | 0 | 0 | 0 | 1 | 13 | 28  |
| RCRA Treatment, Storage, and Disposal Facilities (TSD)                        | 0 | 0 | 0 | 0 | 0  | 1   |
| Corrective Action (CORRACTS) Report   | 0 | 0 | 0 | 0 | 0  | 1   |
| Emergency Response Notification System (ERNS)                                 | 0 | 0 | 0 | 1 | 13 | 14  |
| Hazardous Materials Incident Reporting System (HMIRS)                         | 0 | 0 | 0 | 0 | 20 | 108 |
| Toxic Release Inventory System (TRIS)   | 0 | 0 | 0 | 0 | 1  | 2   |
| FIFRA/TSCA Tracking System  | 0 | 0 | 0 | 0 | 4  | 0   |
| Section 7 Tracking System (SSTS)  | 0 | 0 | 0 | 0 | 1  | 3   |
| RCRA Administrative Action Tracking System (RAATS)                            | 0 | 0 | 0 | 0 | 0  | 0   |
| Integrated Compliance Information System (ICIS)                               | 0 | 0 | 0 | 0 | 1  | 2   |
| Mines Master Index File (MINES)   | 0 | 0 | 0 | 0 | 1  | 0   |
| Facility Index System (FINDS)   | 0 | 0 | 0 | 1 | 16 | 34  |
| Records of Decision (ROD)   | 0 | 0 | 0 | 0 | 0  | 0   |
| State Hazardous Waste Facilities  | 0 | 0 | 0 | 0 | 0  | 0   |
| Underground Storage Tank (USTs)   | 0 | 0 | 0 | 0 | 10 | 19  |
| Leaking Underground Storage Tanks (LUSTs)                                     | 0 | 0 | 0 | 0 | 0  | 0   |
| Historical Leaking Underground Storage Tanks (HIST-LUST)                      | 0 | 0 | 0 | 0 | 4  | 4   |
| Solid Waste Landfill  | 0 | 0 | 0 | 0 | 0  | 0   |
| Institutional Site Listing (AUL)  | 0 | 0 | 0 | 0 | 1  | 2   |
| Spills  | 0 | 0 | 0 | 0 | 2  | 0   |
| Recyclers Directory   | 0 | 0 | 0 | 0 | 0  | 0   |
| Voluntary Cleanup Program Sites (VCP)   | 0 | 0 | 0 | 0 | 1  | 0   |
| Drycleaners   | 0 | 0 | 0 | 0 | 0  | 0   |

Table 2: Federal and State Record Search at the MRGO Gate Location

| Records Source  | No. of Sites Found at Search Distance (Miles) from Property |       |         |          |       |     |
|---|---|-------|---------|----------|-------|-----|
|   | Property  | 0-1/8 | 1/8-1/4 | 1/4- 1/2 | 1/2-1 | 1-2 |
| National Priority List (NPL)  | 0   | 0     | 0       | 0        | 0     | 0   |
| Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) | 0   | 0     | 0       | 0        | 0     | 0   |
| Resource Conservation and Recovery Act  | 0   | 0     | 0       | 0        | 0     | 0   |

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| (RCRA-LQG) – Large Quantity Generators  |   |   |   |   |   |   |
| Resource Conservation and Recovery Act (RCRA-SQG) – Small Quantity Generators | 0 | 0 | 0 | 0 | 0 | 1 |
| RCRA Treatment, Storage, and Disposal Facilities (TSD)                        | 0 | 0 | 0 | 0 | 0 | 0 |
| Corrective Action (CORRACTS) Report   | 0 | 0 | 0 | 0 | 0 | 0 |
| Emergency Response Notification System (ERNS)                                 | 0 | 0 | 0 | 0 | 0 | 1 |
| Hazardous Materials Incident Reporting System (HMIRS)                         | 0 | 0 | 0 | 0 | 0 | 0 |
| Toxic Release Inventory System (TRIS)   | 0 | 0 | 0 | 0 | 0 | 0 |
| FIFRA/TSCA Tracking System  | 0 | 0 | 0 | 0 | 0 | 0 |
| Section 7 Tracking System (SSTS)  | 0 | 0 | 0 | 0 | 0 | 0 |
| RCRA Administrative Action Tracking System (RAATS)                            | 0 | 0 | 0 | 0 | 0 | 0 |
| Integrated Compliance Information System (ICIS)                               | 0 | 0 | 0 | 0 | 0 | 0 |
| Mines Master Index File (MINES)   | 0 | 0 | 0 | 0 | 0 | 0 |
| Facility Index System (FINDS)   | 0 | 0 | 0 | 0 | 0 | 1 |
| Records of Decision (ROD)   | 0 | 0 | 0 | 0 | 0 | 0 |
| State Hazardous Waste Facilities  | 0 | 0 | 0 | 0 | 0 | 0 |
| Underground Storage Tank (USTs)   | 0 | 0 | 0 | 0 | 0 | 0 |
| Leaking Underground Storage Tanks (LUSTs)                                     | 0 | 0 | 0 | 0 | 0 | 0 |
| Historical Leaking Underground Storage Tanks (HIST-LUST)                      | 0 | 0 | 0 | 0 | 0 | 0 |
| Solid Waste Landfill  | 0 | 0 | 0 | 0 | 0 | 0 |
| Institutional Site Listing (AUL)  | 0 | 0 | 0 | 0 | 0 | 0 |
| Spills  | 0 | 0 | 0 | 0 | 0 | 0 |
| Recyclers Directory   | 0 | 0 | 0 | 0 | 0 | 0 |
| Voluntary Cleanup Program Sites (VCP)   | 0 | 0 | 0 | 0 | 0 | 0 |
| Drycleaners   | 0 | 0 | 0 | 0 | 0 | 0 |

#### 5.1.1 Property

Based on the information provided by EDR, the target property was not listed in any of the databases searched by EDR.

#### 5.1.2 Surrounding Properties

Within the specified search distance, the sites found that suggest potential impact to the Property are concentrated within ½ to 2 miles, north and northwest from the GIWW floodgate location, and in the industrial facilities

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along the east bank of Michoud Canal. The sites found with potential environmental impacts to the Property are summarized below.

1. There are four sites listed in the CERCLIS-NFRAP list. These sites have been removed from CERCLIS data list.
2. There are six large quantity hazardous waste generators and 42 small quantity hazardous waste generators in the search area. No waste generation violations have been reported at these facilities.
3. U.S. NASA/Lockheed Martin facility is listed as a RCRA TSD facility and RCRA CORRACT site for corrective action activity. The site is located 1-2 miles WNW of the Property and is located at the west bank of Michoud Canal. Environmental impact to the Property is not anticipated.
4. The EPA Emergency Response Notification System (ERNS) reported 28 releases of oil and hazardous substances. These are concentrated mainly at 14700 Intracoastal Drive (1/2 – 1 mile to the Property), and 13800 Old Gentilly Road (1-2 miles to the Property). Direct impact to the Property should be negligible.
5. The EPA Hazardous Materials Incident Report System reported 128 hazardous materials spill incidents in the search area. These incidents were concentrated at 4009 Industrial Parkway (1/2 – 1 mile to the Property), and 4099 Industrial Parkway (1 -2 miles to the Property). Direct impact to the Property should be negligible.
6. Recovery 1 Landfill located at 17000 Chef Menteur Highway (1 -2 miles north to the Property) is the only reported landfill in the area. The site has been closed.
7. Air Product and Chemicals located at 14700 Intracoastal Drive (1/2 – 1 mile NNW to the Property) is identified under TSCA as a manufacturer and importer of TSCA chemicals. Air Product along with the NASA Michoud Assembly Facility at 13800 Old Gentily Road (1-2 miles WNW to the Property), and Spectrum Control Technology at 4100 Michoud Boulevard (1-2 miles W to the Property) were cited as releasing toxic chemicals to the air, water, and land in reportable quantities under SARA by USEPA. Due to distance from the Property, the potential environmental impact should be minimum.
8. Air Product and Chemicals, Lockheed Martin-Space System, and Recovery 1 are listed as solid waste facilities under LDEQ records. Due to distance from the Property, environmental impact is not anticipated.

9. The state records show that there are eight HIST LUST sites. These sites have all been cleaned up and closed. No environmental impact to the Property is anticipated.
10. There are 29 UST sites within the search area. The EDR reports show these sites are either properly closed or no violation has been reported. No environmental impact to the Property is anticipated.

## 5.2 Additional Environmental Record Sources

MMG conducted further investigation into USEPA Enforcement and Compliance History Online ([www.usepa.gov/echo](http://www.usepa.gov/echo)) for the industries and plants (which were classified as large quantity waste generator) along the Michoud Canal and along the Intracoastal Drive. This data base also includes the enforcement and investigative activities conducted by LDEQ. The following summarizes the findings. The detailed search data as of November 26, 2006 is included in Appendix D.

### 5.2.1 Air Product and Chemicals Incorporated – 14700 Intracoastal Drive.

LDEQ/EPA inspections in the past three years:

- Clean Air Act (CAA) Inspection: 6 times
- Clean Water Act (CWA) Inspection: 3 times
- Resource Conservation and Recovery Act (RCRA) Inspection: 1 time

LDEQ Notice of Violation or Informal Enforcement in the past three years:

- Clean Air Act (CAA) Violation: 3 times
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

LDEQ Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 2 times (\$3,560.00 fine)
- Clean Water Act (CWA) Violation: 1 time
- RCRA Violation: 0

EPA Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

Discharge of chemicals into stream or bodies of water

- Ammonia
- Ethylene glycol
- Zinc Compounds

5.2.2 Lockheed Martin Michoud Assembly Facility – 13800 Old Gentilly Road.

LDEQ/EPA inspections in the past three years:

- Clean Air Act (CAA) Inspection: 6 times
- Clean Water Act (CWA) Inspection: 2 times
- Resource Conservation and Recovery Act (RCRA) Inspection: 2 time

LDEQ Notice of Violation or Informal Enforcement in the past three years:

- Clean Air Act (CAA) Violation: 2 times
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

LDEQ Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 1 time (\$1,500.00 fine)
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

EPA Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

Discharge of chemicals into stream or bodies of water

- Chlorine
- Freon 113
- Methyl Ethyl Keton
- Sulfuric Acid
- Trichloroethylene

5.2.3 Lone Star Industries, Inc. – 14900 Intracoastal Drive

LDEQ/EPA inspections in the past three years:

- Clean Air Act (CAA) Inspection: 0

- 
- Clean Water Act (CWA) Inspection: 0
  - Resource Conservation and Recovery Act (RCRA) Inspection: 0

LDEQ Notice of Violation or Informal Enforcement in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 2 times
- RCRA Violation: 0

LDEQ Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 2 times (\$3,501.00 fine)
- RCRA Violation: 0

EPA Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

Discharge of chemicals into stream or bodies of water

- None

#### 5.2.4 Spectrum Control Technology – 4100 Michoud Boulevard

LDEQ/EPA inspections in the past three years:

- Clean Air Act (CAA) Inspection: 0
- Clean Water Act (CWA) Inspection: 0
- Resource Conservation and Recovery Act (RCRA) Inspection: 0

LDEQ Notice of Violation or Informal Enforcement in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

LDEQ Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

EPA Formal Enforcement Action in the past three years:

- Clean Air Act (CAA) Violation: 0
- Clean Water Act (CWA) Violation: 0
- RCRA Violation: 0

Discharge of chemicals into stream or bodies of water

- None

The results showed minimum environmental impact to the proposed GIWW gate structure area.

### **5.3 Physical Setting Source(s)**

#### **5.3.1 Physical Setting**

Based on the EDR search, the GIWW gate location coordinates are:

Latitude (North): 30.01750 - 30°1'3.0"  
Longitude (West); 89.8981 - 89°53'53.2"  
Universal Tranverse Mercator: Zone 16  
UTM X (Meters): 220468.4  
UTM Y (Meters): 3324083.0  
Elevation: 0 ft. above sea level

The MRGO gate location coordinates are:

Latitude (North): 29.99420 - 29°59'39.01"  
Longitude (West); 89.9082 - 89°54'29.5"  
Universal Tranverse Mercator: Zone 16  
UTM X (Meters): 219428.2  
UTM Y (Meters): 3321524.2  
Elevation: 0 ft. above sea level

Please refer to Map A3 included in Appendix A.

#### **5.3.2 Hydrogeologic Information**

The Property is located inside the FEMA flood zone and is on the National Wetlands Inventory. The groundwater flow directions at the site were not reported. The groundwater flow velocity should be very slow due to the silty-clayey types of soils in the general area.

**5.3.3 Geologic Information**

Based on the Soil Conservation Service STATSGO data, the soil component of the area around the GIWW gate location is classified as clay from zero to 80" below ground surface (bgs). The soil component of the area around the MRGO gate location is classified as water. No additional soil type or classification was reported.

**5.3.4 Well Information**

Based on the well search distance of one mile, the Federal USGS Well Information revealed two wells are located ½ -1 mile NNW to the GIWW floodgate location.

**5.4 Historical Use Information on the Subject Properties**

The objective of consulting historical sources is to develop a history of previous uses of the subject property. For the purposes of this report, MMG has reviewed historical USGS Topographic Maps and Aerial Photographs.

**5.4.1 USGS Historical Topographic Maps**

MMG conducted research of multiple data base and revealed the earliest historical topographic map was dated 1951. There was no map prior to that time. These maps are produced by the U.S. Geological Survey and are divided into various quadrangles. The historic topographic maps reviewed by MMG included the following (see USGS Topographic Maps located in Appendix E.):

| <b>Property – GIWW Gate Location (Michoud Canal)</b> |                       |   |
|--|-----------------------|---|
| <b>Year</b>  | <b>Quadrangle Map</b> | <b>Comments</b>   |
| 1951   | Little Woods, LA      | The Property is located at the GIWW. No development was observed on the Property. |
| 1967   | Little Woods, LA      | GIWW was widened and levee was constructed to the north of the Property.          |
| 1972   | Little Woods, LA      | Same as 1967 map.   |
| 1979   | Little Woods, LA      | Same as 1972 map.   |
| 1994   | Little Woods, LA      | Same as 1979 map.   |
| 1998   | Little Woods, LA      | Same as 1994 map.   |

**Property – MRGO Gate Location (Bayou Bienvenue)**

| Year | Quadrangle Map | Comments   |
|------|----------------|--|
| 1951 | Chalmette, LA  | No development was observed on the Property.                           |
| 1972 | Chalmette, LA  | MRGO was constructed. The Property is located north of the Spoil Area. |
| 1979 | Chalmette, LA  | Same as 1972 map.  |
| 1989 | Chalmette, LA  | Same as 1979 map.  |
| 1994 | Chalmette, LA  | Same as 1989 map.  |
| 1998 | Chalmette, LA  | Same as 1994 map.  |

#### 5.4.2 Aerial Photographs

The EDR research could not find any historical aerial photo coverage for the Property or the surrounding area. USGS aerial photographs (dated 01/24/1998) were reviewed. It confirmed the findings from the topographic maps (Section 5.4.1). Please refer to Appendix A (Figure A4, A5, A6) for these aerial photographs.

### 5.5 Historical Use Information on Adjoining Properties

The objective of consulting historical sources is to develop a history of the previous use of the adjoining properties. For the purposes of this report, MMG has reviewed USGS Topographic Maps and Aerial Photographs.

#### 5.5.1 USGS Topographic Maps

MMG conducted research of multiple data base and revealed the earliest historical topographic map was dated 1951. There was no map prior to that time. Based on review of a number of historic topographic maps (Appendix E) the following tables summarize MMG's findings:

| <b>Northern Property</b> |                       |  |
|--------------------------|-----------------------|--|
| <b>Year</b>              | <b>Quadrangle Map</b> | <b>Comments</b>  |
| 1951                     | Little Woods, LA      | No development was observed along the east bank of Michoud Canal.                        |
| 1967                     | Little Woods, LA      | A street was constructed and development was observed to the north east of the property. |
| 1972                     | Little Woods, LA      | Same as 1967 map, with additional industrial development.                                |
| 1979                     | Little Woods, LA      | Same as 1972 map but with more development to the north of US highway 90.                |
| 1994                     | Little Woods, LA      | Same as 1979 map.  |
| 1998                     | Little Woods, LA      | Same as 1994 map.  |

| <b>Western Property</b> |                       |  |
|-------------------------|-----------------------|--|
| <b>Year</b>             | <b>Quadrangle Map</b> | <b>Comments</b>  |
| 1951                    | Little Woods, LA      | No development was observed along the east bank of Michoud Canal. NASA facility was observed along the west bank of Michoud Canal. |
| 1967                    | Little Woods, LA      | Major development along the east bank of Michoud Canal. The NASA facility was expanded.  |
| 1972                    | Little Woods, LA      | Same as 1967 map.  |
| 1979                    | Little Woods, LA      | Same as 1972 map with more buildings constructed along the east bank of Michoud Canal.   |
| 1994                    | Little Woods, LA      | Same as 1979 map.  |
| 1998                    | Little Woods, LA      | Same as 1994 map.  |

| <b>Southern Property</b> |                       |   |
|--------------------------|-----------------------|---|
| <b>Year</b>              | <b>Quadrangle Map</b> | <b>Comments</b>   |
| 1951                     | Chalmette, LA         | No development was observed to the south of the Property.               |
| 1972                     | Chalmette, LA         | MRGO was constructed. South of the Property is the Spoil Area for MRGO. |
| 1979                     | Chalmette, LA         | Same as 1972 map.   |
| 1989                     | Chalmette, LA         | Same as 1979 map.   |
| 1994                     | Chalmette, LA         | Same as 1989 map.   |

|      |               |                   |
|------|---------------|-------------------|
| 1998 | Chalmette, LA | Same as 1994 map. |
|------|---------------|-------------------|

| <b>Eastern Property</b> |                       |  |
|-------------------------|-----------------------|--|
| <b>Year</b>             | <b>Quadrangle Map</b> | <b>Comments</b>  |
| 1951                    | Chalmette, LA         | Saltwater Marsh and wetlands. No development was observed. |
| 1972                    | Chalmette, LA         | Same as 1951 map.  |
| 1979                    | Chalmette, LA         | Same as 1972 map.  |
| 1989                    | Chalmette, LA         | Same as 1979 map.  |
| 1994                    | Chalmette, LA         | Same as 1989 map.  |
| 1998                    | Chalmette, LA         | Same as 1994 map.  |

#### 5.5.2 Aerial Photographs

The EDR research could not find any historical aerial photo coverage for the Property or the surrounding area. USGS aerial photographs (dated 01/24/1998) were reviewed. It confirmed the findings from the topographic map review (Section 5.5.1). Please refer to Appendix A (Figure A4, A5, A6) for this aerial photograph.

## 6.0 Subject Properties Reconnaissance

MMG's environmental professional, Dr. C. Paul Lo, conducted the PI-ESA site reconnaissance on October 11 and October 18, 2006.

### 6.1 Methodology and Limiting Conditions

Site reconnaissance at the Property was made from a boat on the water. When feasible, MMG personnel would beach the boat and inspect the area on land. In addition, a survey was also conducted along Intercoastal Drive east to Michoud Canal. Please refer to Appendix B for photographs taken throughout the Property.

### 6.2 General Subject Properties Setting

The Property was inspected to determine if the following listed items were present.

| <b>Setting</b>  | <b>Present?</b> | <b>Comments</b> |
|-----------------|-----------------|-----------------|
| Warehouse       | No              |                 |
| House/Apartment | No              |                 |

| Setting              | Present? | Comments |
|----------------------|----------|----------|
| Office Building(s)   | No       |          |
| Strip Shopping       | No       |          |
| Maintenance Facility | No       |          |
| Shop/Garage          | No       |          |
| Lay-down Yard        | No       |          |
| Undeveloped Lot      | No       |          |
| Maintained Lot       | No       |          |
| Slab Only            | No       |          |
| Other Improvement    | No       |          |
| Unoccupied           | Yes      |          |
| Overgrown            | No       |          |
| Stained Area(s)      | No       |          |
| Roads                | No       |          |
| Rail Track(s)        | No       |          |
| Fence                | No       |          |
| Lighted              | No       |          |
| Parking              | No       |          |

### 6.3 Exterior Inspections

The Property was inspected to determine if the following listed items were present.

| Observations                  | Present? | Comments  |
|-------------------------------|----------|---|
| <b>1. Geologic/Hydrologic</b> |          |   |
| Pit                           | No       |   |
| Pond/Lagoon                   | Yes      | Naturally formed in saltwater marshes and wetlands.     |
| Canal/Ditches                 | Yes      | Naturally formed in saltwater marshes and wetlands.     |
| River/Streams                 | Yes      | Naturally formed in saltwater marshes and wetlands.     |
| Oil/Water Separator           | No       |   |
| Waste Water Treatment System  | No       |   |
| Storm Drain                   | No       |   |
| Sumps                         | No       |   |
| Traps                         | No       |   |
| Wells                         | No       |   |
| Municipal Water               | No       |   |
| Wetlands                      | Yes      | The Property is located on wetlands area. (Photo 11-12) |
| Stressed Vegetation           | No       |   |
| Standing Water                | Yes      | Marshes and wetlands                                    |
| <b>2. Storage Tanks</b>       |          |   |

| Observations                            | Present? | Comments   |
|---|----------|--|
| USTs                                    | No       |  |
| ASTs                                    | No       |  |
| <b>3. Solid Wastes</b>                  |          |  |
| Containers                              | No       |  |
| Dumpster                                | No       |  |
| Roll-off Box                            | No       |  |
| Landfill                                | No       |  |
| Unauthorized Dump                       | No       |  |
| Mounds                                  | No       |  |
| Trash                                   | No       |  |
| Automotive                              | No       |  |
| Rail ties                               | No       |  |
| Creosote poles                          | No       |  |
| Construction Debris                     | No       |  |
| Biohazards                              | No       |  |
| White Wastes                            | No       |  |
| <b>4. Suspected Hazardous Materials</b> |          |  |
| Pole Transformer                        | No       |  |
| Ground Transformer                      | No       |  |
| Fluorescent Lights                      | No       |  |
| HVAC (Freon)                            | No       |  |
| Heavy Metals                            | No       |  |
| Lead-based Paint                        | No       |  |
| Asbestos                                | No       |  |
| Abandoned Barges                        | Yes      | About 200 yards east of the GIWW floodgate location, there were five sunken barges. One barge was surrounded by booms, likely to contain contaminants. (Photo 13-16 in Appendix B) |

## 7.0 Interviews

### 7.1 Interview with Owner

MMG has made at least two contact attempts to each of the owners listed in Section 4.4. No response was obtained during the study period.

### 7.2 Interview with Properties Manager

There was no Property Manager available for this site.

### 7.3 Interview with Occupants

There was no occupant at the site.

**7.4 Interview with Others**

MMG conducted an interview with Ms. Lisa Richardson of the Port of New Orleans (504-528-3319). Ms. Richardson is in charge of the property along MRGO. She indicated that she was not aware of any environmental concerns at the Project site. No contamination was ever been reported to her or record of such provided to her. She did indicate that there was an EIA study conducted eight years ago that showed elevated levels of naturally-occurring manganese in this area. Ms. Richardson also indicated that the Property is owned by several owners and she will provide the ownership information to MMG. Please refer to interview record in Appendix F.

MMG contacted Mr. Steve Spencer of Orleans Levee District (504-782-8641). He indicated that he was not aware of any environmental contamination at the levee area east of the Michoud Canal. He asked his co-worker, Mr. Jerry Beaugez (504-782-7569) to send over the point of contact information for the industries along the Michoud Canal. Please refer to Appendix E for detailed information. MMG subsequent made follow-up inquiries to the contacts provided. There were no responses from these contacts.

MMG also tried several times to contact Mr. Dugan Sabins, LDEQ representative in charge of the water quality in this area (225-219-3553). He did not return the call.

**7.5 Supplied Environmental Documents**

The USACE provided two documents related to the Property. The first one was the analytical results from Michoud Canal and MRGO, conducted by Analytical and Consulting Laboratories, of Houston, Texas, between September 1994 and November 1994.

Based on the map and coordinates provided for this PI-ESA report, the sampling effort at Michoud Canal included sample locations spread throughout the GIWW area (rather than concentrated in the current area under investigation). The analytical results are summarized in the following table:

| Parameter | Range of Concentrations<br>(mg/kg) |               |
|-----------|------------------------------------|---------------|
|           | GIWW                               | MRGO          |
| Antimony  | <1.0                               | <0.10         |
| Arsenic   | <5.0                               | <5.0          |
| Cadmium   | <0.3                               | <0.3          |
| Chromium  | 5.4 – 40.34                        | 21.54 – 46.1  |
| Copper    | 6.16 – 143                         | 16.26 – 32.42 |

|           |               |                 |
|-----------|---------------|-----------------|
| Lead      | 5.51 -26.29   | 10.02 – 17.86   |
| Manganese | 63.3- 1010    | 261 – 520       |
| Mercury   | <0.06         | <0.06           |
| Nickel    | 7.95 – 38.10  | 13.4 – 28.93    |
| Selenium  | <0.60         | <0.60           |
| Silver    | <0.16         | <0.16           |
| Zinc      | 22.87 – 202   | 70.67 – 155     |
| PCB       | <0.02         | <0.02           |
| Total-CN  | <0.01         | <0.01           |
| % Solid   | 26.71 – 65.87 | 23.45 – 49.13 % |

No significantly high concentrations of heavy metals were identified in the report. However, other than PCBs, no other organic data, such as total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), or semivolatile organic compounds (SVOCs), was available in the report.

The second document provided was the “Final Environmental Baseline Survey and Site Survey Report for the Proposed Relocation of the U.S. Coast Guard, New Orleans, La, Integrated Support Command to the NASA Michoud Assembly Facility” by Montgomery Watson Harza Co., September 2004. The report was basically comprised of a PI-ESA of the western portion of NASA facility, about two miles west of the GIWW floodgate location. The report showed that the subject area had three RECs. These were:

1. Borrow Canal on the NASA property was listed as a Solid Waste Management Unit (SWMU).
2. Property fence line indicated visible evidence of pesticide use.
3. The fire fighting training facilities to the west adjacent to the NASA facility might have potential impact on the sediment and surface water of the Borrow Canal.

These RECs identified in the referenced report should pose no environmental impact to the proposed GIWW floodgate site as well as the Property.

## 8.0 Findings

Based on the EDR record search, the site reconnaissance activities, and the additional document review, there is one Recognized Environmental Condition (REC) for the Property at the time of this investigation. This REC is the presence of sunken barges just 200 yards east of the proposed GIWW floodgate site. No other RECs were identified under this investigation.

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## 9.0 Opinions

It is necessary to investigate those sunken barges east of the GIWW floodgate location. The investigation will include sampling of the contents of the barge, surface water, and sediment around the barges. It is also necessary to identify the owners or transporters of those barges.

This Phase I ESA was conducted with the results of limited sediment data collected in the nearby area. Although the sediment data do not reveal high concentrations of heavy metals, there is still a data gap for organic contaminants of concern. Unfortunately, this sediment sampling and analysis was conducted in 1994. In light of the sunken barges observed in the area as well as the impact caused by Hurricane Katrina in the near by industrial area, it would be advisable to conduct further sampling to update the current sediment conditions; this investigation should include both inorganic and organic parameters.

Construction of the closure gate at the target or subject location (property) would likely include excavation of the bottom sediment. Excavation may involve either a dry or wet process and disposal of the excavated sediment material may include on-site re-use around the gates in a dry or wet condition or an off-site re-use or disposal. Any further investigation (e.g. sediment sampling and testing) resulting from this Phase I report are dependent upon engineering decisions on the excavation and disposal processes selected during construction of the closure gate. Excavation and disposal under wet conditions are regulated under the Clean Water Act while on-land disposal/re-use of the excavated sediments should be governed by various Federal and State solid waste guidelines.

## 10.0 Conclusions

This assessment has revealed that the sunken barges are the only Recognized Environmental Condition; further investigation of the barges for characterization of the contents and the potential impact to the surrounding benthic environment is recommended. MMG further recommends that the sediment at the Property will require sampling and analysis to determine its hazardous characteristics both in inorganic and organic fractions.

## 11.0 Deviations

Not applicable.

## 12.0 Additional Services

No additional services were provided.

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## **13.0 Signature(s) of Environmental Professional(s)**

This Phase I - Environmental Site Assessment has been conducted by the following MMG environmental professional:

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Dr. C. Paul Lo, Sc.D.  
Senior Environmental Scientist

## **14.0 Qualifications of Environmental Professional**

**Dr. C. Paul Lo**

### **Education**

- Doctor of Science in Environmental Health Sciences, Tulane University, 1983.
- Master of Science in Environmental Health Sciences, Tulane University, 1978.
- Bachelor of Science in Public Health, National Taiwan University, 1976

### **License & Certification**

- LDEQ UST Closure License (C-0593)
- Certified Environmental Inspector – Environmental Assessment Association

### **Experience**

Dr. Lo has over twenty-five years of hands-on experience in the environmental field. He is an expert in dealing with abandoned waste sites, particularly site investigations and remediation. His project involvement includes CERCLA, RCRA, UST, RECAP and Brownfields projects.

## **Appendices**

**Appendix A Maps**

**Appendix B Photographs**

**Appendix C State and Federal Records**

**Appendix D USEPA and LDEQ Enforcement and Compliance History**

**Appendix E USGS Historic Topographic Maps**

**Appendix F Interview and Client Provided Records**

**Appendix G References**

## **Appendix A: Maps**

## **Appendix B: Subject Properties Photographs**

## **Appendix C: State and Federal Records**

**Appendix D      USEPA and LDEQ Enforcement and Compliance History**

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## **Appendix E: USGS Historic Topographic Maps**

## **Appendix F: Interview and Client Provided Records**

## Appendix G: References

Environmental Data Resources, Inc. “The EDR Radius Map with GeoCheck”, October 03, 2006

[www.yahoo.com](http://www.yahoo.com) “Site Location Map”: October 11, 2006

[www.teraserver.microsoft.com](http://www.teraserver.microsoft.com) “Aerial Photograph”, January 24, 1998.

[www.epa.gov/echo](http://www.epa.gov/echo) “Enforcement and Compliance History Online ECHO”, November, 26, 2006

Analytical and Consulting Laboratories, Houston, Texas, “Sampling and Analysis of Sediment Samples from Michoud Canal and Mississippi River Gulf Outlet”, November 1994

Montgomery Watson Harza Co., “Final Environmental Baseline Survey and Site Survey Report for the Proposed Relocation of the U.S. Coast Guard, New Orleans, La, Integrated Support Command to the NASA Michoud Assembly Facility”, September 2004