
Final Report

**HTRW PHASE I
ENVIRONMENTAL SITE ASSESSMENT**

**ORLEANS AVENUE CANAL
ORLEANS PARISH
NEW ORLEANS, LOUISIANA**



November 29, 2006

**U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana**



**HTRW PHASE I
ENVIRONMENTAL SITE ASSESSMENT
FINAL REPORT**

**Orleans Avenue Canal
Orleans Parish
New Orleans, Louisiana**

Prepared for



**U.S. Army Corps of Engineers
New Orleans District
New Orleans, Louisiana**

Prepared by



Baton Rouge, Louisiana

November 29, 2006

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PHASE I REPORT

1.0 SUMMARY

On behalf of the U.S. Army Corps of Engineers – New Orleans District (USACE), Gulf Engineers and Consultants, Inc. (GEC) has completed a Hazardous, Toxic, and Radioactive Waste (HTRW) Phase I Environmental Site Assessment (ESA) for a portion of the Orleans Avenue Canal in Orleans Parish, Louisiana. The Orleans Avenue Canal is located in the city of New Orleans in Orleans Parish, and forms the boundary between the Lakeview residential area and City Park. The property contains the canal and adjacent levees and floodwalls. The existing Drainage Pumping Station Number 7, operated by the Sewerage and Water Board of New Orleans (SWBNO), is located within the project corridor. A temporary pumping station is currently under construction within the project corridor by the USACE. Five bridges transect the canal within the project corridor.

Pursuant to construction of a new permanent pumping station within the project corridor, the USACE has authorized the performance of an HTRW Phase I ESA of the property in accordance with applicable sections of USACE Regulation ER 1165-2-132, *Water Resources Policies and Authorities for Hazardous, Toxic, and Radioactive Waste Guidance for Civil Works Projects*, and American Society for Testing and Materials (ASTM) Standard E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* in order to identify recognized environmental conditions (REC) located in the vicinity of the property. In order to characterize environmental conditions for the project, GEC:

- Reviewed federal, state, and local environmental databases;
- Conducted historical research;
- Interviewed pertinent personnel; and
- Performed a site investigation.

GEC performed this HTRW Phase I ESA in accordance with the scope and limitations of ER 1165-2-132 and ASTM E 1527-05, where applicable and appropriate. Any exceptions to, or departures from, this practice are described in the report. Based on the review of federal, state, and local environmental databases, historical research, interviews, and site investigations, the assessment indicates the property warrants additional investigation. Figure 1 provides a summary map of potential REC sites in the vicinity of the project corridor identified by the environmental database review. Table 1 provides geographic coordinates for the sites listed in Figure 1. Additional information about these sites is presented in Sections 5.0 and 8.0 below.

2.0 INTRODUCTION

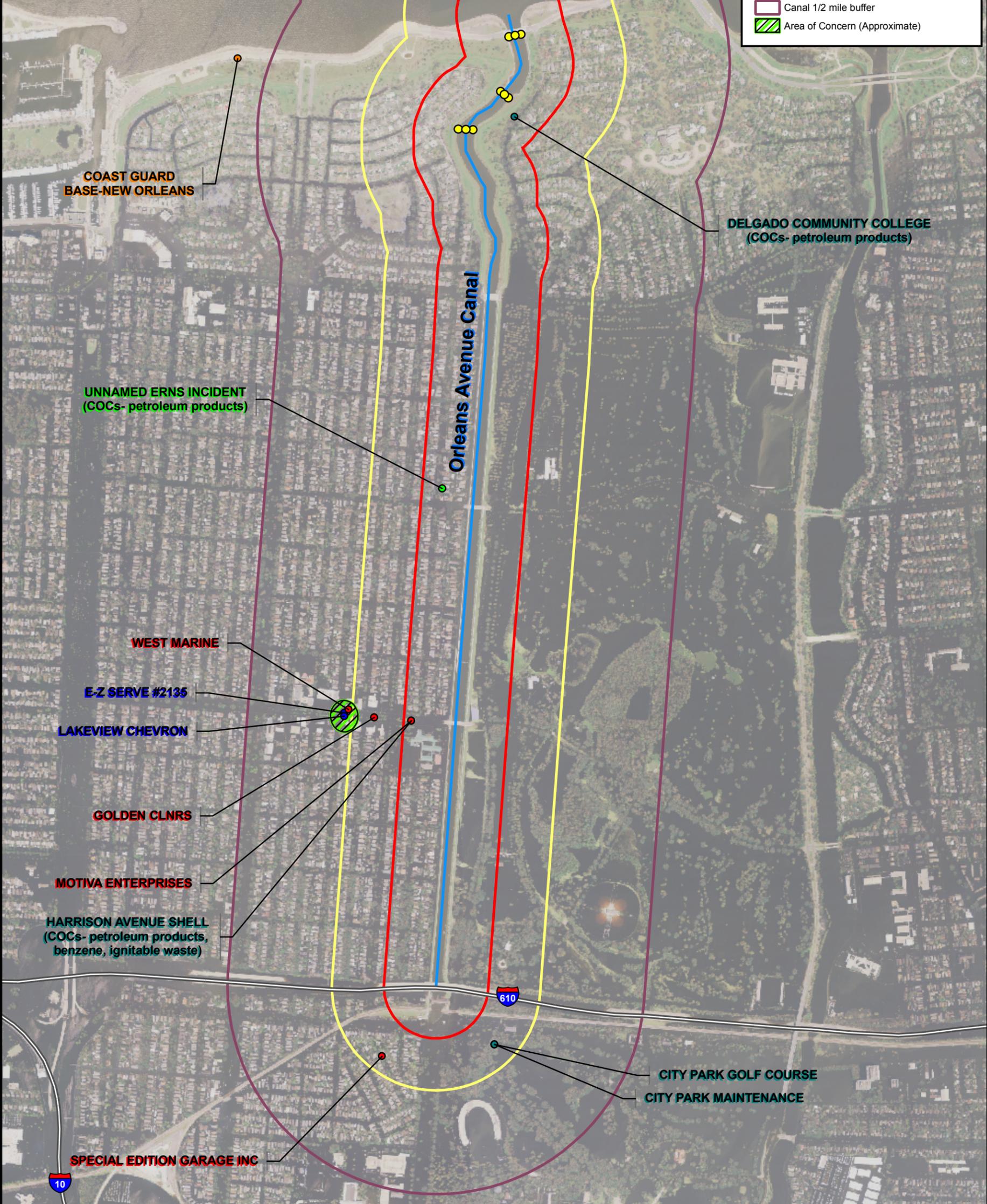
2.1 PURPOSE

The purpose of the assessment is to identify potential REC located in the vicinity of the project corridor that have, or may have in the past, adversely impacted environmental conditions at the property.



Legend

- CIH INVESTIGATION SAMPLING LOCATIONS (COCs - PAHs, Lead, TPHs)
- Potential REC Sites**
- ERNS Database
- RCRAIN Database
- LUST Database
- State Sites Database
- RUST Database
- Interstate
- Canals
- Canal 1/8 mile buffer
- Canal 1/4 mile buffer
- Canal 1/2 mile buffer
- ▨ Area of Concern (Approximate)



SUMMARY MAP
Orleans Avenue Canal
Orleans Parish, Louisiana

Note: Background image is post-Katrina USACE Aerial Photograph (September, 2005). Sites provided by Banks Information Solutions, Inc.

0 1,000 2,000 Feet

1:15,000

Figure 1

Project # 27309CZ02 November 2006

Table 1. Geographic Coordinates of Potential REC Sites Identified in the Environmental Database Review

Site Name	Database	Latitude	Longitude
New Orleans City Park Golf Maintenance	RCRAGN	30.01161900000	-90.09925300000
E-Z Serve #2135	LUST	30.00441100000	-90.10454900000
Coast Guard Base- New Orleans	State Sites	30.02735000000	-90.10815000000
Unnamed ERNS Incident	ERNS	30.01216100000	-90.10039900000
Delgado Community College	RUST	30.02506000000	-90.09713000000
Motive Enterprises/Harrison Ave Shell	RCRAGN, RUST	30.00407800000	-90.10186600000
Golden Cleaners	RCRAGN	30.00422500000	-90.10335400000
Special Edition Garage	RCRAGN	29.99239600000	-90.10338900000
City Park Maintenance/Golf Course	RUST (2)	29.99270600000	-90.09888000000
West Marine	RCRAGN	30.00452800000	-90.10436800000
Lakeview Chevron	LUST	30.00430100000	-90.10455300000

Note: Coordinates were not provided for all sites listed in the environmental database report.

Source: Banks, 2006.

2.2 SCOPE OF SERVICES

As outlined in its contract with the USACE, GEC is responsible for investigating the property in order to identify REC sites within and adjacent to the property. Investigation procedures are to comply with ER 1165-2-132 and ASTM E 1527-05, where applicable and appropriate, and the scope of services for this ESA includes the following:

- Research of available federal, state, and local environmental databases for potential REC sites on, or within a specified distance of, the property;
- Reviews of available historical aerial photographs, Sanborn Fire Insurance Maps, United States Geologic Survey (USGS) topographic maps, and/or published soils and geologic information;
- Interviews with state and local government agency representatives and/or persons knowledgeable of sites regarding documented inspections, violations, incidents, spill response, or past uses of the property;
- Visual observations of accessible portions of the property in order to identify current and historical REC sites. Visual observations of accessible portions of properties adjacent to the property were also conducted;
- Preparation of a written report that identifies whether the property contains potential REC and whether or not conditions warrant further investigation.

In accordance with the procedures outlined in ER 1165-2-132 and ASTM E 1527-05, an HTRW Phase I ESA typically does not include sampling and analysis of soil and/or groundwater. Additionally, an HTRW Phase I ESA typically does not include wetlands delineations or surveys for cultural or historic resources, threatened or endangered species, lead-based paint, asbestos-containing materials, or radon.

2.3 SIGNIFICANT ASSUMPTIONS

No significant assumptions were made in the preparation of this HTRW Phase I ESA.

2.4 LIMITATIONS AND EXCEPTIONS

GEC's review of record information and environmental databases included information that was reasonably ascertainable from standard sources. *Reasonably ascertainable* denotes (1) information that is publicly available, (2) information that is obtainable within reasonable time and cost constraints, and (3) information that is practically reviewable. GEC's review included information gathered directly from governmental and regulatory agencies as well as an electronic database search performed by Banks Information Solutions, Inc. (Banks). Much of this information was gathered from public records and sources maintained by third parties. Although reasonable care was taken to verify this information, GEC does not accept responsibility for errors, omissions or inaccurate information.

GEC interviewed available individuals identified as having current and historical knowledge of land use, commercial and residential development, and activities and incidents associated with the property. Available individuals include (1) persons with whom contact can be made within reasonable time constraints, and (2) persons willing to share information with interviewers. These individuals were selected based on their employment in state and local government, association with, or proximity to, specific properties, or long-time residence in and knowledge of the area. Significant effort was made to identify and contact individuals possessing direct knowledge of sites; however, no guarantee is made or intended that all individuals with pertinent knowledge of sites were identified and interviewed. Additionally, GEC makes no guarantee that information provided during the interviews is free of errors, omissions, or inaccurate information.

Observations made during GEC's reconnaissance of the project were limited to (1) sites or portions of sites that were accessible to investigators, and (2) evidence that was visible to the investigators. Several areas had access limitations, including concrete floodwalls and unsafe conditions that impeded inspection of the entire area or specific portions or features of a site. Observations were based on evidence that was visible to inspectors while walking the site. No ground excavation, vegetation clearing, or physical relocation of obstacles was conducted during site investigations. Accordingly, no guarantee is made or intended that all site conditions were observed.

2.5 SPECIAL TERMS AND CONDITIONS

No special terms or conditions significant with respect to ER 1165-2-132 and ASTM E 1527-05 standards were made.

2.6 USER RELIANCE

In accordance with ASTM E 1527-05 Section 7.5.2.1 "Reliance," GEC is not required to verify independently the information provided by various sources but may rely on the information

unless there is actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained during the course of the investigation or otherwise actually known to the investigators conducting the assessment. However, GEC has no indications that the information provided by outside sources is incorrect.

3.0 SITE DESCRIPTION

The project corridor is comprised of the northern portion of the Orleans Avenue Canal and its adjacent floodwalls in New Orleans, Louisiana in Orleans Parish (Figure 2). The project corridor is bounded on the north by Lake Pontchartrain, on the south by Drainage Pumping Station Number 7, on the east by the foot of the eastern floodwall and levee complex, and on the west by the foot of the western floodwall and levee complex. The project corridor is located in the following sections:

Township 11 South, Range 11 East--Sections 16, 21, 113.

The property contains the canal and adjacent levees and floodwalls. Drainage Pumping Station Number 7, operated by the SWBNO, and a temporary pumping station currently under construction within the project corridor by the USACE are located within the project corridor. Five bridges transect the canal within the project corridor. Land use within the project corridor is municipal drainage operations.

3.1 SITE VICINITY AND GENERAL CHARACTERISTICS

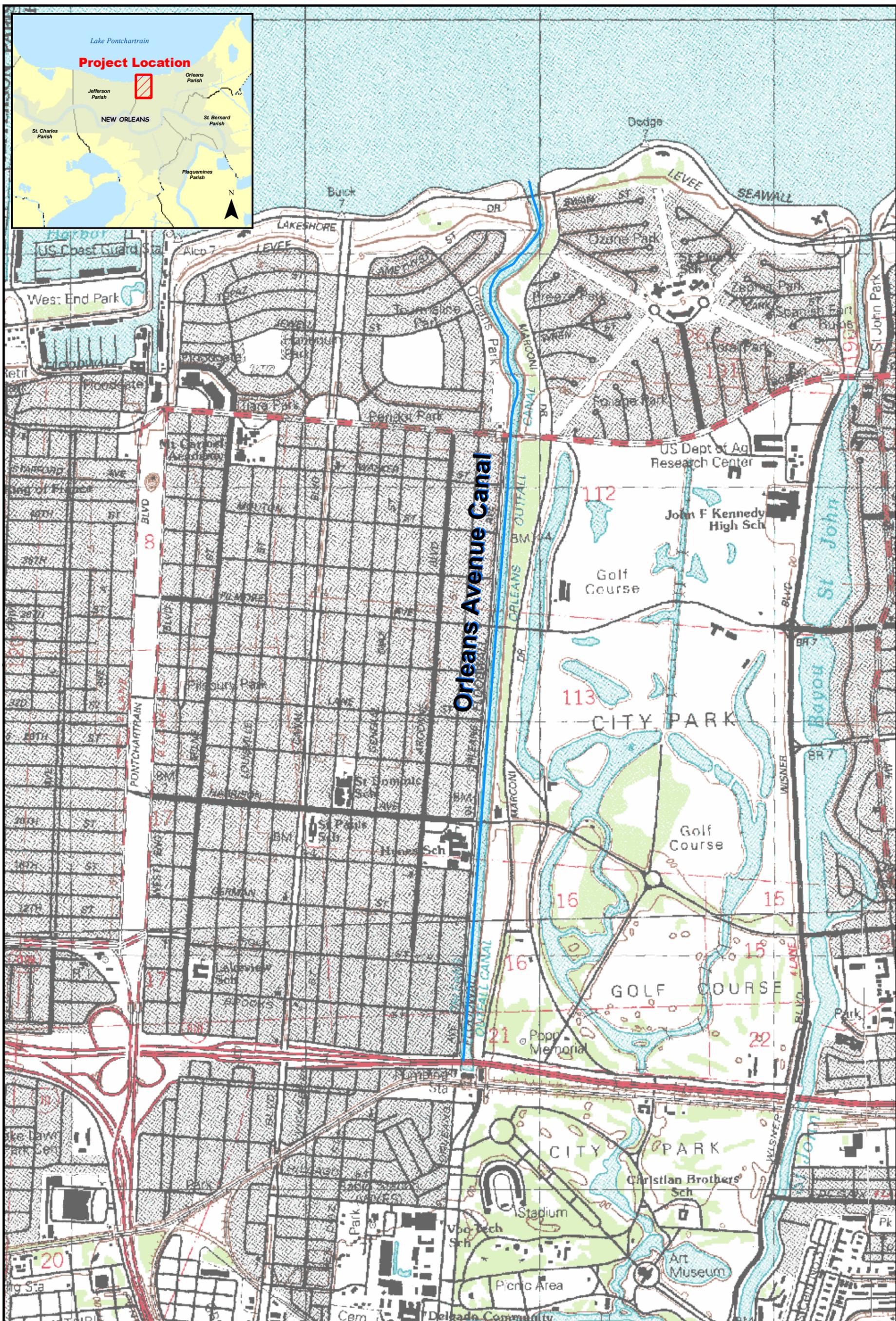
Land use in adjacent properties to the south and west of the project corridor is primarily residential with some light commercial and municipal facilities, particularly in the area along Harrison Avenue and Robert E. Lee Boulevard. Land use in adjacent properties to the north is residential west of the canal, and residential east of the canal at the site of the former Spanish Fort north of City Park. Land use in the adjacent properties to the east is almost exclusively recreational as the western boundary of City Park is located immediately east of the subject property. Lake Pontchartrain borders the project corridor to the north.

3.2. GEOLOGY, HYDROGEOLOGY, AND TOPOGRAPHY

3.2.1 Geology

The project corridor is located in the Coastal Plain province of southeastern Louisiana. The prominent landforms in this region are natural levees, freshwater and brackish swamp and marsh, and point bars. Subsurface sediments in the vicinity of the project corridor are typically composed of 60-100 feet of Holocene (0.1 million years ago [Ma] to present) sands and silts overlying Pleistocene (2.0-0.1 Ma) clays. Holocene sediments are thickest in point bar deposits on outside bends of the Mississippi River. Both the Pleistocene and Holocene sediments are typical of deltaic deposition, and represent a progradation over time from a coastal deltaic environment to a more inland coastal plain regime.

The project corridor has been the site of significant urban development in the historic period, and consequently surface sediments in the project corridor may not be representative of the typical surface sediments found in a river valley. Native surface sediments at the project site and the surrounding area are primarily composed of river alluvium deposited by the Mississippi River. The Mississippi River distributed significant amounts of sediment in the vicinity of the



SITE LOCATION MAP
Orleans Avenue Canal
Orleans Parish, Louisiana

Note: Background image is post-Katrina USACE Aerial Photograph (September, 2005). Sites provided by Banks Information Solutions, Inc.

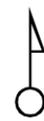
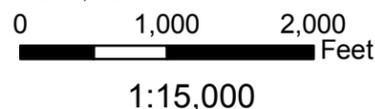


Figure 2

project corridor from prehistoric times until the early 20th century, when levee improvements brought a cessation to sediment renourishment.

Surface sediments are generally artificial fill ranging from gravel to sand. This fill was placed in the area in historic times to provide a more stable surface for urban expansion and improvement than the peat that occurred naturally throughout the Louisiana Coastal Plain province. Sediments within the canal channel were deposited naturally by waters discharging from the surrounding municipal areas and range from sand to clay.

3.2.2 Hydrogeology

The project transits the Chicot Equivalent Aquifer, a Pleistocene-aged aquifer found in the New Orleans area, the Baton Rouge area, and St. Tammany, Tangipahoa, and Washington parishes. The sedimentary sequences containing the aquifer system are subdivided into several aquifer units separated by confining beds. The aquifers are moderately well to well-sorted and consist of fine sand near the top, grading downward into coarse sand and gravel. The aquifers are typically confined by silt and clay layers.

The deposits that comprise the individual aquifers are not readily differentiated at the surface and act in effect as a single hydraulic system containing several hydrologic zones in the subsurface. The Mississippi River Valley is entrenched into the Pleistocene strata in the western part of the system, resulting in water movement between the river and the aquifer system.

Recharge of the Chicot Equivalent Aquifer system occurs primarily by the direct infiltration of rainfall in interstream, upland outcrop areas, by the movement of water between aquifers, and between the aquifers and the Mississippi River. Hydraulic conductivity ranges from 10-200 feet/day.

The freshwater interval of the Chicot Equivalent Aquifer system has a thickness range of 50-1,100 feet. The maximum depths of freshwater occurrence in the system range from 350 feet above sea level to 1,100 feet below sea level. DOTD *Water Resources Special Report No. 15, Water Use in Louisiana, 2000* indicates that the primary use of groundwater in this aquifer is industrial, with secondary and tertiary uses for rural domestic and public supply, respectively.

The USGS has 25 monitoring wells emplaced in the Chicot Equivalent aquifer system. Well OR-61 is located near the western end of the project corridor. Table 2 provides water quality data from Well OR-61 presented Appendix 12 of the *2003 Triennial Summary Report for the Environmental Evaluation Division of the Louisiana Department of Environmental Quality (LDEQ)*.

Both the Jasper Equivalent aquifer, a Miocene-aged (24-5 Ma) aquifer, and the Evangeline Equivalent aquifer, a Pliocene-aged (5-2 Ma) aquifer terminate in the vicinity of the project corridor, but it is unlikely that these aquifers exhibit any hydrologic influence on the project corridor.

Table 2. Water Quality Data for Well OR-61

Parameter	Value	
	Initial Sample	Resample
Water Quality Data		
pH	8.59	8.59
Salinity (ppt)	0.48	0.48
TDS (ppm)	562	562
Turbidity (NTU)	< 1.0	1.3
NH ₃ (ppm)	1.25	1.26
Inorganic Data (ppb)		
Antimony	< 5.0	< 5.0
Arsenic	< 5.0	< 5.0
Barium	83.3	82.8
Beryllium	< 1.0	< 1.0
Cadmium	< 1.0	< 1.0
Chromium	< 5.0	< 5.0
Copper	< 5.0	< 5.0
Iron	102	102
Lead	< 10.0	< 10.0
Mercury	< 0.05	< 0.05
Nickel	< 5.0	< 5.0
Selenium	< 5.0	< 5.0
Silver	< 1.0	< 1.0
Thallium	< 5.0	< 5.0
Zinc	10.5	<10.0

Source: USGS and LDEQ, 2003.

3.2.3 Topography

The property is located in an alluvial floodplain, an area of relatively uniform topography. The artificial levees along the waterfront comprise the only significant topographic high in the vicinity of the project corridor. Elevation in the general vicinity of the project corridor is approximately zero feet above mean sea level (MSL). No significant topographic variation was noted in the surrounding property either in the historical records review or in the site reconnaissance.

3.3 CURRENT USE OF THE PROPERTY

The property is currently used for municipal drainage.

3.4 STRUCTURES, ROADS AND OTHER IMPROVEMENTS ON THE SITE

Structures present within the project corridor include Drainage Pumping Station Number 7 operated by the SWBNO, located at the southern terminus of the subject property, and a temporary pumping station currently under construction by the USACE, located immediately north of the Robert E. Lee bridge.

Drainage Pumping Station Number 7 was constructed from 1897-1900. The pumping equipment at the station includes one 12-foot Wood screw pump rated at 550 cubic feet per second (cfs), installed in 1917-1918; two 14-foot Wood screw pumps rated at 1,000 cfs, installed in 1931; three vertical centrifugal pumps rated at 250 cfs, installed in 1898-1900 (no

longer in use); one vertical constant duty pump installed in 1911 (no longer in use); and two constant duty vertical trash pumps rated at 70 cfs, installed in 1931. Associated with the Wood pumps are auxiliary equipment such as vacuum pumps for priming the main pumps and switchgear for starting and operating the main pumps. The 12-foot Wood screw pump and one of the 14-foot Wood screw pumps operate on 25-cycle electrical current, which is generated by a central generating station. The other 14-foot Wood screw pump utilizes a more modern 60-cycle current supply.

The project corridor is bounded to the east and west by the canal's levee and floodwall complex. Floodwalls are constructed of concrete or steel throughout the project corridor. Five roads transect the project corridor by means of bridges. These roads, in order from north to south, include Lakeshore Drive, Robert E. Lee Boulevard, Filmore Avenue, Harrison Avenue, and Interstate 610.

3.5 CURRENT USE OF ADJOINING PROPERTIES

Lake Pontchartrain forms the northernmost boundary of the project corridor. A portion of Lakeshore Park adjoins the property to the west immediately south of Lakeshore Drive. Orleans Park adjoins the project corridor to the west between Lakeshore Park and Robert E. Lee Boulevard. Between Robert E. Lee Boulevard and Interstate 610 adjoining properties are almost exclusively residential. The Edward Hynes Elementary School is located on the western boundary of the project corridor immediately south of Harrison Avenue.

The site of the former Spanish Fort adjoins the project corridor to the east and is located between Lakeshore Drive and Robert E. Lee Boulevard. This property includes recreational, urban, and residential structures. The portion of the property that borders the project corridor is exclusively residential. Five parks are located within the site, and the St. Pius X School is located in the center of the site.

The adjoining property to the east between Robert E. Lee Boulevard and Interstate 610 is comprised of City Park. Structures located near the project boundary include a golf maintenance facility and equine stables for the New Orleans Police Department on Filmore Avenue. The G. Gernon Brown Recreation Center is located within the boundaries of City Park and adjoins the project corridor at the foot of the eastern canal levee at Harrison Avenue.

A review of Orleans Parish zoning maps was performed in conjunction with a site reconnaissance to identify all nonresidential properties that adjoin the project corridor. Nonresidential properties (excluding parks and/or greenspaces) identified by these methods are presented in Table 3. Index maps for the project area are presented in Appendix A.

Interviews were conducted with owners and/or site managers for all of the abovementioned properties. Additional discussion of interviews is presented in Section 7.0 below.

4.0 USER PROVIDED INFORMATION

As defined in ASTM E 1527-05 Section 3.2.93 "User," the USACE is the user of this HTRW Phase I ESA. GEC conducted the assessment on behalf of the USACE.

Table 3. Nonresidential Properties Adjoining the Project Corridor

Map	Block	Parcel	Facility Name
Western Canal Bank			
C-11	402A	402A	Lift Station (part of Drainage Pumping Station Number 7)
C-11	N/A	265, 266	Edward Hynes Elementary School
C-10	RS-1	21A	Engine 13
Eastern Canal Bank			
C-11	N/A*	N/A*	G. Gernon Brown Recreation Center

*Facility is located in City Park.

Source: Orleans Parish Zoning Maps, 2000, GEC, 2006.

4.1 TITLE RECORDS

In accordance with the project Scope of Work, a title record search was not conducted for the project corridor.

4.2 SPECIALIZED KNOWLEDGE

The user did not provide GEC with any specialized knowledge.

4.3 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

The SWBNO informed GEC that the project corridor has served as a drainage canal since the 1830s. The SWBNO further informed GEC that Drainage Pumping Station Number 7, which forms the southern terminus of the project corridor, was constructed from 1897-1900.

4.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

No valuation reduction for environmental issues is proposed.

4.5 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The project corridor is owned by the State of Louisiana. Drainage Pumping Station Number 7 is owned by the City of New Orleans and is operated by the SWBNO on behalf of the city. No permanently occupied properties are present in the project corridor. The temporary pumping station currently under construction near the Robert E. Lee Boulevard Bridge will be operated by the SWBNO on behalf of the City of New Orleans.

4.6 REASON FOR PERFORMING PHASE I

On behalf of the USACE, GEC conducted this investigation and assessment to identify potential REC sites in the vicinity of the project that have, or may have in the past, adversely impacted environmental conditions of the property. The USACE intends to construct a permanent pumping station within the project corridor to assist in municipal drainage operations and to

augment the capacity of Drainage Pumping Station Number 7, which was incapacitated during Hurricane Katrina.

5.0 RECORDS REVIEW

In accordance with ASTM E 1527-05 Section 8 “Records Review,” GEC conducted a thorough search of Federal, state, and local government environmental databases to obtain and review records and/or documents that would aid in the identification of known or potential REC sites on or near the project. ASTM E 1527-05 contains a list of records that should be reviewed and the approximate minimum search distance to use.

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

In accordance with the project Scope of Work and ASTM E 1527-05 Section 8.2.1 “Standard Environmental Record Sources,” a review of the following databases and was conducted at the proscribed search radii:

Federal NPL ¹ Site List	1.0 mi
Federal Delisted NPL Site List	0.5 mi
Federal CERCLIS ² List	0.5 mi
Federal CERCLIS-NFRAP ³ Site List	0.5 mi
Federal RCRA ⁴ CORRACTS ⁵ List	1.0 mi
Federal RCRA Non-CORRACTS TSD ⁶ Site List	0.5 mi
Federal RCRA LQG/SQG ⁷	target/adjoining property
Federal IC/EC ⁸ Registries	target property
Federal ERNS ⁹ List	target property
Federal HMIRS ¹⁰ List	
State-Equivalent NPL List	1.0 mi
State-Equivalent CERCLIS List	0.5 mi
State Landfill and/or Solid Waste Disposal Site Lists	0.5 mi
State Leaking UST ¹¹ Lists	0.5 mi
State-Registered UST Lists	target/adjoining property
State Oil and Gas Wells List	1.0 mi

Table 4 provides a summary of potential sites listed in Federal and state environmental databases identified by GEC and Banks during the environmental records review for the project corridor. In addition to plottable sites, Banks generated a list of orphan sites. Orphan sites are sites containing insufficient location information and can only be identified as being within the

¹ National Priority List

² Comprehensive Environmental Response, Compensation, and Liability Information System

³ CERCLIS-No Further Remedial Action Planned

⁴ Resource Conservation and Recovery Act

⁵ Corrective Action Report

⁶ Treatment, Storage, and Disposal Facility

⁷ Large or Small Quantity Generator

⁸ Institutional Control/Engineering Control

⁹ Emergency Response Notification System

¹⁰ Hazardous Materials Incident Reporting System

¹¹ Underground Storage Tank

same zip code(s) as the project corridor. A map of all plottable sites identified by Banks is presented as Figure 3. The complete Banks report for the site is provided in Appendix B. The USACE identified the area within one-eighth mile of the canal centerline on either bank as a corridor for potential use in the construction of the proposed pumping station. Consequently, particular concern was given to sites located within this corridor.

Table 4. Environmental Database Research Results Summary

Database	Search Radius						Orphan	Total
	Site	1/8 mile	1/4 mile	1/2 mile	>1/2 mile			
<i>Federal</i>								
NPL	---	---	---	---	---	---	---	
NPL Delisted	---	---	---	---		---	---	
CERCLIS	---	---	---	---		1	1	
NFRAP	---	---	---			---	---	
RCRA:								
TSD	---	---	---	---		---	---	
COR	---	---	---	---	---	---	---	
GEN	---	2	3			---	5	
IC/EC	---	---	---			2	2	
ERNS	---	---	---			---	1	
Tribal Lands	---	---	---	---	---	---	---	
HMIRS	---	---	---			3	3	
<i>State/Tribal</i>								
State/Tribal Sites	---	---	---	---	1	1	2	
SWL	---	---	---	---		3	3	
LUST	---	---	---	2		---	2	
UST/AST	---	2	2			--	4	
Oil & Gas Wells	---	---	---	---	---	---	---	
Total	---	5	5	2	1	10	23	
Notes: --- indicates no sites/items were found. LUST and UST values represent facilities, some of which contain multiple tanks. Shaded areas indicate search not required per ASTM E1527-05.								

Source: Banks Information Solutions, Inc., 2006.

5.1.1 National Priorities List (NPL) Database

The NPL is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the U.S. Department of Health and Human Services (HHS) and the EPA in order to become an NPL site.

Review of the EPA's NPL database, last updated in August 2006, indicates no such sites are located within one mile of the project corridor.

5.1.2 NPL Delisted Database

The NPL delisted database is the EPA's database of sites previously listed in the NPL database as hazardous waste sites identified for priority remedial actions under the Superfund program



Legend

Potential REC Sites

- ERNS Database
- RCRA/N Database
- LUST Database
- State Sites Database
- RUST Database

== Interstate

— Canals



POTENTIAL REC SITES
Orleans Avenue Canal
Orleans Parish, Louisiana

Note: Background image is post-Katrina USACE Aerial Photograph (September, 2005). Sites provided by Banks Information Solutions, Inc.

0 1,000 2,000 Feet

1:15,000



Figure 3

that have subsequently been removed from the NPL database because remedial actions have progressed to the point at which the site is no longer subject to priority remedial actions.

Review of the EPA's NPL database, last updated in August 2006, indicates no such sites are located within one-half mile of the project corridor.

5.1.3 Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) and No Further Remedial Action Planned (NFRAP) Databases

The CERCLIS database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated or are currently under investigation by the EPA for the release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and may ultimately be placed on the NPL.

The NFRAP Report, also known as the CERCLIS Archive, contains information pertaining to sites that have been removed from the EPA's CERCLIS database. NFRAP sites may be sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or contamination was not serious enough to require Superfund action or NPL consideration.

Review of the CERCLIS and NFRAP databases, last updated in September 2006, indicates that one orphan CERCLIS site is potentially located within one-half mile of the project corridor. No NFRAP sites were listed within the ASTM-recommended search radius. Subsequent research was unable to determine if the orphan CERCLIS site is located within the ASTM-recommended search radius of the project corridor.

<u>Facility Name:</u>	Asbestos Release
<u>Facility Location:</u>	New Orleans
<u>Distance/Direction:</u>	Unknown

An asbestos release (EPA incident number LA0000605405) occurred at an unknown facility in New Orleans on 4 May 2000. No other information about the facility or incident is available in the CERCLIS database. The EPA Region 6 Office was contacted for additional information about the facility. A review of EPA Region 6 records indicated that the location of the incident and quantity of asbestos release was not recorded by the EPA. The location of the site with respect to the project corridor cannot be determined from the available information; however, no evidence of a large release of asbestos-containing material was observed in the vicinity of the project corridor during the site reconnaissance. Consequently, based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

5.1.4 Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Sites

RCRA TSDs are facilities that treat, store, and/or dispose of hazardous waste.

Review of the database, last updated in April 2006, indicates that no such sites are located within one-half mile of the project corridor.

5.1.5 Resource Conservation and Recovery Act (RCRA) CORRACTS Database

The EPA's RCRA database contains information concerning RCRA facilities that have conducted, or are currently conducting, a corrective action. A Corrective Action Order is issued pursuant to RCRA Section 3008(h) when a release of hazardous waste or constituents into the environment occurs from a RCRA facility. Corrective actions may also be imposed as a requirement of receiving and maintaining a transportation/storage/disposal facility (TSDF) permit.

Review of the EPA's RCRA CORRACTS database, last updated in April 2006, indicates no such sites are located within one mile of the project corridor.

5.1.6 RCRA Generator Database

The EPA's RCRA Generator Database provides a list of Large Quantity Generators and Small Quantity Generators. Large Quantity Generators are defined as facilities that generate at least 1,000 kilograms per month (kg/mo) of non-acutely hazardous waste or one kg/mo of acutely hazardous waste. Small Quantity Generators generate less than 1,000 kg/mo of non-acutely hazardous waste.

Review of the EPA's Generator database, last updated in April 2006, indicates five potential REC sites are located within one-quarter mile of the project corridor. One of the facilities is cross-listed in multiple databases.

Facility Name: Motiva Enterprises/Harrison Avenue Shell
Facility Location: 932 Harrison Ave
Distance/Direction: 0.10 mi NW
Other Databases: RUST

Facility Name: New Orleans City Park Golf Maintenance
Facility Location: 1040 Filmore Ave
Distance/Direction: 0.01 mi SE

Facility Name: Golden Cleaners
Facility Location: 905 Harrison Ave
Distance/Direction: 0.19 mi NW

Facility Name: Special Edition Garage Inc.
Facility Location: 79 N Park Pl
Distance/Direction: 0.19 mi SW

Facility Name: West Marine
Facility Location: 827 Harrison Ave
Distance/Direction: 0.25 mi NW

The Motiva Enterprises facility is a small quantity generator that generates 100-1,000 kilograms per month (kg/mo) of benzene and ignitable waste. Two 12,000 gallon gasoline USTs are listed as Active for the facility. Four gasoline USTs (6,000 gallons, 8,000 gallons, and 10,000 gallons) and one oil UST (500 gallons) were removed from the facility in May 1997. No violations are listed for the facility, and the facility does not appear to be listed in any corrective action database. Based on this information, and lacking any evidence to the contrary, it is believed

that the site has had little, if any, adverse impact on environmental conditions within the project corridor and would not normally qualify as a REC site. However, the site is located within the corridor (one-eighth mile from the canal centerline) identified by the USACE for potential use in the construction of the proposed pumping station. Consequently, additional investigation at this site is warranted.

The New Orleans City Park Golf Maintenance facility is a conditionally exempt small quantity generator that generates less than 100 kg/mo of benzene, tetrachloroethylene, and ignitable waste. Location data in the RCRA/NPL database appears to indicate that the facility is located on the west bank of the Orleans Avenue Canal. No structure indicative of such a facility was identified at this location in the site reconnaissance. Consequently, the site location data is believed to be incorrect for the facility, and no evidence indicating that the facility occurs within the one-eighth mile potential use corridor was identified during the environmental records review or site reconnaissance. Attempts to contact City Park personnel to determine the location of the facility were unsuccessful. No violations are listed for the facility, and the facility does not appear to be listed in any corrective action database. Based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

The Golden Cleaners facility is a conditionally exempt small quantity generator that generates less than 100 kg/mo of spent halogenated solvents (including tetrachloroethylene, methylene chloride, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, and trichlorofluoromethane). No violations are listed for the facility, and the facility does not appear to be listed in any corrective action database. Based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

The Special Edition Garage facility is a conditionally exempt small quantity generator that generates less than 100 kg/mo of cadmium, benzene, methyl ethyl ketone, tetrachloroethylene, trichloroethylene, lead, and ignitable waste. No violations are listed for the facility, and the facility does not appear to be listed in any corrective action database. A review of LDEQ headquarters site files determined that the facility has been out of business since December 1999. Based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

The West Marine facility is a large quantity generator that generates more than 1,000 kg/mo of ignitable waste. No violations are listed for the facility, and the facility does not appear to be listed in any corrective action database. A review of LDEQ headquarters site files indicates that a Certification of No Hazardous Waste Act was filed for the facility on 19 October 2006. The information in this act indicated that the facility is no longer in operation. Based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

5.1.7 Brownfields Management System Database

This EPA database was designed to assist in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield Grant Programs. The database contains a listing of all sites administered by the EPA under the various Brownfield grant programs.

Review of this database, last updated in September 2006, indicates two orphan sites potentially located within one-half mile of the project corridor. Subsequent research indicates that neither orphan site is located within the ASTM-recommended search radius of the project corridor.

5.1.8 Emergency Response Notification System (ERNS) Database

ERNS is a national database that is used to store information on the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS reporting system contains preliminary information on specific releases, including spill location, substance released, and responsible parties.

Review of the database, last updated in December 2005, indicates one ERNS incident that occurred within one-half mile of the project corridor.

<u>Incident Name:</u>	Unnamed
<u>Incident Location:</u>	6725 General Haig St
<u>Distance/Direction:</u>	0.06 mi NW

Approximately five gallons of diesel were spilled on the property at 6725 General Haig Street. No information regarding the date of the incident or cleanup activities is present in the ERNS database. The spill appears to have been confined to land. Because only a small amount of product was discharged during this incident, and because the incident appears to have been confined to land, it is believed that this incident has had little, if any, adverse impact on environmental conditions within the project corridor and would not normally qualify as a REC site. However, the site is located within the corridor (one-eighth mile from the canal centerline) identified by the USACE for potential use in the construction of the proposed pumping station. Consequently, additional investigation at this site is warranted.

5.1.9 Tribal Lands

This database is maintained by the U.S. Department of the Interior and lists all areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority.

Review of this database, last updated in December 2005, indicates no such sites are located within one mile of the project corridor.

5.1.10 Hazardous Materials Incident Reporting System (HMIRS) Database

This database, maintained by the U.S. Department of Transportation, was established in 1971 to fulfill the requirements of the Federal hazardous materials transportation law. Part 171 of Title 49, Code of Federal Regulations (49 CFR) contains the incident reporting requirements of carriers of hazardous materials. The database contains a listing of all unintentional release of hazardous materials meeting the criteria set forth in Section 171.16, 49 CFR.

Review of this database, last updated in October 2006, indicates three orphan incidents potentially occurred within one-quarter mile of the project corridor. Subsequent research revealed that one of the orphan incidents did not occur within the ASTM-recommended search radius. The locations of the remaining two sites could not be identified.

Facility Name: New Orleans Public Belt Railroad
Facility Location: New Orleans
Distance/Direction: Unknown

Facility Name: Safety Kleen Corp.
Facility Location: Robert E. Lee Blvd
Distance/Direction: Unknown

An incident occurred on the New Orleans Public Belt Railroad on 21 January 2003 when a loose vapor line plug on a tank car discharged approximately 0.13 cubic feet of trimethylamine into the surrounding atmosphere. The plug was subsequently tightened and the leak was stopped. Because only a small volume of product was discharged at the site, and because the product was gaseous and dispersed into the atmosphere, it is believed that this incident has had little, if any, adverse impact on environmental conditions within the project corridor.

An incident occurred at a Safety Kleen facility on Robert E. Lee Boulevard on 19 April 1995 when approximately 10 gallons of tetrachloroethylene were discharged from a leaking 15 gallon drum. No additional information regarding the incident is available in the database. It could not be determined whether this incident occurred within the ASTM-recommended search radius of the project corridor; however, because only a small volume of product was discharged, it is believed that this incident has had little, if any, impact on environmental conditions within the project corridor.

5.1.11 State Environmental Databases Reviewed

State Equivalent NPL (SCL) Database

This database, updated quarterly, is maintained by the LDEQ Inactive and Abandoned Sites Division in accordance with requirements contained in LA R.S. 30:2226H. The database provides a listing of all known potential and confirmed hazardous waste sites maintained by the Office of Waste Services - Inactive and Abandoned Sites Division.

Review of the SCL database indicates one potential REC site is located within one mile of the project corridor and one orphan site is potentially located within one mile of the project corridor. Subsequent research could not determine if the orphan site is located within the ASTM-recommended search radius of the project corridor.

Facility Name: Coast Guard Base- New Orleans
Facility Location: New Orleans
Distance/Direction: 0.56 mi NW

Facility Name: Chevron- New Orleans Station
Facility Location: New Orleans
Distance/Direction: Unknown

No additional information is available for the facilities. The former Coast Guard Base site is located within Lakeshore Park. A site reconnaissance of this site identified no existing structures that appeared to constitute a potential REC concern, nor was any evidence of potential REC conditions (i.e., stressed vegetation, monitoring wells, etc.) observed in the vicinity of this site. Based on this information, and lacking any evidence to the contrary, it is

believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

The location of the Chevron site with respect to the project corridor cannot be determined from the available information; however, no evidence of such a site was observed in the vicinity of the project corridor during the site reconnaissance. Consequently, based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

Solid Waste Landfill Facilities (SWL) Databases

The listing of permitted solid waste landfills maintained by the LDEQ Permits Division related to solid waste and landfill disposal facilities was reviewed.

Review of this database, last updated in January 1999, indicates three orphan sites are potentially located within one-half mile of the project corridor. Subsequent research indicates that none of the sites are located within the ASTM-recommended search radius of the project corridor.

Leaking Underground Storage Tank (LUST) Database

Initial queries of this LDEQ database, last updated February 2006, indicates two potential REC sites are located within one-half mile of the project corridor.

Facility Name: Lakeview Chevron
Facility Location: 848 Harrison Ave
Distance/Direction: 0.26 mi NW

Facility Name: E-Z Serve #2135
Facility Location: 11950 Hayne Blvd
Distance/Direction: 0.26 mi NW

Three 8,000 gallon gasoline USTs, four 4,000 gallon gasoline USTs, one 1,000 gallon gasoline UST, and one 550 gallon oil UST were removed from the Lakeview Chevron facility in August 2000. No information regarding the initial detection of contamination at the site or remediation activities is present within the LUST database. A review of LDEQ headquarters site files identified a monitoring report submitted by Pangean CMD and Associates for the site on 29 September 2006. The report indicates that the area of concern for contamination is limited to the facility site and adjacent properties. Based on this information, and lacking any evidence to the contrary, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor.

Contamination was first detected at the E-Z Serve facility in August 1991. Approximately 20 gallons of product were detected in soil on the subject site. The incident was reported to LDEQ, which responded in a letter dated 19 December 1994 that active remediation was not needed for the sites. The site underwent passive remediation from this period until 26 November 1996, at which time remediation was terminated. Because remediation activities appear to have been completed at the site, and because the site is located more than one-quarter mile from the project corridor, it is believed that the site has had little, if any, impact on environmental conditions within the project corridor.

Registered Underground Storage Tank (RUST) Database

Review of this LDEQ database, last updated February 2006, indicates three potential REC sites (one with multiple listings) located within one-quarter mile of the project corridor. One of the facilities are cross-listed in multiple databases.

Facility Name: Motiva Enterprises/Harrison Avenue Shell
Facility Location: 932 Harrison Ave
Distance/Direction: 0.10 mi NW
Other Databases: RUST

Facility Name: Delgado Community College
Facility Location: 615 City Park Ave
Distance/Direction: 0.06 mi SE

Facility Name: City Park Golf Course/Maintenance
Facility Location: 1 Palm Dr
Distance/Direction: 0.20 mi SE

The Motiva Enterprises facility is discussed in Section 6.1.5 above. Based on the information presented in that section, it is believed that the site has had little, if any, adverse impact on environmental conditions within the project corridor and would not normally qualify as a REC site. However, the site is located within the corridor (one-eighth mile from the canal centerline) identified by the USACE for potential use in the construction of the proposed pumping station. Consequently, additional investigation at this site is warranted.

The Delgado Community College facility does not appear to be listed in the LUST database and would not normally qualify as a REC site. However, the site is located within the corridor (one-eighth mile from the canal centerline) identified by the USACE for potential use in the construction of the proposed pumping station. Consequently, additional investigation at this site is warranted.

The remaining facility does not appear to be listed in the LUST database. No evidence of violations or corrective actions was determined for the remaining facility. Based on this information, and lacking any evidence to the contrary, it is believed that these site has had little, if any, adverse impact on environmental conditions within the project corridor.

Oil and Gas Well Database

This database contains a listing of all oil and gas wells within the state of Louisiana that have been registered with the Louisiana Department of Natural Resources.

Review of this database, last updated January 2001, indicates no such sites are located within one mile of the project corridor.

5.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

ASTM E 1527-05 Section 8.2.2 "Additional Environmental Record Sources" states that one or more additional state or local sources may be checked to enhance and supplement the Federal and state sources identified in ASTM E 1527-05 Section 8.2.1.

GEC performed additional research using historic city directories, Louisiana Department of Environmental Quality (LDEQ) headquarters' site files, the EPA National Pollutant Discharge Elimination System (NPDES) database, and previous sampling studies conducted within the subject property.

5.2.1 City Directory Search

A review of city directories published by R. L. Polk and Company was conducted to identify any former industrial sites in the project corridor and adjoining properties. City directories for the years 1940, 1947, 1952-1953, 1956, 1961, 1964, 1966, 1971, 1976, 1981, 1982, 1986, 1991, 1997, 2001, and 2006 were reviewed for nonresidential facilities on properties adjoining the project corridor. The results of this review are presented in Table 5. Relevant portions of the city directories reviewed are included in Appendix C.

Table 5. Nonresidential Sites Adjoining the Project Corridor Identified in Historic Directory Search

Facility Address	Facility Name	Description	Years
Western Canal Bank			
5741 Orleans Ave.	City Pumping Station	Public Works	1981, 1986
5800 Orleans Ave.	City Pumping Station	Public Works	1947, 1952-1953, 1956, 1961
5864 Orleans Ave.	Kyle Smith Marine Surveying	Marine Surveying	2001
5960 Orleans Ave.	Electroman	Radio & TV Equipment	1997
6008 Orleans Ave.	Step by Step Builders	Home Improvement	2006
6044 Orleans Ave.	Marvin Roberts	General Contractor	1976
6400 Orleans Ave.	Irma Mellaney	Real Estate	1976
6400 Orleans Ave.	American Multiple Realty Investments	Real Estate	1997
6450 Orleans Ave.	McGough Financial Services	Investment	2001
6558 Orleans Ave.	Tri State Respiratory Inc.	Respiratory Therapy	2001
6848 Orleans Ave.	TC Services	Home Improvement	1997, 2001
6864 Orleans Ave.	S&N Novelty	Coin Operated Machine Rental	2001
6958 Orleans Ave.	A Touch of Class Day Care	Day Care	1997, 2001
7016 Orleans Ave.	Simplex Time Record	Clock Sales	2001
7808 Marconi Dr.	Dynamic Cable Construction Co. Inc.		2001
Eastern Canal Bank			
Marconi Dr. and Robert E. Lee Blvd.	Eighth Naval District Headquarters Master Control Radio Station		1956, 1961

Source: R.L. Polk & Co., 1940-2006.

Of the properties listed on the western canal bank, only Drainage Pumping Station Number 7 appears to be a nonresidential facility. An interview was conducted with the SWBNO Chief of Engineering regarding the station and is discussed in Section 7.0. The former Eighth Naval District radio station site is now a greenspace in City Park. A site reconnaissance revealed no stressed vegetation or other evidence of REC at the site. None of the remaining properties canal bank exhibited any evidence of operating as a present or former industrial facility. A site reconnaissance of Orleans Avenue indicated that all structures on the street that adjoin the project corridor are residential, with the exception of the Edward Hynes Elementary School and Engine 13 facility mentioned in Section 3.5 above. Most of the residential structures on Orleans Avenue are currently unoccupied as a result of damage from Hurricane Katrina. It is believed that the abovementioned properties are residential structures that also functioned as administrative centers for offsite businesses.

5.2.2 EPA National Pollutant Discharge Elimination System Database

As authorized by the Clean Water Act, the EPA NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. These permitted facilities are stored within the NPDES permit database.

The NPDES permit database was reviewed with assistance from the EPA EnviroMapper™ program to identify any permitted dischargers within one-half mile of the project corridor. A review of the database indicated no such facilities within this radius of the project corridor.

5.2.3 LDEQ Headquarters Site Files

Files at the LDEQ headquarters site were reviewed in an effort to identify any additional potential REC sites in the vicinity of the project corridor not identified in the environmental database review and to provide supplementary information on sites identified in the environmental database review. Supplementary information on identified potential REC sites is presented with the discussion of the individual sites in Section 5.1 above. No additional potential REC sites were identified in the vicinity of the project corridor from LDEQ headquarters site files.

5.2.4 Previous Sampling Studies

A Certified Industrial Hygienist (CIH) investigation was conducted on sediment samples within the Orleans Avenue Canal between the canal mouth and Robert E. Lee Boulevard in February 2006 pursuant to construction of the temporary pumping station currently under construction north of the Robert E. Lee Boulevard Bridge. Sediments within this portion of the canal were analyzed for contaminants from urban stormwater runoff prior to the initiation of any dredging activities that may be required during construction. The USACE contracted GEC to collect and composite sediments from three locations along the canal, which were then analyzed for total and Toxicity Characteristic Leaching Procedure (TCLP) RCRA metals, total petroleum hydrocarbons (TPH), volatile and semi-volatile organics (including polynuclear aromatic hydrocarbons [PAHs]), pesticides, and dioxins.

Sediment samples were collected from the bottom of the canal with a backpack vibracore unit to a depth of approximately five feet below the surface sediments in three-inch aluminum barrels. Three samples were collected from each location: one near the edge of each bank and one from the center of the canal. The three samples from each location were consolidated into one composite sample for laboratory analysis. A map of the sampling locations is provided in Figure 4.

Laboratory analyses of the composite samples revealed the presence of contaminants in levels potentially hazardous to human health at all three sampling locations. Sample ORLEANS 1, the northernmost sampling location, contained lead concentrations exceeding LDEQ Risk Evaluation/Corrective Action Program (RECAP) screening standards by 70 mg/kg (70 percent). TPH-Diesel Range Organics (DRO) and Oil Range Organics (ORO) were found to exceed RECAP standards by 205 mg/kg (315 percent) and 210 mg/kg (117 percent) in sample ORLEANS 2 (the middle sampling location) and by 155 mg/kg (238 percent) and 111 mg/kg (62 percent) in sample ORLEANS 3 (the southernmost sampling location). None of the analyzed compounds regulated by RCRA were present in the Orleans Avenue Canal TCLP samples in concentrations exceeding RCRA standards. TPH-DRO and TPH-ORO were detected in the TCLP leachate in the ORLEANS 1 sample, and TPH-DRO was detected in the ORLEANS 2 and ORLEANS 3 samples. TPH-GRO was also detected in all three samples, possibly due to volatile organic blank contamination.

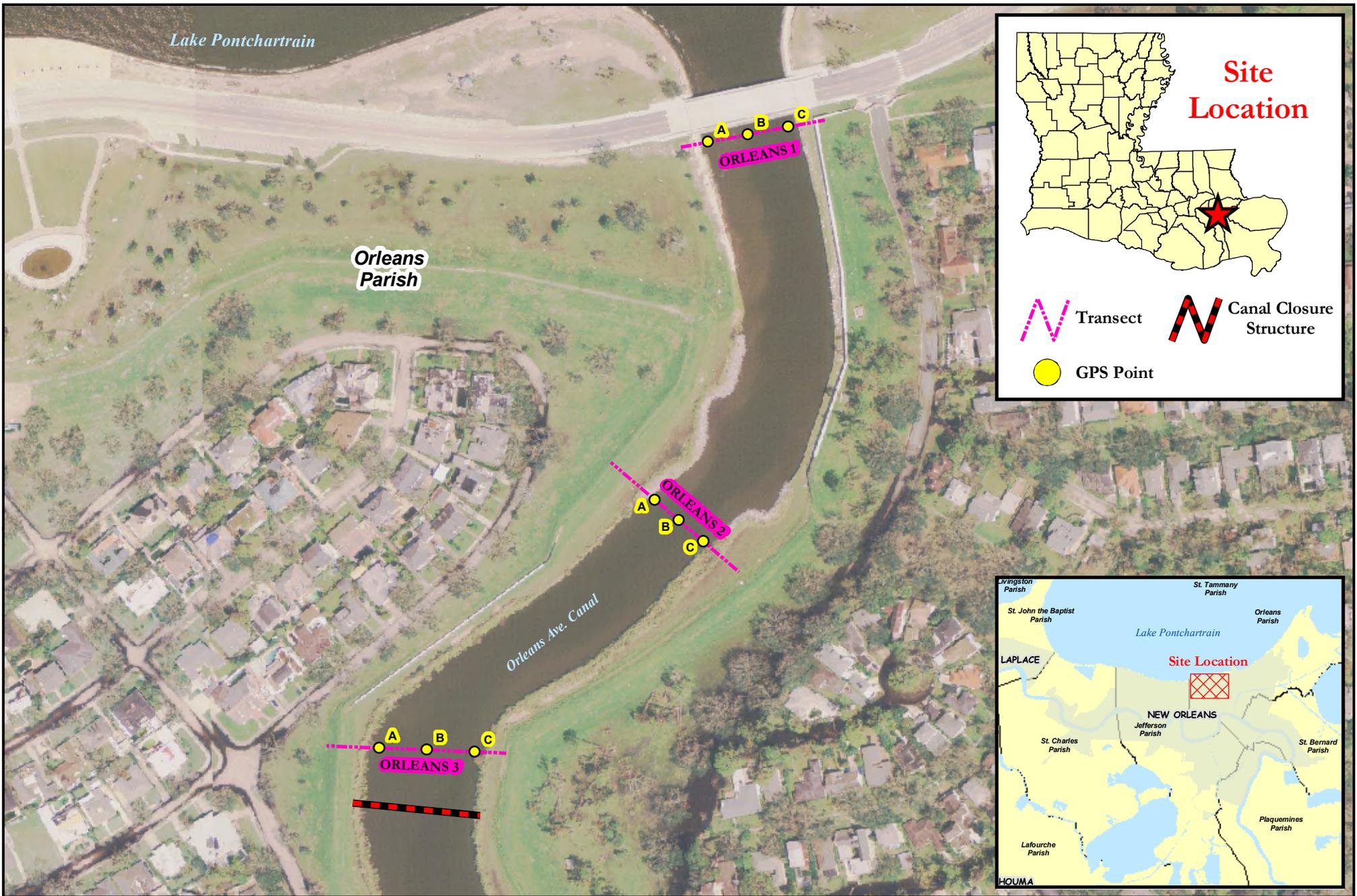
The results of the laboratory analyses indicated that the material sampled from Orleans Avenue Canal contained PAHs, lead, and total petroleum hydrocarbons in concentrations that are potentially hazardous to human health or the environment. Additionally, the laboratory analyses indicated that dioxins, while not present in concentrations exceeding standards set by the State of Louisiana, are present in the sediments at levels that may preclude certain disposal options. The sampling analysis report recommended further evaluation of the sediment material analysis prior to consideration of ocean dumping or use of the material as borrow or fill. The report further recommended that prior to landfill disposal, the analysis of the sediment be evaluated in order to ensure its disposal in a landfill permitted to dispose of such material, and that personnel handling the sediment material should be outfitted in modified Level D personal protective equipment, including oil-resistant gloves and safety glasses. Additionally, the report stated that special actions associated with state environmental regulations regarding the handling, storage, disposal or ownership of contaminated sediments (as described in Louisiana Administrative Code Title 33:V) may be required.

5.3 HISTORICAL RECORDS REVIEW

For this project, GEC researched historical quadrangles for structures, mines, quarries, clearings, wells, and land use in order to: (1) ascertain development of the project corridor since the early 20th century; and (2) identify indications of possible items of environmental concern.

In accordance with ASTM E 1527-05, current USGS 7.5-Minute Topographic Maps were utilized as the primary physical setting source. Additional sources were utilized to ascertain the geologic, hydrogeologic, hydrologic, and topographic conditions of the project site. The sources include the following:

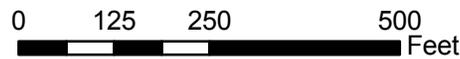
- USGS Groundwater Maps;
- LGS Bedrock Geology Maps; and
- LGS Surficial Geology Maps.



CIH INVESTIGATION SAMPLING LOCATIONS

**Orleans Avenue Canal
Orleans Parish, Louisiana**

Note: Post-Katrina Color Aerial Photography provided by 3001, Inc. through the USACE. Other data not derived from registered survey and should be considered approximate.



1:3,000



Figure 4

Information on the physical setting sources and historical use sources is included in Section 15.0 below.

5.3.1 Historical USGS Quadrangle Map Review

Historical USGS quadrangle maps were reviewed to determine if any development occurred on the subject property in the past. For historical use of the project corridor, GEC reviewed the following maps:

- New Orleans East, LA- 1998, 1992, 1989, 1979, 1966, 1951; and
- Spanish Fort, LA- 1999, 1992, 1979, 1972, 1965, 1951.

The historical quadrangle maps reviewed for the project corridor indicate that construction of the Orleans Avenue Canal and Drainage Pumping Station Number 7 occurred prior to 1951. Other structures present in the project corridor vicinity in 1951 included the Veterans Affairs Hospital, located immediately west of the project corridor in the area now occupied by Lakeshore and Orleans parks and the adjacent residential area; a school on Harrison Avenue at the present location of Edward Hynes Elementary School, and City Park. No parks or other greenspaces or commercial, industrial, or urban structures are evident at the former Spanish Fort site in the 1951 maps. The adjoining property to the west of the project corridor between Robert E. Lee Boulevard and Drainage Pumping Station Number 7 appears to be comprised exclusively of residential properties with the exception of the abovementioned school on Harrison Avenue.

Between 1951 and 1965, the St. Pius X School was built in the former Spanish Fort site, the Veterans Affairs Hospital was demolished and replaced with Lakeshore and Orleans parks and the adjacent residential area that currently occupy the site. Additionally, a structure was built at the location of the current Engine 13 Station on Robert E. Lee Boulevard immediately west of the project corridor. No other new developments were noted in the 1965 maps.

Between 1965 and 1972, the five parks that are currently present within the former Spanish Fort site were constructed. The G. Gernon Brown Recreation Center was also constructed during this period. The equine stables operated by the New Orleans Police Department were constructed in City Park between 1972 and 1979. Between 1979 and 1989, the Interstate 610 overpass located at the southern terminus of the project corridor was constructed. No other indications of commercial or industrial structures or improvements were identified during the historic quadrangle map review.

Historic quadrangle maps reviewed for the project corridor are presented in Appendix D.

5.3.2 Historical Fire Insurance Map Review

From about 1860 to 1990, the Sanborn Fire Insurance Map Company created a series of highly detailed maps of urban areas indicating every man-made structure within the area mapped and included information on the use of structures and, if a structure housed a business, the type of business. Features such as petroleum products or hazardous materials used or stored, individual building uses, building materials utilized, size of structures and storage tanks, and many other details were also indicated. Particularly notable for their past use or storage would be such flammable materials as gasoline, kerosene, heating oils, paints, solvents, or any other chemicals that are today classified as hazardous materials and, in waste form, as hazardous wastes. Other concerns that may be indicated by the Sanborn maps include facilities such as

landfills or wastewater treatment plants that may have operated at one time on or near the subject property.

GEC reviewed four Sanborn maps covering the period 1929-1951. These maps are included in Appendix E. Sanborn coverage existed for only the southern portion of the project corridor (with the northernmost area of coverage extending to approximately the location of present-day Bragg Street). The maps indicate that the Orleans Avenue Canal was constructed prior to 1929 (the first year for which coverage exists of the area encompassed by the canal). A warehouse operated by United Fruit Company is present immediately southwest of the southern terminus of the project corridor in the 1929 maps. The warehouse contained a small generator. South of the warehouse was a facility operated by Isaac Delgado Central Trades School. No indications of fuel tanks or other chemical containers are evident on the facility diagram. The warehouse was demolished and replaced with a residential development between 1929 and 1951. The Delgado facility was still in existence in 1951, the last year for which coverage exists. The area along the eastern border of the project corridor is comprised of City Park facilities in all years for which coverage exists.

5.3.3 Historical Aerial Photograph Review

The Louisiana State University Cartographic Information Center (CIC), operated by the Department of Geography and Anthropology, maintains a library of historical aerial photographs collected by the U.S. Department of Agriculture (USDA). The CIC's inventory of historical USDA aerial photographs of the project corridor was reviewed to determine changes in land use during the period of record and in particular, whether any sites or conditions that may constitute REC are visible within the project corridor. Photographs from 1952, 1960, and 1976 were reviewed. The photographs reviewed for the project corridor are included in Appendix F.

Analysis of historical aerial photographs indicates that the vicinity of the project area was almost exclusively residential or recreational in 1952. The only nonresidential structure apparent in the 1952 photographs is the Edward Hynes Elementary School. The golf maintenance facility, equine stables, and G. Gernon Brown Recreational Center are not present on the City Park property in these photographs. The area between present-day Jewel Street and Robert E. Lee Boulevard is devoid of development in the 1952 photographs, and only limited residential development is on Orleans Avenue south of the Edward Hynes Elementary School. A structure believed to represent the Eighth Naval District Headquarters Master Control Radio Station is present on City Park property near the intersection of Marconi Drive and Robert E. Lee Boulevard. No other indications of commercial or industrial development are visible in these photographs.

The 1960 photographs indicate that the former greenspace between Jewel Street and Robert E. Lee Boulevard underwent residential development between 1952 and 1960, although Orleans Avenue in the vicinity of Edward Hynes Elementary School is still an area of limited development in these photographs. The abovementioned City Park facilities that are currently located on adjoining property are not present in the 1961 photographs. The Eighth Naval District Headquarters Master Control Radio Station is still present in these photographs. No other indications of commercial or industrial development are visible in these photographs.

The 1976 photographs indicated continued development between Jewel Street and Robert E. Lee Boulevard. The Engine 13 Fire Station is visible at the foot of the Robert E. Lee Bridge on the western canal bank, and the Eighth Naval District Headquarters Master Control Radio Station facility appears to have been demolished in the period between photographs. The G.

Gernon Brown Recreational Center is visible on adjoining city park property; however the golf maintenance facility and equine stables are not visible. No other indications of commercial or industrial development are visible in these photographs.

6.0 SITE RECONNAISSANCE

In accordance with ASTM E 1527-05 Section 9 “Site Reconnaissance,” field investigations were conducted in order to inspect the property and surrounding areas for structures, oil and gas exploration and production, land use, runoff patterns, and indications of environmental impacts. The investigation was conducted in November 2006. Photographs from these surveys are presented in Appendix G.

6.1 METHODOLOGY AND LIMITING CONDITIONS

The project was investigated in order to identify potential REC sites, current and historical, that have, or may have in the past, adversely impacted environmental conditions within the required right-of-way for the project. ASTM E 1527-05 Section 9 “Site Reconnaissance” addresses aspects of site field investigations. GEC, as described in this report, has investigated the property for potential REC sites based on information gathered during historical research, the environmental database review, interviews with pertinent personnel, and field reconnaissance in accordance with ASTM E 1527-05 standards, as applicable and appropriate.

Observations made during GEC’s reconnaissance of the property were limited to (1) sites or portions of sites that were accessible to investigators, and (2) evidence that was visible to the investigators. Limitations include concrete floodwalls and unsafe conditions that impeded inspection of the entire area or specific portions or features of a site. Observations were based on evidence that was visible to inspectors while walking the site. No ground excavation or physical relocation of obstacles was conducted during inspections. Accordingly, no guarantee is made or intended that all site conditions were observed.

6.2 GENERAL SITE SETTING

ASTM E 1527-05 Section 9.4.1 “General Site Setting” addresses current and past use of the property being assessed, adjoining properties, and surrounding area. The elevation of the site is approximately zero feet above MSL, and the project vicinity is urban. Predominantly residential buildings are found in the surrounding blocks of the project corridor to the west. The property fronts City Park to the east, and Lakeshore and Orleans parks to the northwest. Lake Pontchartrain forms the northern boundary of the project area. Commercial and municipal sites present within or adjoining the project area include the Engine 13 Fire Station at the Robert E. Lee Boulevard Bridge, Edward Hynes Elementary School at Harrison Avenue, Drainage Pumping Station Number 7 at the southern terminus of the project area, and the G. Gernon Brown Recreation Center in City Park at Harrison Avenue. A temporary pumping station is currently under construction by the USACE immediately north of the Robert E. Lee Boulevard Bridge. A staging area for this construction enterprise is located immediately west of the Robert E. Lee Boulevard Bridge.

6.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS IN CONNECTION WITH IDENTIFIED USES

One 3,000 gallon AST was observed on either canal bank at the site of the temporary pumping station. A fuel station on a concrete island was observed at each of these ASTs. A 500 gallon

fuel AST was observed at the staging area on the east canal bank immediately east of the Robert E. Lee Bridge. All three ASTs possessed secondary containment, and no evidence of discharge of petroleum products in the vicinity of the ASTs was observed during the site reconnaissance. Two ASTs were observed immediately south of Drainage Pumping Station Number 7. These ASTs appear to be used for water treatment purposes. No evidence of REC in conjunction with these ASTs was observed in the vicinity of these ASTs.

6.4 UNIDENTIFIED SUBSTANCE CONTAINERS

All observed substance containers were clearly labeled at the temporary pumping station and staging area. No evidence of unidentified substance containers was detected during the reconnaissance.

6.5 POLYCHLORINATED BIPHENYLS (PCBs)

No electrical transformers were observed within the project corridor. Eight utility pole-mounted electrical transformers were observed on adjoining property to the east of the project corridor, and 14 pole-mounted transformers were observed on adjoining property to the west of the project corridor. Two large electrical transformers mounted on slabs were observed on adjoining property to the east immediately north and south of the Interstate 610 overpass, one large transformer is mounted on an elevated platform on the Edward Hynes Elementary School property, and five large transformers housed in brick structures are present on the eastern canal bank between the Lakeshore Drive bridge and the Robert E. Lee Boulevard bridge. Electrical transformers may contain oil with PCBs as an additive. It is not known whether the transformers observed on the adjoining properties contain such PCBs, but no evidence of corrosion or rupture was detected on the transformers.

6.6 EXTERIOR OBSERVATIONS

6.6.1 Pits, Ponds, or Lagoons

The project corridor contains an artificial canal for municipal drainage. No evidence of pits, ponds, or lagoons was observed within the project corridor. Several ponds and lagoons were observed on the adjoining City Park property during the reconnaissance. These ponds and lagoons appear to have been constructed for recreational use and did not exhibit any indications of REC.

6.6.2 Stained Soil or Pavement

Pavement is not present on the property. No evidence of stained soil was observed on the property during the reconnaissance. Stained soil was observed at the staging area for the temporary pumping station, located immediately west of the Robert E. Lee Boulevard bridge. This stained soil appeared to indicate the discharge of small amounts of hydrocarbons associated with the operation of construction equipment and does not appear to constitute a significant REC concern. Additionally, stained pavement was observed along roadways on adjoining properties. This stained pavement appeared to indicate the discharge of small amounts of hydrocarbons associated with the operation of motor vehicles and does not appear to constitute a significant REC concern.

6.6.3 Stressed Vegetation

No areas of stressed vegetation were observed on the property during the reconnaissance. Stressed vegetation was observed on some adjoining properties, particularly on the adjoining City Park property. This stressed vegetation appeared to be the result of the effects of Hurricane Katrina and is not indicative of the presence of REC in the vicinity of the project corridor.

6.6.4 Solid Waste

No areas filled by fill of unknown origin, suggesting trash or other solid waste disposal, or mounds or depressions suggesting trash or other solid waste disposal, were observed during the site reconnaissance. Small quantities of flotsam and garbage were observed along the canal banks within the project corridor. These items appear to have been discarded by motorists or residents in the area and do not appear to be indicative of significant quantities of solid waste in the vicinity of the project corridor.

6.6.5 Waste Water

No evidence of wastewater discharging into a drain, ditch, or stream on or adjacent to the property was observed during the reconnaissance.

6.6.6 Wells

No wells were observed on the property or adjoining properties during the reconnaissance.

6.6.7 Septic Systems

No indications of on-site septic systems or cesspools were observed on the property or adjoining properties during the reconnaissance.

6.6.8 Oil and Gas Drilling Activities

No evidence of oil and gas wells or drilling activity was noted on the property or adjoining properties during the site reconnaissance.

6.6.9 Storage Tanks

One 3,000 gallon AST was observed on either canal bank at the site of the temporary pumping station. A fuel station on a concrete island was observed at each of these ASTs. A 500 gallon fuel AST was observed at the staging area on the east canal bank immediately east of the Robert E. Lee Bridge. All three ASTs possessed secondary containment, and no evidence of discharge of petroleum products in the vicinity of the ASTs was observed during the site reconnaissance. Two ASTs were observed immediately south of Drainage Pumping Station Number 7. These ASTs originally stored sodium hypochlorate for water treatment but have been empty since the 1970s and are slated for removal in the near future. No evidence of REC in conjunction with these ASTs was observed in the vicinity of these ASTs. No other ASTs or USTs were observed on the property during the reconnaissance. Additionally, no vent pipes fill pipes or access ways indicating the presence of other USTs were observed during the reconnaissance.

6.6.10 Odors

No strong, pungent, or noxious odors were detected at the property during the reconnaissance.

6.6.11 Pools of Liquid

Isolated pools of standing surface water were observed on some adjoining properties during the reconnaissance. These pools appeared to represent minor accumulations of rain water from recent precipitation events and did not contain any evidence of contamination. No pools or sumps containing liquids likely to be hazardous substances or petroleum products were observed on the property during the reconnaissance.

6.6.12 Drums and Containers

No drums of hazardous substances or petroleum products were observed during the site reconnaissance.

6.7 INTERIOR OBSERVATIONS

6.7.1 Heating/Cooling

No heating or cooling system is currently present at the temporary pumping station currently under construction in the project corridor by the USACE.

6.7.2 Stains or Corrosion

Minor oil stains was observed on the premises of the temporary pumping station. Corrosion was observed on exposed steel structures at the station and on exposed floodwall bulkheads. The oil stains appeared to represent minor discharges associated with the operation of construction equipment, and the corrosion appeared to represent the natural effects of exposure to steel.

6.7.3 Drains and Sumps

No evidence of drains or sumps was observed at the temporary pumping station during the site reconnaissance.

7.0 INTERVIEWS

Interviews were conducted with local and state government officials as well as property owners and/or site managers for information regarding conditions and activities within the project corridor and adjoining nonresidential properties. Interview forms are presented in Appendix H.

Mr. Wayne Deselle, Staff Environmental Scientist for the LDEQ Southeast Regional Office Surveillance Division, was interviewed for knowledge of environmental conditions within the project corridor. Mr. Deselle stated that he is not aware of any incidents within the project corridor that may have adversely impacted environmental conditions therein. He further stated that LDEQ performed water quality and tissue analyses for Lake Pontchartrain waters and finfish in the vicinity of the canal shortly after Hurricane Katrina, and the results indicated only minimal increases in toxins in the area as a result of toxic releases associated with Hurricane Katrina.

Mr. Jack Huerkamp, Chief of Operations for the SWBNO, was interviewed for his knowledge of conditions and operations at Drainage Pumping Station Number 7 and the project corridor. Mr. Huerkamp stated that waste oil from the pump gearboxes is stored at Drainage Pumping Station Number 7, where it is removed by a waste oil company. Mr. Huerkamp stated that flotsam and debris are often dumped into the canal, but he is not aware of any hazardous waste dumping and discharges within the project corridor. Mr. Huerkamp stated that the ASTs present on the south side of Drainage Pumping Station were formerly used to store sodium hypochlorate for water treatment but have been empty for approximately 30 years. Mr. Huerkamp stated that he is not aware of any incidents at the facility that may have adversely impacted environmental conditions within the project corridor.

Mr. Larry Barabino, Director of Recreation for the New Orleans Recreation Department, was interviewed for his knowledge of conditions and operations at the G. Gernon Brown Recreation Center. Mr. Barabino stated that no petroleum products or chemicals are stored at the property, and that he is not aware of any incidents that have occurred at the facility that may have adversely impacted environmental conditions within the project corridor.

Ms. Amy Carbonette, Director of Facilities for the New Orleans Public Schools System, was interviewed for her knowledge of conditions and operations at the Edward Hynes Elementary School. Ms. Hampton stated that no petroleum products are stored at the property, and one elevated transformer is present on the property facing Orleans Avenue. Ms. Carbonette stated that she is not aware of any incidents that have occurred at the facility that may have adversely impacted environmental conditions within the project corridor.

Mr. Danny Hampton, a firefighter with Engine 13, was interviewed for his knowledge of conditions and operations at the Engine 13 Station. Mr. Hampton stated that no petroleum products or chemicals are stored at the property, and that he is not aware of any incidents that have occurred at the facility that may have adversely impacted environmental conditions within the project corridor. Mr. Hampton further stated that he is not aware of any incidents within the project corridor that may have adversely impacted environmental conditions therein.

8.0 FINDINGS

As defined in ASTM E 1527-05 Section 1.1.1, REC means:

the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Based on research of additional environmental record sources, the assessment confirms that REC exist at the subject property. The results of laboratory analyses conducted during the February 2006 CIH Investigation of the northern portion of the Orleans Avenue Canal (between the canal mouth and Robert E. Lee Boulevard) indicated that the material sampled from Orleans Avenue Canal contained PAHs, lead, and total petroleum hydrocarbons in concentrations that are potentially hazardous to human health or the environment. Additionally, the laboratory analyses indicated that dioxins, while not present in concentrations exceeding standards set by the State of Louisiana, are present in the sediments at levels that may preclude certain disposal

options. Although this study did not examine sediments in the southern portion of the project corridor, the presence of contaminants in concentrations potentially hazardous to human health in the northern portion of the project corridor indicates that such contaminants are potentially present throughout the project corridor.

The USACE identified the area within one-eighth mile of the canal centerline on either bank as a corridor for potential use in the construction of the proposed pumping station. Consequently, particular concern was given to sites identified in the records review and site reconnaissance located within this corridor. Table 6 provides a listing of these sites and potential constituents of concern (COCs) associated with them and an assessment of the potential environmental risk posed by these sites.

Table 6. Sites of Concern Within One-Eighth Mile of the Canal Centerline

Site	Address	COCs	Environmental Risk Factor
Motiva Enterprises/ Harrison Ave Shell	932 Harrison Ave	petroleum products, benzene, ignitable waste	Moderate
Unnamed ERNS Incident	6725 General Haig St	petroleum products	Low
Delgado Community College	615 City Park Ave	petroleum products	Low

Source: Banks, GEC, 2006.

Items such as radon, ACM, lead-based paint, and lead in drinking water are beyond the scope of ASTM E 1527-05 standards because these items are not included in CERCLA's definition of hazardous substances (42 U.S.C. § 9601(14)). However, parties undertaking a commercial real estate transaction may wish to assess these substances because in certain quantities and/or in certain conditions, the constituents may pose a threat of contamination.

9.0 OPINION

Of the potential REC sites that have, or may have had in the past, the potential to adversely impact conditions in the project's required right-of-way, it is determined that REC at the subject property require additional investigation. Further investigation of sediment conditions is necessary to determine if the property has been impacted by point- and nonpoint-source pollution from urban runoff. Additionally, further investigation of subsurface conditions at the sites listed in Table 6 above may be necessary if the proposed permanent pumping station is to be constructed in the vicinity of these sites.

10.0 CONCLUSIONS

GEC has performed this HTRW Phase I ESA in conformance with the scope and limitations of ER 1165-2-132 and ASTM E 1527-05, as applicable and appropriate. Any exceptions to, or departures from, this practice are described in the report. Based on the site reconnaissance, records review, interviews, and best engineering judgment, this assessment has revealed evidence of recognized environmental conditions in connection with the project, and it is GEC's opinion that further investigation is warranted at the property.

Sediment samples within the proposed footprint of the proposed permanent pumping station within the project corridor should be analyzed for constituents of concern, including but not limited to, PAHs, lead, and total petroleum hydrocarbons. Additionally, should the footprint of the proposed permanent pumping station be constructed in the vicinity of any of the sites listed in Table 6, subsurface sampling should be performed in the vicinity of the site(s) to determine if any of COCs have adversely impacted environmental conditions within the proposed construction footprint.

11.0 DEVIATIONS

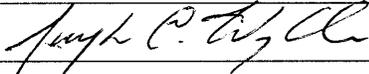
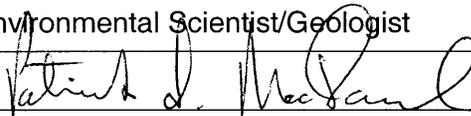
Based on the scope of the project, GEC believes an *appropriate inquiry* level was utilized for the assessment. GEC complied with the standards specified in ASTM E 1527-05, as applicable and appropriate, when *reasonably ascertainable*. As provided for in ASTM E 1527-05 Section 4.5.2 "Not Exhaustive," GEC did not perform an exhaustive assessment of observably clean portions of the property. In accordance with guidance from the project Scope of Work and USACE personnel, a title record search was not conducted, and interviews of knowledgeable personnel on adjoining properties was limited to identified nonresidential properties. Additionally, and as described in sections 4.0 and 6.0 of the report, certain observation limitations were encountered as noted.

12.0 ADDITIONAL SERVICES

GEC performed no additional services in conjunction with this HTRW Phase I ESA.

13.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

I certify that I have examined the property and, being familiar with the provisions of ASTM E 1527-00 and ASTM E 1528-00, attest that this ESA has been conducted in accordance with good environmental practices.

Signature	
Name	Joseph C. Wyble
Title	Environmental Scientist/Geologist
Signature	
Name	Patrick S. MacDanel
Title	Senior Environmental Scientist/Wildlife Biologist
Date	29 November 2006

14.0 QUALIFICATION OF ENVIRONMENTAL PROFESSIONALS

Mr. Wyble and Mr. MacDanel have project management and research experience in environmental, hydrological, and geotechnical projects throughout the United States. They provide planning, coordination, and consulting services on Federal and state regulatory compliance issues for numerous clients. Relevant environmental experience for Mr. Wyble and Mr. MacDanel includes:

Hazardous, Toxic, and Radioactive Waste (HTRW) Investigations – Risk liability studies of various properties in Louisiana. Investigations conducted in accordance with U.S. Army Corps of Engineers Regulation ER 1165-2-132, *Water Resources Policies and Authorities for Hazardous, Toxic, and Radioactive Waste For Civil Works Projects*, which requires identification and evaluation of potential environmental risks in Federal project corridors.

Environmental Site Assessments – Assessments for commercial and industrial clients to evaluate the presence of hazardous substances and petroleum products in accordance with American Society of Testing and Materials Standard E1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

15.0 REFERENCES

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7.5-Minute Series Quadrangle, U.S. Geological Survey, Spanish Fort, Louisiana, 1956, 1965, 1972, 1979, 1992, 1999.

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Municipal Zoning Maps B-9, B-10, B-11, C-9.

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New Orleans Fire Insurance Maps, 1929, Vol. 8, Map 818.

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Polk's New Orleans City Directory, 1940, 1947, 1952-1953, 1956, 1961, 1964, 1966, 1971, 1976, 1981, 1982, 1986, 1991, 1997, 2001, 2006. Polk City Directories, Livonia, MI.