

March 30, 2007

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U.S. Army Corps of Engineers, New Orleans District
Hurricane Protection Contracting Division
Attn: Ms. Lee Walker
P.O. Box 60267
New Orleans, LA

Subject: Contract No. DACA45-03-D-0032 (ERS Contract)
Submittal of Phase I Hazardous Toxic or Radioactive Waste Environmental Site Assessment
Report, Revision 2
Federal Project Number: LPV 110, New Orleans East Levee – CSX Railroad Gate

Dear Ms. Walker:

Enclosed is the second revision of the Phase I Hazardous Toxic or Radioactive Waste (HTRW) Environmental Site Assessment (ESA) Report for Federal Levee Reach LPV 110, New Orleans East Levee – CSX Railroad Gate. We have included two hard copy reports and one electronic report.

This revision takes into account the comments provided by the USACE on the draft version of the report, provided to Earth Tech on February 26, 2007. These comments and our strategy for incorporating them into the updated document were discussed among Steve Johnson, Bill Bersson, and me on February 28, 2007 in New Orleans.

Please note that the Phase I HTRW ESA Report satisfies the SOW provided by USACE as follows.

USACE SOW TASK	PERTINENT SECTION IN REPORT
Task 1 Environmental Database Search	Section 5.0
Task 2 Site Inspection/Interviews	Sections 6.0 and 7.0
Task 3 Draft Report Preparation	Sections 6.0, 7.0, 8.0, 9.0, and 10.0
Task 4 Review Draft Phase I ESA Report	Not Applicable
Task 5 Final Report/Distribution and Formal Presentation	Not Applicable

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Earth Tech, Inc. appreciates the opportunity to provide services to the U.S. Army Corps of Engineers. If you have any questions or require further information, please call me at (850) 862-5191.

Sincerely,



Alec Macbeth
Project Manager

Enclosure: Phase I HTRW ESA Report, Revision 2, LPV 110, New Orleans East
Levee – CSX Railroad Gate

Phase I Hazardous Toxic or Radioactive Waste Environmental Site Assessment

Federal Levee Reach LPV 110, New Orleans East Levee – CSX Railroad Gate
New Orleans, Louisiana

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March 30, 2007

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1.0 SUMMARY

This Phase I Hazardous Toxic or Radioactive Waste (HTRW) Environmental Site Assessment (ESA) report for the Federal Levee Reach LPV 110 New Orleans East Levee –CSX Railroad Gate in New Orleans, Louisiana (the “Property”) was prepared by Earth Tech, Inc. (the Contractor) for the U.S. Army Corps of Engineers (USACE)-New Orleans District Hurricane Protection Office (HPO). This first section is intended as a general overview of the report, including the findings and opinions.

The term Hazardous Toxic or Radioactive Waste (HTRW) has the meaning in USACE Engineering Report ER 1165-2.132, “Hazardous Toxic or Radioactive Waste (HTRW) Guidance for Civil Works Projects” (USACE, 1992).

Federal Levee Reach LPV 110 represents the formal Property, as defined in American Society for Testing and Materials (ASTM) Standard E1527-05, for this Phase I HTRW ESA (ASTM, 2005). However, the USACE requested that the ESA include the entire area that falls within a 1,000-foot footprint extending from either side of the centerline of the levee. Therefore, the Contractor evaluated any residences, businesses, and the open area within this footprint extending from the levee crown. The Contractor drove and observed from roads all of the parcels (light industrial, commercial, and residential, if any) within the 1,000-foot footprint of Federal Levee Reach LPV 110. The parcels located contiguous to the 1,000-foot footprint are considered adjoining parcels. The various environmental database minimum search distances, as required in the USACE Scope of Services ([Appendix A](#)) and ASTM Standard Practice E1527-05, extended from the edge of the 1,000-foot footprint. The search distances are discussed further in Section 5.1. Four figures ([Figures B-1 through B-4](#)) that depict aspects of this report are included in [Appendix B](#).

The professional practices that the Contractor used to determine if any recognized environmental conditions (RECs) existed in connection with the Federal Levee Reach LPV 110 and its 1,000-foot footprint included visual inspections, interviews with selected individuals who might have knowledge of RECs, a review of readily available historical information such as aerial photographs, fire insurance maps, and topographic maps, a drive-by inspection of accessible adjacent parcels, a review of selected environmental records that were made available to the Contractor, and a review of a computer search of selected Federal and State environmental databases. These data were reviewed for indications of the presence of hazardous substances or petroleum products on the levee reach or nearby parcels from which those substances might migrate to the levee reach in other than vapor form.

In light of the objective of the environmental records review (to obtain and review records that would help identify RECs in connection with Federal Levee Reach LPV 110), in the professional opinion of the Contractor, no review of additional environmental record sources is required.

Federal Levee Reach LPV 110 New Orleans East Levee – CSX Railroad Gate is located south of U.S. Highway 90 where the CSX Railroad crosses over the levee in Orleans Parish, New Orleans, Louisiana. The reach is located in a remote area that is surrounded by salt marshes of the Bayou Sauvage Wildlife Refuge.

No obvious signs of major contamination were discerned during the inspection of Federal Levee Reach LPV 110. No known or suspected RECs, either historical or current, were observed on the Federal Levee Reach LPV 110 itself or within the 1,000-foot footprint.

The effects of Hurricane Katrina throw a wild card in identifying RECs. Anecdotal discussions describe potentially hazardous material being dislodged and moved about during the storm. Information obtained during this Phase I HTRW ESA indicates that any such unsecured containers were properly managed and transported off site.

Known or Suspect Recognized Environmental Conditions

No known or suspected RECs were identified either on the Federal Levee Reach LPV 110 itself, or within its 1,000-foot footprint.

Historical Known or Suspected Recognized Environmental Conditions

No historical known or historical suspected RECs were identified either on the Federal Levee Reach LPV 110 itself, or within its 1,000-foot footprint.

Known or Suspect De Minimis Environmental Conditions

No known or suspected de minimis environmental conditions were identified either on the Federal Levee Reach LPV 110 itself, or within its 1,000-foot footprint.

A diesel fuel AST located on a pumping station in the northern part of the 1,000-foot footprint could become an REC in the future if a leak were to occur.

Based upon all of the information obtained, the environmental professionals who conducted this ESA believe that no known or suspected RECs resulted in an impact to the soil or groundwater quality within the Federal Levee Reach LPV 110 itself. Therefore, the Contractor sees no need to collect soil or groundwater quality samples with regard the levee reconstruction efforts within the current levee footprint.

The Contractor would suggest, however, vigilance during any invasive or ground breaking activities for physical signs of contamination. Also, if any of the soil will be moved off site, the USACE is encouraged to follow appropriate characterization protocols.

If the USACE extends the footprint of the levee, no groundwater or soil sampling should need to be considered because no known RECs, suspected RECs, historical known RECs, or historical suspected RECs were identified during this Phase I HTRW ESA.

At the request of USACE-HPO, the Contractor has performed a Phase I HTRW ESA in accordance with the Scope of Services attached in [Appendix A](#) and in general conformance with the scope and limitations of ASTM Standard Practice E1527-05 of the Federal Levee Reach LPV 110. Any exceptions to, or deletions from, the ASTM Standard Practice are described in Chapters 2.0 and 11.0 of this report. This assessment has revealed no evidence of “recognized environmental conditions” (as that term is defined in ASTM Standard Practice E1527-05) in connection with the levee reach itself, or its 1,000-foot footprint.

2.0 INTRODUCTION

The USACE is rehabilitating and improving the flood protection system of southeastern Louisiana. As part of this work, Federal Levee Reach LPV 110 New Orleans East Levee – CSX Railroad Gate would be enlarged with compacted fill to authorized grade. The footprint of this enlarged levee reportedly would not exceed the limits of the existing right-of-way at this time. However, if this levee is eventually brought to the 100-year flood elevation, the footprint would likely increase outside of the existing right-of-way, by no more than 1,000 feet on either side of the levee crown. The location and current extent of Federal Levee Reach LPV 110 is shown in [Figures B-1 through B-3](#). (All figures referenced in this report are included in [Appendix B](#).)

This Phase I HTRW ESA report for the Federal Levee Reach LPV 110 New Orleans East Levee – CSX Railroad Gate in New Orleans, Louisiana (the “Property”) was prepared by the Contractor for USACE-New Orleans District Hurricane Protection Office (HPO), who is the “User” of this report, as that term is defined in ASTM Standard Practice E1527-05. In this report, the term User includes any legal counsel or other representative of the User.

As noted above, the Federal Levee Reach LPV 110 represents the formal Property, as defined in ASTM E1527-05. However, the USACE requested that the ESA include the entire area that falls within a 1,000-foot footprint extending from either side of the centerline of the levee. The extent of this 1,000-foot footprint is shown on [Figures B-2 and B-3](#). Therefore, the Contractor evaluated any residences, businesses, and open area within this footprint extending from the levee crown. The parcels located contiguous to the 1,000-foot footprint are considered adjoining parcels. The various environmental database minimum search distances, as required in the Scope of Services ([Appendix A](#)) and ASTM Standard Practice E1527-05, extended from the edge of the 1,000-foot footprint. The search distances are discussed further in Section 5.1.

The format of this report generally follows the recommendations in ASTM Standard Practice E1527-05. [Appendices A through G](#) include back up information and documentation for this report. The following definitions from that Standard are important for understanding this report. Terms in italics are defined in that Standard Practice.

- 1.1.1 *de minimis conditions* - conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.
- 3.2.39 *historical recognized environmental condition* - environmental condition which in the past would have been considered a *recognized environmental condition*, but which may or may not be considered a *recognized environmental condition* currently.
- 3.2.52 *material threat* - a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the *environmental professional*, is threatening and might result in impact to public health or the environment. An example might include an above ground storage tank system that contains a *hazardous substance* and which shows evidence of damage. The damage would represent a *material threat* if it is deemed serious enough that it may cause or contribute to tank integrity failure with a release of contents to the environment.

3.2.74 *recognized environmental conditions* - 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*. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not represent a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not *recognized environmental conditions*.

The term "recognized environmental condition" is not used in this Phase I HTRW ESA report in complete accordance with the ASTM standard, which notes that a recognized environmental condition is associated directly with the Property itself. The Property in this case is the Federal Levee Reach LPV 110 and does not include the entire area encompassed by the 1,000-foot footprint. After discussions with the USACE and senior technical personnel employed with the Contractor, the term "recognized environmental condition" is applied, where warranted, to all sites within the 1,000-foot footprint even though they may not affect the Federal Levee Reach LPV 110 itself.

The category "suspected recognized environmental condition" is also used in this report. Suspected recognized environmental conditions are those sites or parcels where there is a realistic (but not *likely*) potential that the site has been (or will be) impacted. Suspected RECs show no definitive evidence (visual, documentation) that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures, the ground, groundwater, or surface water. Rather, commonly, more information (for example sampling and analytical data) is needed to determine whether the potential condition is a REC.

This report is intended for use only as a complete document. It is based upon the Scope of Services ([Appendix A](#)) and is subject to the Limitations and Exceptions and other restrictions, defined herein. It has been prepared for the exclusive use of the USACE. No other person or organization is entitled to rely upon any part of it without the prior written consent of the Contractor. The USACE may release or authorize the release of all or part(s) of this report to third parties. However, if any third party uses or relies on this report without the express written permission of the Contractor, such third party agrees that it shall have no legal recourse against the Contractor or its parent or subsidiaries, and shall indemnify and defend them from and against all claims arising out of or in conjunction with such use or reliance.

2.1 Purpose

The Phase I HTRW ESA was performed to investigate the potential presence of HTRW in the vicinity of the proposed construction of Federal Levee Reach LPV 110 New Orleans East Levee – CSX Railroad Gate, to ensure that suitable and safe fill materials would be utilized for levee construction. The extents of LPV 110 and the 1,000-foot footprint described above are shown on [Figures B-2](#) and [B-3](#). This Phase I HTRW ESA was conducted in general compliance with the following documents to the extent feasible given the nature of the project:

- ASTM Standard E1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM, 2005);

- USACE Engineering Report ER 1165-2-132, "Hazardous, Toxic and Radioactive Waste Guidance for Civil Works Projects", (USACE, 1992); and
- USACE Engineering Report ER 405-1-12, *The Real Estate Handbook* (USACE, 2000).

The focus of the ESA was to review existing and past historical information regarding the Federal Levee Reach LPV 110, the 1,000-foot footprint, and the adjoining parcels. The ESA documents the current and historical uses of the assessment areas to determine the potential presence of any HTRW.

2.2 Detailed Scope of Services

The detailed Scope of Services provided by the USACE for this ESA, as well as the Contractor's proposal, are in [Appendix A](#). The standard professional practices that the Contractor conducted to determine if any RECs existed in connection with the Federal Levee Reach LPV 110 included, among other things, a visual inspection of the area, interviews with selected individuals who might have knowledge of its RECs, a review of readily available historical information such as aerial photographs and fire insurance maps that depict it, a drive-by inspection of accessible adjacent parcels, a review of selected environmental records that were made available to the Contractor, and a review of a computer search of selected Federal and State environmental databases for indications of the presence of hazardous substances or petroleum products on Federal Levee Reach LPV 110 or on nearby parcels from which those substances might migrate to the levee in other than vapor form.

In general, the Scope of Services has been completed in accordance with the scope and limitations of ASTM Standard Practice E1527-05, with the provision that any deviations from the ASTM Standard are discussed in Section 11.0.

2.3 Significant Assumptions

In preparing this report, the Contractor has relied upon certain verbal information and representations provided by government employees and others, information and documents provided by the owners and/or operators of nearby businesses, and a computer search of government databases by a firm whose business is to provide that service. Except as discussed, the Contractor relied upon that information and has not attempted to independently verify its accuracy or completeness. Except as noted in the following text, the Contractor has not recognized any inconsistencies or omissions that might call into question the validity of any of the information obtained. To the extent that the conclusions in this report are based in whole or in part on such information, they are contingent on its validity. The Contractor assumes no responsibility for any consequence arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to the Contractor.

2.4 Limitation and Exceptions

This report is limited to representations of identified RECs on Federal Levee Reach LPV 110, and the 1,000-foot footprint, and conditions of concern on adjoining parcels as they existed at the time of this ESA, and of the conclusions drawn based upon the information obtained and assumptions made during the assessment process. This ESA was restricted to the Scope of Services as defined herein. No representations or warranties are made concerning the nature or quality of the air, soil, water, building materials, or any other substance on or adjacent to the Property (including the potential for any substance to migrate into a structure), other than the visual observations and the representations by others as stated in this report. By definition, a Phase I HTRW ESA is not intended to be a definitive investigation of existing

or potential adverse environmental impacts, and thus it is possible that such an impact exists on Federal Levee Reach LPV 110 and the 1,000-foot footprint, but was not identified during the ESA. Conclusions in this report represent professional judgments based upon the information evaluated during the course of the assessment, not scientific certainties.

Within the limitations of the agreed-upon Scope of Services, this ESA has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using the degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, express or implied, is made.

2.5 Special Terms and Conditions

There were no special terms and conditions between the User and the Contractor, except as specified in the Scope of Services.

2.6 User Reliance

This report is intended for use only as the complete document. It is based upon the Scope of Services, and is subject to the Limitations and Exceptions and other restrictions, defined herein. It has been prepared for the exclusive use of USACE. No other person or organization is entitled to rely upon any part of it without the prior written consent of the Contractor. The USACE may release or authorize the release of all or part(s) of this report to third parties. However, if any third party uses or relies on this report without the express written permission of the Contractor, such third party agrees that it shall have no legal recourse against the Contractor or its parent or subsidiaries, and shall indemnify and defend them from and against all claims arising out of or in conjunction with such use or reliance.

3.0 PROPERTY DESCRIPTION

3.1 Location and Legal Description

The Property is Federal Levee Reach LPV 110 New Orleans East Levee—CSX Railroad Gate. It is a relatively short reach (100 feet long) and encompasses the CSX railroad crossing through the levee system (Figures B-1 through B-3). Federal Levee Reach 109 extends north from the crossing and Federal Levee Reach LPV 111 extends to the south. The northern terminus of Federal Levee Reach 110 is at latitude 30.05726 degrees north and longitude 89.8327 degrees west. Its southern terminus is at latitude 30.05687 degrees north and longitude 89.8327 degrees west.

The levee reach can be accessed from Interstate 10 by taking exit number 246 and traveling south on Interstate 510 approximately 2 miles to U.S. Highway 90 (Chef Menteur Highway). Turn east (left) on U.S. Highway 90 and continue approximately 5.5 miles to the crossing of Federal Levee Reach LPV 109 over U.S. Highway 90. (The levee access point at the U.S. Highway 90 crossing is restricted by a locked gate, which is managed by the Bayou Sauvage Wildlife Refuge.) Drive up onto the levee crown and travel south approximately 2 miles to the CSX crossing. Additional description of the physical characteristics of Federal Levee Reach LPV 110 is presented in Section 3.4.

3.2 Property and Vicinity General Characteristics

Federal Levee Reach LPV 110 extends approximately 100 feet. The area encompassing the levee reach and the 1,000-foot footprint is approximately 4.5 acres. The levee is bounded on both sides by salt marsh. The CSX Railroad, which trends eastward, cuts through the levee reach.

3.3 Current Use of the Property

Federal Levee Reach LPV 110 is used for flood control to protect the eastern side of New Orleans from the waters of Lake Borgne, an extension of the Gulf of Mexico.

3.4 Detailed Property Description

Federal Levee Reach LPV 110 is composed of a floodgate that is designed to slide over the CSX Railroad tracks during high waters. The floodgate is metal and approximately 4-feet high. It is located on the earthen berm of the levees. The elevation of the base of the floodgate is approximately 9 feet above MSL. The crown of the associated levees extending away from the gate is at approximately 14.5 feet above MSL (USACE, 1981). The levee is bounded on both sides by salt marsh.

3.5 Current Uses of Adjacent and Surrounding Parcels

The Property is bounded on the north by salt marsh and Federal Levee Reach LPV 109 (Figure B-2). There is a pumping station with an approximately 300-gallon diesel AST located on the west side of Federal Levee Reach 109 and within the 1,000-foot footprint of LPV 110 (Photograph 1 in Appendix C). The Property is bounded on both sides by salt marsh, and its southern end is bounded by Federal Levee Reach LPV 111. The CSX railroad runs through the floodgate of LPV 110.

No adjoining parcel was judged to have the potential for a significant adverse impact on the environmental condition of the Property.

No non-adjacent parcel was judged to have a realistic potential for a significant adverse impact on the environmental condition of Federal Levee Reach LPV 110.

4.0 USER-PROVIDED INFORMATION

4.1 Title Records

In accordance with the SOW ([Appendix A](#)), a title record search was not included in this Phase I HTRW ESA.

4.2 Environmental Liens or Activity Use Limitations

Representatives of the User reported no environmental liens, activity use limitations, or comparable encumbrances upon the Federal Levee Reach LPV 110 or parcels within the 1,000-foot footprint. The environmental database search did include a search for any environmental liens imposed by the LDEQ ([Appendix D-1](#)).

4.3 Specialized Knowledge

The User provided the Contractor with no specialized knowledge, such as previous assessments, soil or groundwater quality evaluations, or other investigations pertaining to the environmental conditions of the Federal Levee Reach 110 or the 1,000-foot footprint. The Contractor pursued this type of information through field visits, interviews, and evaluating other databases (e.g., those provided by the LDEQ).

4.4 Valuation Reduction for Environmental Issues

The User provided the Contractor no information regarding a reduction in the value of the Federal Levee Reach LPV 110 due to environmental issues.

4.5 Owner, Property Manager, and Occupant Information

According to the Orleans Levee District, Federal Levee Reach 110 was constructed by the USACE, and it is currently maintained by the Orleans Levee District (Gillen, 2006; [Appendix F](#)).

4.6 Reason for Performing the Phase I HTRW ESA

The Phase I HTRW ESA that resulted in this report was performed in contemplation of rehabilitating and improving the flood protection system of southeast Louisiana ([Appendix A](#)). Federal Levee Reach LPV 110 would reportedly be enlarged with compacted fill to authorized grade. The footprint of this enlarged levee would not exceed the limits of the existing right-of-way at this time; however, if this levee is eventually brought to the 100-year flood elevation, the footprint would likely increase outside of the existing right-of-way by not more than 1,000 feet on either side of the levee crown.

4.7 Other User Information

The User provided no other information material to this Phase I HTRW ESA.

5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

Government databases that identify sites of environmental concern were reviewed via a computerized search conducted by Environmental Data Resources, Inc. (EDR), a commercial database service, to determine if Federal Levee Reach LPV 110 was listed or if any listed sites were nearby. EDR provides a valuable service for firms conducting Phase I HTRW ESAs, because they are specialized in the environmental database search process. They provide a comprehensive search of numerous databases and a useable report in an efficient manner. EDR has represented that its procedures conform to, or exceed, the requirements of ASTM Standard Practice E1527-05. A list of all of the government records searched and the dates of the data obtained are shown in Section 5 (last section) of the EDR Report ([Appendix D-1](#)).

The report includes information about sites within one mile of the 1,000-foot footprint. Some sites in the databases do not have complete address information. In other cases, the algorithms used by the government to map the addresses do not recognize certain street addresses. Both of these types of sites are referred to as Orphan sites. They are in the vicinity of the Property, but not precisely locatable from the address information in the databases. The Contractor evaluated the information available for each Orphan site, and determined that none have the possibility of being within the minimum search distance (based on the associated database) of the 1,000-foot footprint.

Federal databases searched included, but were not limited to: NPL (National Priority List), PROPOSED NPL, DELISTED NPL, NPL Recovery (Federal Superfund Liens), CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System), CERC-NFRAP (CERCLIS No Further Remedial Action Planned), CORRACTS (Corrective Action Reports under RCRA), RCRA (Resource Conservation and Recovery Act Information), ERNS (Emergency Response Notification System), HMIRS (Hazardous Materials Information Reporting System), US BROWNFIELDS, CONSENT (Superfund/CERCLA Consent Decrees), ROD (Records of Decision for NPL sites), FINDS (Facility Index System), PADS (PCB Activity Database System), RAATS (RCRA Administrative Tracking System), TRIS (Toxic Chemical Release Inventory System), and TSCA (Toxic Substances Control Act).

State databases searched included, but were not limited to: LUST (Leaking Underground Storage Tanks), UST (Registered Underground Storage Tanks), SHWS (State Hazardous Waste Sites), SWF/LF (Solid Waste Disposal Facilities), SPILLS (Spills List), AST (Registered Aboveground Storage Tanks), Drycleaners, AULs (Activity and Use Limitations), and VRPS (Voluntary Remediation Program Sites).

Additional databases searched included Tribal Records for Indian Reservations, Indian USTs, and Indian LUSTs, as well as Manufactured Gas Plants.

As described above, the EDR Report presents all of the identified sites that fall within a 1-mile radius of the 1,000-foot footprint ([Appendix D-1](#)). The Contractor evaluated this information using the approximate minimum search distances for the researched databases in accordance with ASTM Standard Practice E1527-05 and USACE's Scope of Services ([Appendix A](#)). The databases searched and associated search distances included the following (all noted search radii are based on the edge of the 1,000-foot footprint):

- The National Priorities List (NPL; 1-mile radius);
- Delisted NPL (0.5-mile radius);

- The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS; 0.5-mile radius);
- The Comprehensive Environmental Response, Compensation, and Liability Information System No Further Remedial Action Planned Database (CERCLIS NFRAP; 0.5-mile radius);
- The Solid Waste Landfills/Facilities Database (0.5-mile radius);
- The Emergency Response Notification System (ERNS) and Hazardous Materials Incident Reporting System (0.25-mile radius);
- The Resource Conservation and Recovery Information System (RCRAInfo; 1-mile radius for treatment, storage or disposal (TSD) facilities and 0.25-mile radius for generators);
- Any state listing of registered and leaking underground storage tanks (0.25 and 0.5- mile radii, respectively);
- The Louisiana Inactive and Abandoned Sites List (1-mile radius); and,
- Louisiana Department of Natural Resources Oil and Gas Wells Database (1-mile radius).

No sites on the Federal Levee Reach LPV 110 itself, within the 1,000-foot footprint, or within the appropriate minimum search distances (based on associated database) were identified for any of the databases searched.

Other Lists of Sites of Concern

No additional concern was identified by a review of the database search report. The Property is not on any of the other lists searched. No other located site is identified as being near the Property and in a location that is, or might be, upgradient from it, and represent a realistic potential concern with respect to its environmental condition. Also, no other Orphan site was determined to actually be located within an applicable minimum search distance of the Property and potentially upgradient of it.

5.2 Additional Environmental Record Sources

In light of the objective of the records review (to obtain and review records that would help identify RECs in connection with the Property), in the professional opinion of Earth Tech no review of additional environmental record sources was required.

5.3 Physical Setting

According to geologic literature, the area of the ESA is underlain by soils deposited during a Mississippi deltaic sequence (Saucier, 1994). This sequence includes an interlayering of material of varying grain size (for example, clays to sands) and composition (for example, quartz, clay minerals, and organic matter) that affects the soil's hydraulic conductivity.

The shallow-most aquifer underlying the study area is the Alluvial Aquifer. This aquifer ranges from 20 to 500 feet thick and exhibits hydraulic conductivities ranging from 10 to 530 feet per day. The groundwater in the aquifer is hard to very hard, and has chloride concentrations from 7 to 300 milligrams per liter (mg/L) and dissolved solids of 300 to 1,100 mg/L. The groundwater is unsuitable for potable uses (Boniol and others, 1989).

The elevation of the terrain within and surrounding the study area is within a few feet of sea level. Much of the area is marsh and standing water is common. Therefore any changes in elevation are slight. Depth

to groundwater is anticipated to be within a few feet below ground surface. The direction of the shallow-most groundwater movement is anticipated to mimic the topography. But, since the topography is so gentle in the area, the hydraulic gradients and therefore the rate of the shallow groundwater movement are expected to be very low.

5.4 Historical Use Information

5.4.1 Aerial Photographs

Aerial photographs were reviewed for the years 1952, 1972, and 1985. These aerial photographs are in [Appendix D-2](#). Recent aerial photographs from 2006 were also reviewed. These photographs represent the base maps for [Figures B-2](#) and [B-4](#). The composite historical timeline in Section 5.5 contains a summary of the observations made from those aerial photographs and other historical sources.

5.4.2 Historical Fire Insurance Maps

After reviewing its files, EDR has certified that no historical fire insurance maps exist for Federal Levee Reach 110 and its 1,000-foot footprint.

5.4.3 Historical Topographic Maps

Historical topographic maps were obtained for the Federal Levee Reach LPV 110 for 1972, 1994, and 1998. These maps are shown in [Appendix D-3](#). The composite historical timeline in Section 5.5 contains a summary of the observations made from those historical topographic maps and other historical sources.

5.4.4 Historical City Directories

The Contractor obtained historical Polk City Directories at the New Orleans Public Library. The years 1956, 1964, 1979, 1985, 1991, 2002, and 2005 were reviewed. No businesses were identified within the 1,000-foot footprint of Federal Levee Reach LPV 110 that warranted concern. A complete set of the copied material obtained from the library is on file at the Contractor's Fort Walton Beach office and can be obtained upon request.

5.4.5 Additional Historical Sources

No additional historical sources were reviewed.

5.5 Composite Historical Timeline

The following discussion pertains to the levee reach, the land within the 1,000-foot footprint and the land adjacent to the footprint.

Year	Source	Discussion
1952	Aerial Photographs (1952-A and 1952-B in Appendix D-2)	The site currently occupied by Federal Levee Reach 110 is unimproved marshland with the exception of the CSX Railroad.
1972	Aerial Photograph (1972-A in Appendix D-2); and Historical Topographic Map (Appendix D-3)	Federal Levee Reach 110 has been constructed. With the exception of the CSX Railroad and Levee Reaches 109, 110 and 111, no development appears in the area.
circa 1981	USACE (1981)	LPV 110 Floodgate either constructed or improved.
1985	Aerial Photograph (1985-A through 1985-C in Appendix D-2)	Federal Levee Reach LPV 110 appears essentially as it does today, except for no sign of the Pump Station AST.
1998	Historical Topographic Map (Appendix D-3)	Map shows indications that the Pump Station AST is present in north part of LPV 110 1,000-foot footprint.
2005	various	Hurricane Katrina

Historical Summary:

A levee system has been in place east of New Orleans (in Orleans Parish) since the middle 1900s. The levee system near LPV 110 was in place by the early 1970s. The floodgate of LPV 110 was either improved or constructed around 1981 (USACE, 1981). Most of this levee is bordered by marshland on both sides. The only developed areas are in the community of Irish Bayou along Highway 11 north of the levee and the north side of Chef Menteur Highway from its intersection with Highway 11 to the east for approximately 1.5 miles. Development in both of these areas predated the earliest aerial photographs available and has continued to the present.

5.6 Historical Use Information on Adjacent Parcels

Historical uses of adjacent parcels are discussed in the Composite Historical Timeline, in Section 5.5 above.

6.0 RECONNAISSANCE

6.1 Methodology and Limiting Conditions

Mr. Jerry Murphy and Mr. Nathan Craig and conducted a visual reconnaissance of accessible parts of the Federal Levee Reach LPV 110, the 1,000-foot footprint, and the adjacent parcels on November 29, 2006 through December 4, 2006. One hundred percent of the Levee Reach was walked. Similarly, the adjacent parcels or terrain were observed.

Since the Property is surrounded by marshland with no commercial or industrial properties, no attempt was made to contact owners and request permission to access any facilities. Pertinent environmentally related observations and findings are described in the following sections.

6.2 General Property Setting

The height of the existing levee along LPV 110 is approximately 14.5 feet above MSL (USACE, 1981). Lake Borgne, which lies to the east and south, represents sea level. The terrain of the 1,000-foot footprint is mostly flat marshland on both sides of the levee, with a very gentle slope southward (Figure B-3).

There are unnamed canals and creeks on both sides of LPV 110. Lake Borgne is located east and south of LPV 110. Marshes are located east and west of the levee. Shallow groundwater is expected to be encountered within 0 to 5 feet below grade, based upon surface topography. The shallow groundwater flow directions are interpreted to mimic the surface topography, albeit slowly under a low hydraulic gradient.

The inferred direction of shallow groundwater flow in the area, based upon the Property inspection and an examination of the topographic map, is generally southward. Based upon the inferences regarding hydraulic conductivity and the local hydraulic gradient, shallow groundwater would be expected to move at a very slow rate.

6.3 Exterior Observations

The following discussion includes descriptions of facilities associated with this ESA that represented some potential of environmental risk.

During the site reconnaissance, the effects of Hurricane Katrina were commonly observed. The physical effects included trash, construction debris, and damaged structures (homes, apartment buildings, and commercial buildings). No obvious signs of environmental contamination directly attributable to the hurricane were observed. It appears, on the basis of anecdotal information, however, that the hurricane dislodged some or many containers of potentially hazardous material. Different sources of information (for example, anecdotal interviews and LDEQ data) support the conclusion that these containers were appropriately managed and disposed of by government personnel (mainly EPA contractors). The Contractor did not observe any such "unsecured" containers.

No obvious signs of major contamination were discerned during the inspection of Federal Levee Reach LPV 110.

There is a pumping station with an approximately 300-gallon diesel AST located within the northwestern part of the 1,000-foot footprint (Figure B-4; Photograph 1 in Appendix C). This AST is not bermed and is constructed on a covered metal platform extending over one of the salt marsh ponds. Its coordinates are latitude 30.05867 degrees north and longitude 89.83337 degrees west.

Stormwater runoff from the Property apparently is via sheet flow to either side of the levee. Standing (pooled) water was observed in numerous locations on both sides of the levee.

A railroad runs perpendicular to Federal Levee Reach LPV 110. This railroad is owned by CSX. According to CSX, no environmental concerns have been identified associated with railcar transportation activities (Boland, Kevin, 2006).

The Contractor also observed no transformers within the 1,000-foot footprint of Federal Levee Reach LPV 110.

6.4 Interior Observations

Federal Levee Reach LPV 110 has no interior conditions. No interiors of buildings associated with LPV 110 were evaluated as part of this ESA.

7.0 INTERVIEWS

The Contractor conducted interviews with as many pertinent individuals as possible during the site inspections, using a standard interview form/questionnaire. The interviewees' information was generally corroborated by other independent sources of information (for example, the EDR Report). Subsection 7.1 describes important interviews in detail. Records of all interviews conducted are presented in [Appendix F](#).

7.1 Interviews With Owners or Occupants

No industrial or commercial parcels were identified within the 1,000-foot footprint of LPV 110, therefore no interviews were conducted.

7.2 Interviews With Local Government Officials

Earth Tech interviewed employees with the New Orleans Fire Department ([Appendix F](#)). Captain Hellmers, with the New Orleans Fire Department HAZMAT unit (504-858-7005), had no recollection of any incident of an environmental nature specific to the Federal Levee Reach LPV 110. However, he did note that after Hurricane Katrina, several containers of potentially hazardous material were collected in the area. Also, a barge designed to contain solvents was found near LPV 110, south of Chef Menteur Highway. Captain Hellmers thought the container was empty and that EPA checked it out and removed it. Tom Papa, Chief of 4th District New Orleans Fire Department, was not aware of any potential environmental concerns along Federal Levee Reach LPV 110.

7.3 Interviews With Others

There were no businesses adjoining to or in the vicinity outside of the 1,000-foot footprint. Therefore, no interviews were conducted with facilities located outside of the 1,000-foot footprint.

8.0 FINDINGS

This section presents any of the various types of RECs (known, suspected, historical known, and historical suspected), as well as de minimis conditions, associated with Federal Levee Reach LPV 110 identified by the Contractor during this Phase I HTRW ESA. These findings are based on a comprehensive review of data available to the Contractor. These data include the environmental records review (Section 5.0), site reconnaissance observations (Section 6.0), and interviews with knowledgeable personnel (Section 7.0).

No known or suspected current or historical RECs were identified on Federal Levee Reach LPV 110 itself.

The effects of Hurricane Katrina throw a wild card in identifying RECs. Anecdotal discussions describe potentially hazardous material being dislodged and moved about during the storm. Information obtained during this ESA indicates that any such unsecured containers were properly managed and transported off site.

Although no obvious contamination was observed during the walkovers, the sediments in areas on both sides of the levee could have been impacted by the storm activities and its aftermath.

The following findings are based upon the information obtained during this ESA, and discussed in the previous sections of this report:

Known or Suspect Recognized Environmental Conditions

No known or suspected RECs were identified either on the Federal Levee Reach LPV 110 itself, or within its 1,000-foot footprint.

Historical Known or Suspected Recognized Environmental Conditions

No historical known or historical suspected RECs were identified either on the Federal Levee Reach LPV 110 itself, or within its 1,000-foot footprint.

Known or Suspect De Minimis Environmental Conditions

No known or suspected de minimis environmental conditions were identified either on the Federal Levee Reach LPV 110 itself, or within its 1,000-foot footprint.

Other Environmental Concerns

The diesel fuel AST on the nearby pumping station site could become an REC in the future if a leak were to occur.

9.0 OPINIONS

Based upon all of the information obtained, the environmental professionals who conducted this ESA believe that the known or suspected RECs identified in Section 8.0 have not resulted in an impact to the soil or groundwater quality within the Federal Levee Reach LPV 110 itself. Therefore, the Contractor sees no need to collect soil or groundwater quality samples with regard the levee reconstruction efforts within the current levee footprint. The Contractor would suggest, however, vigilance during any invasive or ground breaking activities for physical signs of contamination. Also, if any of the soil will be moved off site, the USACE is encouraged to follow appropriate characterization protocols.

If the USACE extends the footprint of the levee, no groundwater or soil sampling should need to be considered because no known RECs, suspected RECs, historical known RECs, or historical suspected RECs were identified during this Phase I HTRW ESA.

10.0 CONCLUSIONS

At the request of USACE-HPO, the Contractor has performed a Phase I HTRW ESA in accordance with the Scope of Services attached in [Appendix A](#) and in general conformance with the scope and limitations of ASTM Standard Practice E1527-05 of the Federal Levee Reach LPV 110. Any exceptions to, or deletions from, the ASTM Standard Practice are described in Chapters 2.0 and 11.0 of this report. This assessment has revealed no evidence of “recognized environmental conditions” (as that term is defined in ASTM Standard Practice E1527-05) in connection with the levee reach itself, or its 1,000-foot footprint.

11.0 DEVIATIONS/DATA GAPS

Following is a list of the data gaps and deviations from ASTM Standard Practice E1527-05 that occurred during the performance of this assessment:

11.1 Historical Data Gaps/Data Failure

The history of the Property was researched back to the first developed use (including agricultural use or incidence of import of fill material), or to approximately 1950.

No further historical data sources were evaluated, because: (1) they were not *reasonably ascertainable*, and/or (2) the assessor's experience indicates that additional available sources were not likely to be sufficiently useful, accurate, or complete in terms of satisfying the historical research objectives. Based on these two criteria, the following standard historical sources were not evaluated:

- Recorded Land Title Records
- Property Tax Files
- Building Department Records
- Zoning/Land Use Records
- Other Historical Sources, including miscellaneous maps, newspaper archives, community organizations, local libraries, or historical societies.

11.2 Other Deviations/Data Gaps

No interviews were conducted with business operators outside of the 1,000-foot footprint. Such interviews are not required by ASTM Standard E1527-05, and no businesses were observed located near the 1,000-foot footprint. Therefore, the lack of these interviews is not considered a data gap.

No other deviation or data gap was identified that was deemed material to this assessment.

12.0 ADDITIONAL SERVICES

No additional services were requested to be included in this Phase I HTRW ESA.

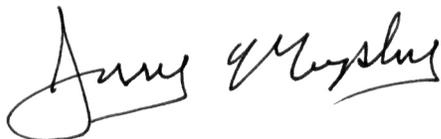
13.0 REFERENCES

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- U.S. Army Corps of Engineers, *Hazardous, Toxic, and Radioactive Waste Guidance for Civil Works Projects*, ER 1165-2-132, June 26, 1992.
- U.S. Army Corps of Engineers, *The Real Estate Handbook*, ER 405-1-12, May 15, 2000.

14.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONALS

Following are the signatures of the environmental professionals who conducted this Phase I HTRW ESA and primarily prepared this report, and who reviewed it.

Prepared by:



Jerry Murphy
Environmental Professional

Reviewed by:



Stuart I. Rixman
Manager, EHS Services
Environmental Professional

15.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

The environmental professionals, whose signatures are shown in Section 14.0, declare that, to the best of their professional knowledge and belief, they meet the definition of Environmental Professional as defined in paragraph 312.10 of 40 Code of Federal Regulations (CFR) 312. They have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property (that is the Federal Levee Reach LPV 110). They have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Resumes of the environmental professionals named in Chapter 14.0 above are in [Appendix G](#).

16.0 APPENDICES

The remainder of this report consists of the appendices that are listed in the Table of Contents.