FINAL

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Elmwood Pump Station
Jefferson Parish, Louisiana

April 2007

Submitted to:
U.S. Army Corps of Engineers. New Orleans District
Hurricane Protection Office
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New Orleans, LA 70118

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Jefferson Parish, Louisiana

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) report was prepared to support the U.S. Army Corps of Engineers, New Orleans District (hereafter referred to as the User) construction of infrastructure and improvements to the Elmwood Pump Station property (hereafter referred to as the subject property), owned by Jefferson Parish, Louisiana. The 5.8-acre parcel is located at the north end of the Elmwood Canal adjacent to Lake Ponchartrain, at 5400 Caryota Drive, Metairie, Louisiana. The subject property is currently a developed site with an established drainage pump station and storage facilities.

This report was prepared and the site reconnaissance was conducted according to the American Society for Testing and Materials (ASTM) guidelines (ASTM E1527-05), which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601) and petroleum products.

According to information gathered from document searches, interviews, and the site reconnaissance, Gulf South Research Corporation (GSRC) found no *recognized environmental conditions* related to operations of the pump station facility that may affect the subject property.

SIGNIFICANT ASSUMPTIONS

No significant assumptions were made regarding this assessment.

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

By contract agreement with the User, no title search or search of recorded property documents was conducted as part of this assessment.

USER RELIANCE

This report has been prepared by GSRC for the User. It is intended for the sole use by the User, and no other person or entity may use or rely on any such report for any purpose.

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1.0 PURPOSE OF THE PHASE I ENVIRONMENTAL SITE ASSESSMENT

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the processes described herein, *recognized environmental conditions* in connection with the subject property and to provide an opinion on: (1) indications that petroleum products or hazardous or toxic materials and/or waste exist, or have existed, on or adjacent to the subject property that could potentially have an adverse impact; (2) indications of possible contamination, based upon observable conditions and readily available and reviewed public records or information; (3) the possibility that violations of current environmental regulations have occurred, or are occurring, on the subject property; (4) the potential for spilled, leaked, or improperly handled hazardous substances or petroleum products to migrate to or from the subject property; and (5) the existence of unsafe or unhealthful conditions on the subject property.

1.1 BOUNDARIES OF THE PROPERTY AND SURVEY AREA

The subject property is located in Jefferson Parish at 5400 Caryota Drive, Metairie, Louisiana adjacent to Lake Ponchartrain, as shown in Figures 2 and 3. A site plan was provided by the Jefferson Parish Department of Drainage. Global Positioning System (GPS) coordinates were taken in the field at the presumed property boundaries for comparison with the site plan and to geo-reference the site on historic maps and aerial photographs.

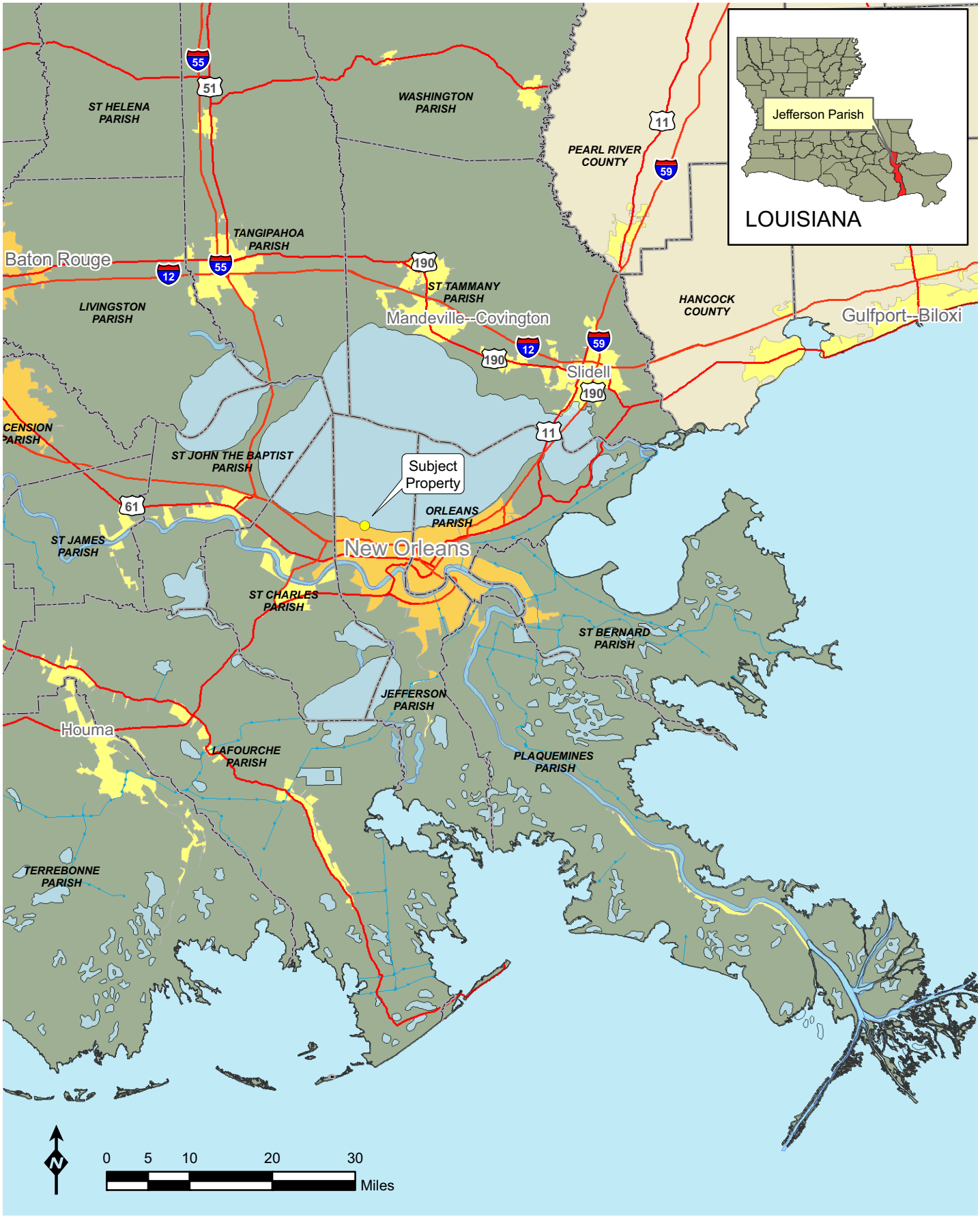

Figure 1: Vicinity Map

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Figure 2: Elmwood Pump Station Location

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Figure 3: Elmwood Pump Station Area

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2.0 SURVEY METHODOLOGY

2.1 APPROACH AND RATIONALE

This report was produced in accordance with the following:

> "The ASTM guidelines (ASTM E1527-05) which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the CERCLA (42 USC 9601) and petroleum products. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability; that is, the practice that constitutes all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice."

GSRC's scope of services for this project included four major components: (1) Federal, state, and local environmental records review, including a review of historical and physical setting records; (2) a site reconnaissance to search for visible indications of impacts or potential impacts to the environment or human health and safety; (3) interviews with key site personnel and local government officials; and (4) the preparation of this report. Following ASTM guidelines, the review of individual component items is subject to the "reasonable ascertainability" of that item.

The conditions disclosed by this investigation have been separated into the following categories of environmental conditions:

- *Recognized environmental condition* – A recognized environmental condition is defined in ASTM Practice E1527-05 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicated 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."
- *Historical recognized environmental condition* – A historical recognized environmental condition is defined in ASTM Practice E1527-05 as an "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. The final decision rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the property. If a past release of any hazardous substances or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by the

responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered a historical recognized environmental condition."

- *De minimis condition* – A *de minimis condition* is defined in ASTM Practice E1527-05 as 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."

The subject property parcel was accessible by vehicle and by foot. The site reconnaissance consisted of a thorough walk-through of the subject property, and the objective of the site reconnaissance was to obtain information indicating the likelihood of identifying any *recognized environmental conditions* in connection with the subject property. The term is not intended to include *de minimis conditions*. Observations were mainly focused on the subject property and any structures located on the subject property to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles.

2.2 USER PROVIDED INFORMATION

2.2.1 Title Records

No title records were provided by the User. Past ownership of the subject property was verified by interviews with the property owner's representative.

2.2.2 Environmental Liens or Activity and Use Limitations

No environmental liens or activity and use limitations were reported by the User. No environmental liens or activity and use limitations were reported by the subject property owner. Since there have been no prior owners of the property, the current owner's statement is considered conclusive.

2.2.3 Specialized Knowledge

Historical and current knowledge of the subject property was provided by interviews with the subject property owner's representative.

2.2.4 Valuation Reduction for Environmental Issues

No valuation reduction for environmental issues was reported by the User or the subject property owner. Since the subject property has been owned by the current owner since prior to

the first development of the property, and no sale of the property is pending, valuation reductions do not apply in this case.

2.3 LIMITATIONS AND EXCEPTIONS

The only limitation or exception made to the ASTM Practice E1527-05 was the lack of title records search or recorded document search for the subject property by contract agreement with the User. Interviews with the subject property owner and other credible historic information were used to verify the past ownership of the property and the presence or absence of use limitations on the property.

2.4 DESCRIPTION OF DOCUMENTS REVIEWED

Federal and State Environmental Databases

GSRC contracted Environmental Data Resources (EDR) to search Federal and state environmental databases that track activities associated with hazardous waste and incidents that have resulted in major environmental impairment. These databases are prepared and maintained by various Federal and state environmental agencies such as the U.S. Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ). The minimum appropriate search distance was 1 mile from the subject property's boundary. The EDR report showing all information pertaining to the database searches is presented in Volume II (D). A summary listing of the Federal and state databases searched can be found on pages 1 and 2 of the Executive Summary in the EDR report in Volume II (D). Descriptions of the type and currency of data in those databases can be found on pages GR-1 through GR-14 of the EDR report.

GSRC conducted searches on the LDEQ website and EPA databases via the Internet such as Enforcement and Compliance History Online (ECHO) and Envirofacts Warehouse. No information regarding additional environmental concerns, other than those reported by EDR, within or in the vicinity of the subject property was found in the Federal or state databases (LDEQ 2007 and EPA 2007).

The EDR report indicated that no sites listed in any of the environmental databases for hazardous materials or waste were located within the appropriate search distance from the subject property.

EDR reported four sites/facilities that could not be accurately located and mapped (orphan sites) in the vicinity of the subject property. Ground reconnaissance revealed that none of the orphan sites is located within the minimum appropriate search radius of the subject property that may result in a business environmental risk to the subject property.

Sanborn Insurance Maps

No insurance map coverage was available for the subject property area.

City Directory Abstracts

The Polk's City Directory indicated that addresses on Caryota Drive first appeared in 1980, and all subsequent addresses were listed as residences.

Historical Maps/Aerial Photographs

Historical topographic maps and aerial photographs provided by the User were used for this report, since they provided the most comprehensive coverage of the subject property. Historical quadrangle maps were available for years spanning 1936 to 1992. Historic aerial photographs were available from 1947 to 2005. These maps and photographs typically show any development or habitat changes over time. The historical topographic quadrangles and aerial photographs reviewed by GSRC are listed in Table 1 and are included in Appendix A.

2.5 SUBJECT PROPERTY INSPECTIONS/OBSERVATIONS

Photographs of the subject property parcels are presented in Appendix B, and the locations of photographs are shown in Figure 4. A site plan for the subject property is shown on Figure 5. A site reconnaissance was conducted on March 7, 2007 by Denise Ford and Greg Lacy. The focus of the effort was to investigate the subject property for evidence of potential hazardous or toxic substances, or the presence of potential sources for environmental impacts, such as drums, petroleum products and underground storage tanks (USTs). The subject property was accessible by foot and by vehicle, and was visually inspected for any *recognized environmental*

conditions. The subject property is currently being used for an active drainage pumping station by Jefferson Parish.

Table 1. Historical Topographic Quadrangles/Aerial Photographs Reviewed

DATE	QUADRANGLE/PHOTOGRAPH NAME	SCALE
1936	Spanish Fort, LA 15-Minute Quadrangle	1:62,500
1938	Indian Beach, LA 7.5-Minute Quadrangle	1:24,000
1947	Aerial Photograph	---
1952	Indian Beach, LA 7.5-Minute Quadrangle	1:24,000
1953	Spanish Fort, LA 7.5-Minute Quadrangle	1:24,000
1957	Aerial Photograph	---
1964	Aerial Photograph	---
1965	Indian Beach, LA 7.5-Minute Quadrangle	1:24,000
1967	Aerial Photograph	---
1967	Spanish Fort, LA 7.5-Minute Quadrangle	1:24,000
1970	Aerial Photograph	---
1981	Aerial Photograph	---
1985	Aerial Photograph	---
1992	Indian Beach, LA 7.5-Minute Quadrangle	1:24,000
1998	USGS DOQQ Aerial Photograph	1:24,000
2004	USGS DOQQ Aerial Photograph	1:24,000
2005	USGS DOQQ Aerial Photograph	1:24,000

Sources: U.S. Geological Survey, U. S. Army Corps of Engineers

The subject property consists of approximately 5.8 acres, as defined by a GPS survey of the presumed property boundaries in the field. There is a pump station structure on the property, a cell phone tower and generator, and a temporary storage container (Connex box) (Photograph 4, Appendix B). According to the operator of the station, the container contains spare parts and equipment. The ground is relatively flat terrain covered with either gravel/shell, grass or concrete. All of the property appears to have been previously disturbed by construction or grading.

The main pump station facility is located at the north end of the Elmwood Canal, and it discharges into the Lake Ponchartrain on the opposite side of the levee. The subject property is bordered on the south, east and west by residential subdivisions.

All of the new and used oil on the site is kept under cover in 55-gallon drums in the pump station building (Photograph 11, Appendix B), and the drums are recycled by a licensed transporter. No containers of hazardous materials were observed open or exposed to weather conditions on

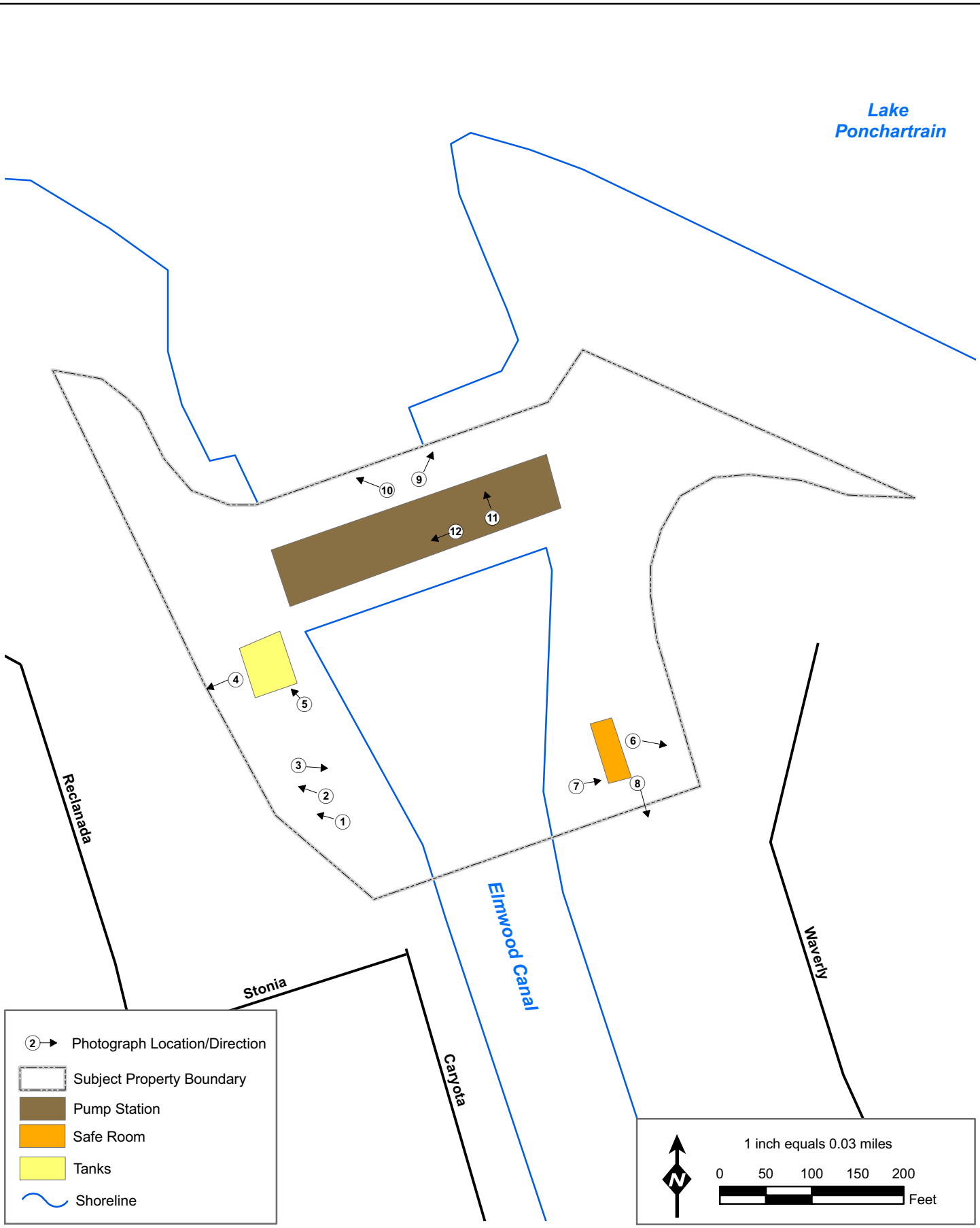

Figure 4: Survey Map of Elmwood Pump Station

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March 2007

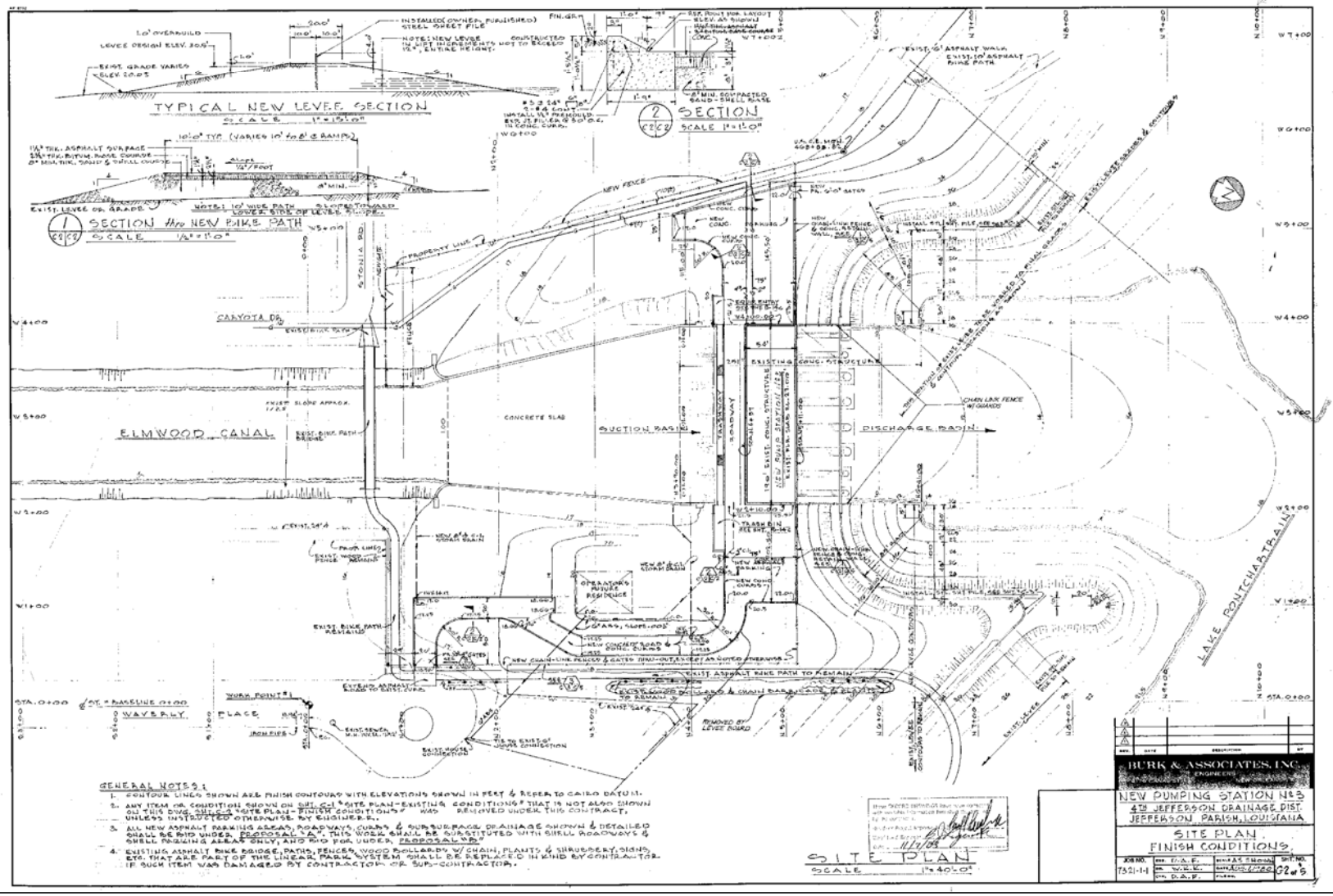

FIgure 5: Elmwood Pump Station Site Plan

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the property. There is a current Spill Prevention Control and Countermeasures (SPCC) plan kept on site, and a spill containment and cleanup kit is also stored on site.

Diesel fuel storage for the station pump engines is contained in three horizontal storage tanks with a capacity of 16,000 gallons (Photograph 5, Appendix B), and the tanks have approved spill containment basin, as defined in the SPCC plan. Four diesel day tanks with combined capacity of 2,000 gallons are located inside the pump building, and two 1000-gallon tanks are located on the pump house deck for the generators.

The pump station is currently on city water service for potable water, and waste water and sewage are routed to the parish sewage system for treatment. There is a water well on the property, and it is used for emergency purposes for cooling water for the pump engines.

Pole-mounted transformers (Photograph 2, Appendix B) are located on the subject property, but there are no PCBs in the transformers.

A cell tower and generator are located on the subject property, fueled by two propane gas tanks (Photograph 3, Appendix B).

A storm safe room for protection of pump operators during hurricanes on the property is fueled by two diesel tanks located on the ground under the safe room (Photograph 7, Appendix B). There is no containment around the two tanks under the safe room.

2.6 PERSONAL INTERVIEWS

Pump Stations Superintendent

On March 7, 2007, GSRC interviewed the superintendent for all of the east bank pump stations, Mr. Manuel Aspuria, who has been with the Jefferson Parish Department of Drainage for approximately 20 years. He stated that the east bank stations were built between 1983 and 1985. He stated that there had been no oil or fuel spills on the Elmwood property since he has been employed there. The station does not keep hazardous materials on site, other than maintenance paint in 5-gallon buckets or 1-gallon cans for the equipment. Used oil is recycled to waste drums, which are kept inside the station buildings, and then is disposed of by a licensed transporter. The transformers on the site are used to power the electric equipment at

the station, and are owned and maintained by the local power company. All of the transformers are fairly new, and therefore do not contain PCBs. SPCC plans are kept on site for all pump stations, as well as spill containment and cleanup kits. All of the east bank pump stations were constructed on undeveloped natural ground, and there are no use limitations or environmental restrictions on any of the properties.

Other Interviews

Because other historical data and information sources indicated no prior use other than the current use and no other ownership prior to the current owner, and no indications of recognized environmental conditions were identified from other reliable sources, no further interviews of local officials were deemed necessary to determine the existence of recognized environmental conditions on the subject property. State agency information requests regarding individual properties are typically referred to the state database for information, and that database was consulted.

3.0 FINDINGS FOR SUBJECT PROPERTY

3.1 HISTORIC USE

The documents reviewed by GSRC to determine historical land uses and potential environmental conditions associated with those uses regarding the subject property and surrounding areas are described in the paragraphs below.

Historic Topographic Quadrangles and Aerial Photographs

Historic topographic maps dated from 1936 to 1992 and aerial photographs dated from 1947 to 2005 (Appendix A) were inspected to identify structures and development on the subject property and surrounding properties. The first indication of development of the area around the subject property appeared on the 1947 aerial photograph in the form of two small structures that appear to be a house and a shed south of the subject property. There were no roads visible in the 1947 aerial photograph, but the area appears to be flooded.

The 1952 topographic map indicated the Pump Station No. 3 was located on the subject property. No other structures were indicated and no roads were present. The 1953 topographic map also indicated the pump station on the subject property.

The 1957 aerial photograph showed the pump station on the subject property in its approximate current location. The 1964 aerial photograph showed no change from 1957. The 1965 topographic map showed the pump station in its current location, and Elmwood Drive extended to the station as an improved dirt road. A beach club was indicated approximately 1,000 feet east of the subject property.

The 1967 aerial photograph showed the same pump station configuration as in 1957. The 1967 topographic map was of a small scale, and did not show much detail around the subject property. The 1970 aerial photograph showed much the same conditions as the 1967 photograph, but numerous vehicles were noted in the field located west and south of the pump station.

The 1981 aerial photograph showed the pump station in its current expanded configuration with all existing roads shown in the photograph. The residential neighborhoods around the station

were visible, and the old pump station was shown south of the new pump station. The only change indicated in the 1985 aerial photograph was the removal of the old pump station structures.

The 1992 topographic map showed all structures, streets and buildings in their current location and condition. The 1998 aerial photograph showed the same conditions as in 1992. In the 2004 and 2005 aerial photographs, the only change noted was the addition of the three diesel storage tanks in their present location.

No indications of *recognized environmental conditions* were noted in the historical topographic maps or aerial photographs.

3.2 CURRENT USE

Environmental Setting

The subject property is located at 5400 Caryota Drive, at the north end of the Elmwood Canal. The entire property appears to be disturbed, and the ground cover consists of maintained turf grass and shell/gravel surfaces. All of the adjacent waterways (canals) inside the levee appear manmade. The area around the subject property is developed residential subdivisions. The land surface is generally flat, with a slight manmade slope to the south on the property. Adjacent property to the north across the levee is Lake Ponchartrain.

According to the current topographic map, the elevation of the subject property is less than 5 feet above mean sea level, and the soil component within the subject property is the Kenner Muck, as indicated on the NRCS soil map for the area. This soil consists of poorly-drained mud that has low infiltration rates and is generally saturated to the soil surface in wetlands (NRCS 2007). The subject property has been extensively filled with other soil and materials, so the indicated soil component is no longer valid. The topography of the subject property generally slopes toward the south, but is relatively flat. Because no recognized environmental conditions were identified on or adjacent to the subject property, an analysis of the geology and hydrology of the site is not warranted.

3.3 HAZARDOUS MATERIALS/WASTES

No hazardous wastes were observed on the subject property. Hazardous materials, including paints, solvents and lubricating oil are stored under cover in the pump station building.

3.4 SOLID WASTE

No solid waste, other than miscellaneous trash was observed on the subject property.

3.5 OTHER ENVIRONMENTAL CONCERNS

According to the EDR report and from the search of Federal and state databases no environmental concerns for the following substances were within the appropriate search radii of the subject property:

- Oil/Water Separators
- Medical Biohazard Waste
- Ordnance
- Radioactive Wastes/Radon
- Wastewater Treatment, Collection, and Discharge
- Asbestos
- Transformers/Polychlorinated Biphenyls (PCBs)
- Lead-based Paint

Transformers with no PCB content per owner interviews were observed on a concrete pad on the subject property. They appeared to be in good working condition with no visible leaks.

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4.0 FINDINGS FOR ADJACENT PROPERTIES

4.1 LAND USES

GSRC inspected adjacent areas to the subject property with efforts concentrated on observing existing *recognized environmental conditions* with the potential to affect the subject property.

Adjacent property to the south, west and east is characterized as urban developed residential. Adjacent property to the north is Lake Ponchartrain. No *recognized environmental conditions* were observed on any adjacent properties.

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5.0 APPLICABLE REGULATORY COMPLIANCE ISSUES

5.1 LIST OF COMPLIANCE ISSUES AND CORRECTIVE ACTIONS

According to the EDR report (Volume II, Section D) and information gathered from Internet searches, there are no outstanding violations or compliance issues regarding facilities/sites within the search radius surrounding the subject property.

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6.0 OPINIONS & CONCLUSIONS

We have performed a Phase I *Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E1527-05 of the subject property. Any exceptions to, or deletions from, this practice are described in Section 7 of this report. This assessment revealed no evidence of *recognized environmental conditions* in connection with the subject property. The EDR report and searches from Federal and state databases yielded no information regarding other environmental conditions on or within the vicinity of the subject property. In addition, none of the orphan sites/facilities listed in the EDR report are located within an appropriate search distance from the subject property to constitute a business environmental risk.

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7.0 DEVIATIONS

No deletions or deviations from ASTM Practice E1527-05 were noted. The lack of a search for use limitations or environmental liens does not affect the subject property, since all indications from other reliable historic sources are that the property was undeveloped prior to construction of the current pump station on the property, and there have been no owners other than the current owner.

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8.0 RECOMMENDATIONS

No *recognized environmental conditions* were indicated on the subject property that would require further environmental studies or assessments.

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9.0 CERTIFICATIONS

The opinions and conclusions set forth in this report, either expressed or implied, are based solely upon the work and information described herein. No soil, water, or air sampling and analysis were conducted for the subject property; therefore, no statement can be made as to their actual quality. Comments regarding the site reconnaissance and records research results are limited strictly to field observations and the actual records that were reviewed by GSRC. Any opinions concerning the likelihood that the subject property contains toxic or hazardous waste materials are intended solely as a probabilistic evaluation based upon such information. No warranty or guarantee is made or intended. Should any higher level of confidence be desired, physical sampling and laboratory analysis (Phase II of an ESA) would be necessary.

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all of the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Stephen Oivanki
Project Manager
GSRC

Signature 
Date April 23, 2007

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10.0 REFERENCES

EDR 2007, P.S. #3 Elmwood, 5400 Caryota Drive, Metairie, LA, EDR Radius Map with GeoCheck, I.N. 01870098.26r, March 5, 2007

Environmental Protection Agency (EPA). 2007. Enforcement and Compliance History Online: http://www.epa.gov/echo/> ,and Envirofacts Data Warehouse: http://www.epa.gov/enviro/index_java.html

Louisiana Department of Environmental Quality (LDEQ). 2007. Enforcement Actions. October 2003 to March 2006. http://www.deq.louisiana.gov/portal/tabid/225/Default.aspx

Natural Resource Conservation Service (NRCS) Web Soil Survey 2007, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Army Corps of Engineers, New Orleans Division (USACE) 1947 aerial photograph

USACE 1957, aerial photograph

USACE 1964, aerial photograph

USACE 1967, aerial photograph

USACE 1970, aerial photograph

USACE 1981, aerial photograph

USACE 1985, aerial photograph

U.S. Geological Survey (USGS) 1936, Spanish Fort, Louisiana 15-minute Quadrangle

USGS 1938, Indian Beach, Louisiana 7.5-minute Quadrangle

USGS 1952, Indian Beach, Louisiana 7.5-minute Quadrangle

USGS 1953, Spanish Fort, Louisiana 7.5minute Quadrangle

USGS 1965, Indian Beach, Louisiana 7.5-minute Quadrangle

USGS 1967, Spanish Fort, Louisiana 7.5minute Quadrangle

USGS 1992, Indian Beach, Louisiana 7.5-minute Quadrangle

USGS 1998, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2004, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2005, DOQQ Aerial Photograph, 7.5 minute Quadrangle

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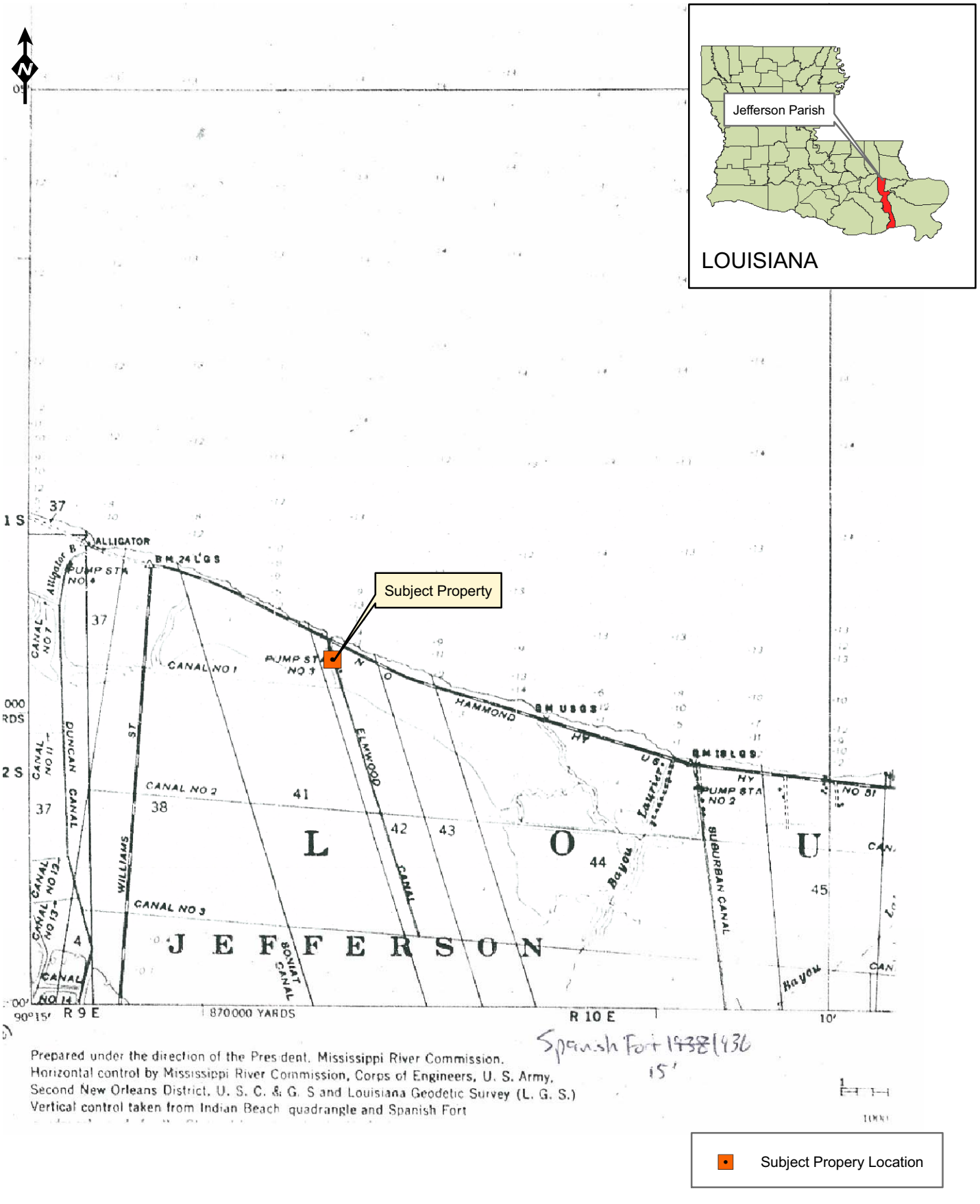
APPENDIX A
HISTORICAL TOPOGRAPHICAL MAPS AND AERIAL PHOTOGRAPHS



Prepared under the direction of the Pres dent. Mississippi River Commission.
Horizontal control by Mississippi River Commission, Corps of Engineers, U. S. Army,
Second New Orleans District, U. S. C. & G. S and Louisiana Geodetic Survey (L. G. S.)
Vertical control taken from Indian Beach quadrangle and Spanish Fort

Spanish Fort 1938/1936
15'

Elmwood Pump Station
1936 Spanish Fort, LA 15 minute USGS Topographic Quadrangle

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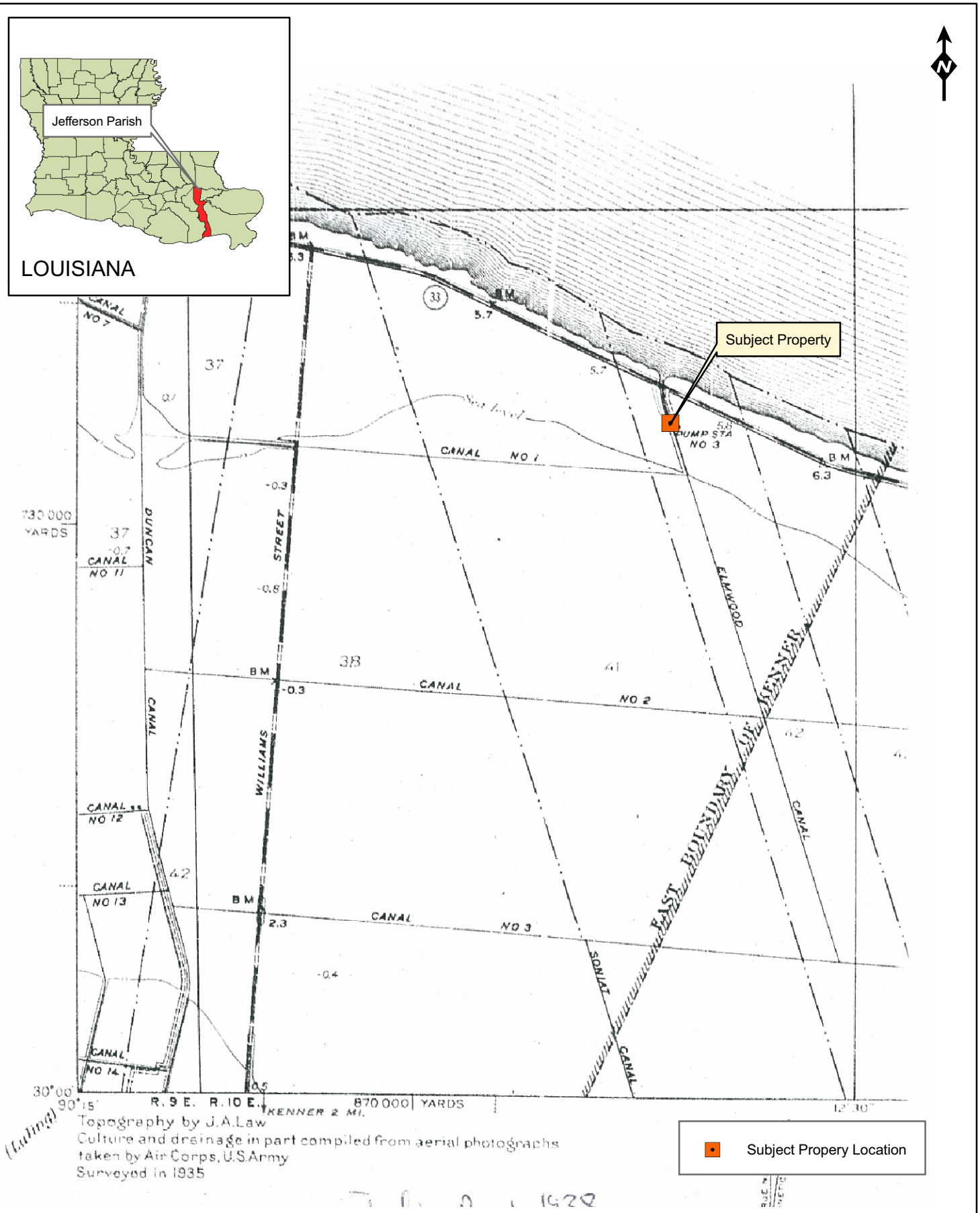

Elmwood Pump Station
1938 Indian Beach, LA 7.5 minute USGS Topographic Quadrangle

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Elmwood Pump Station
1947 Aerial Photography

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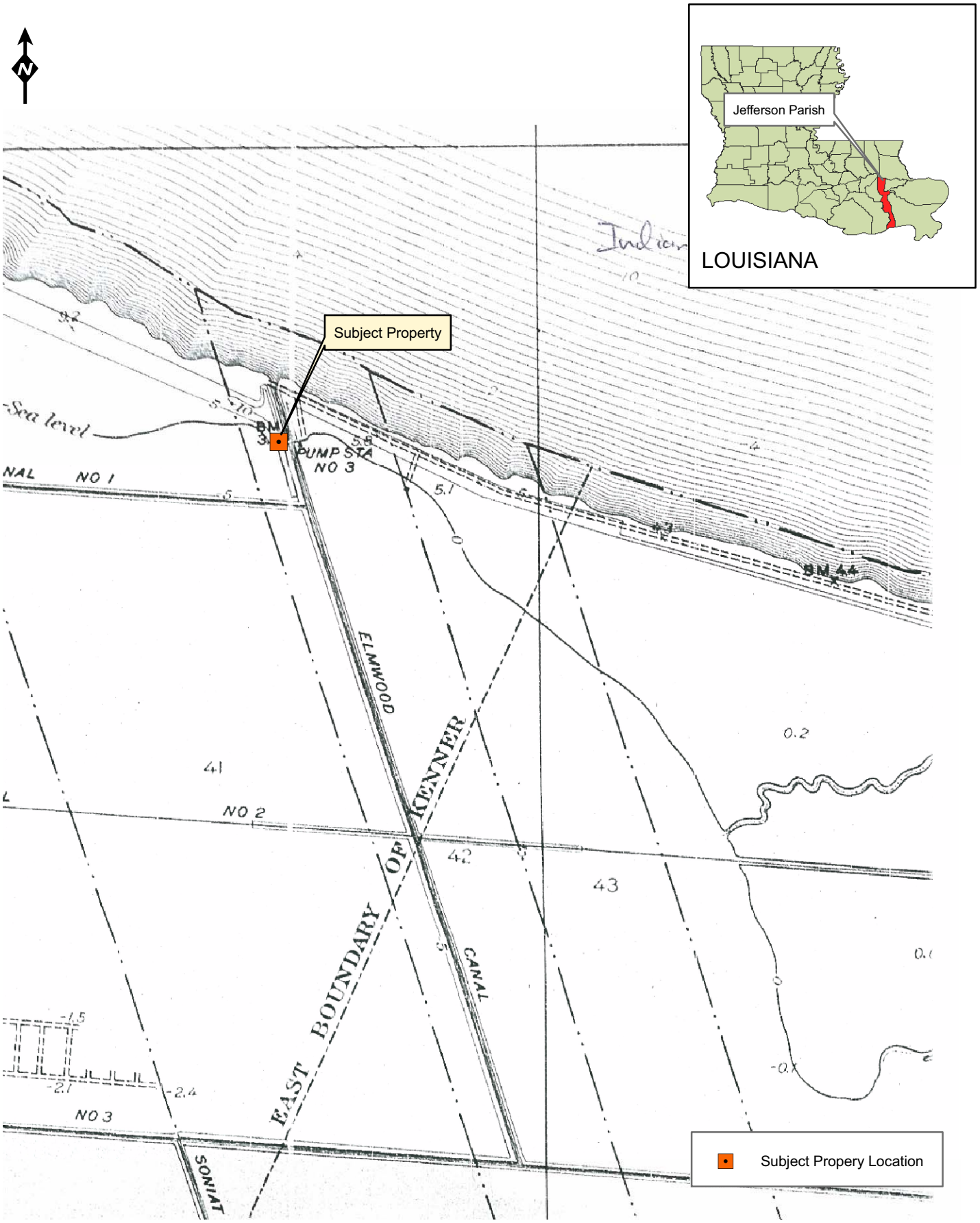

Elmwood Pump Station
1952 Indian Beach, LA 7.5 minute USGS Topographic Quadrangle

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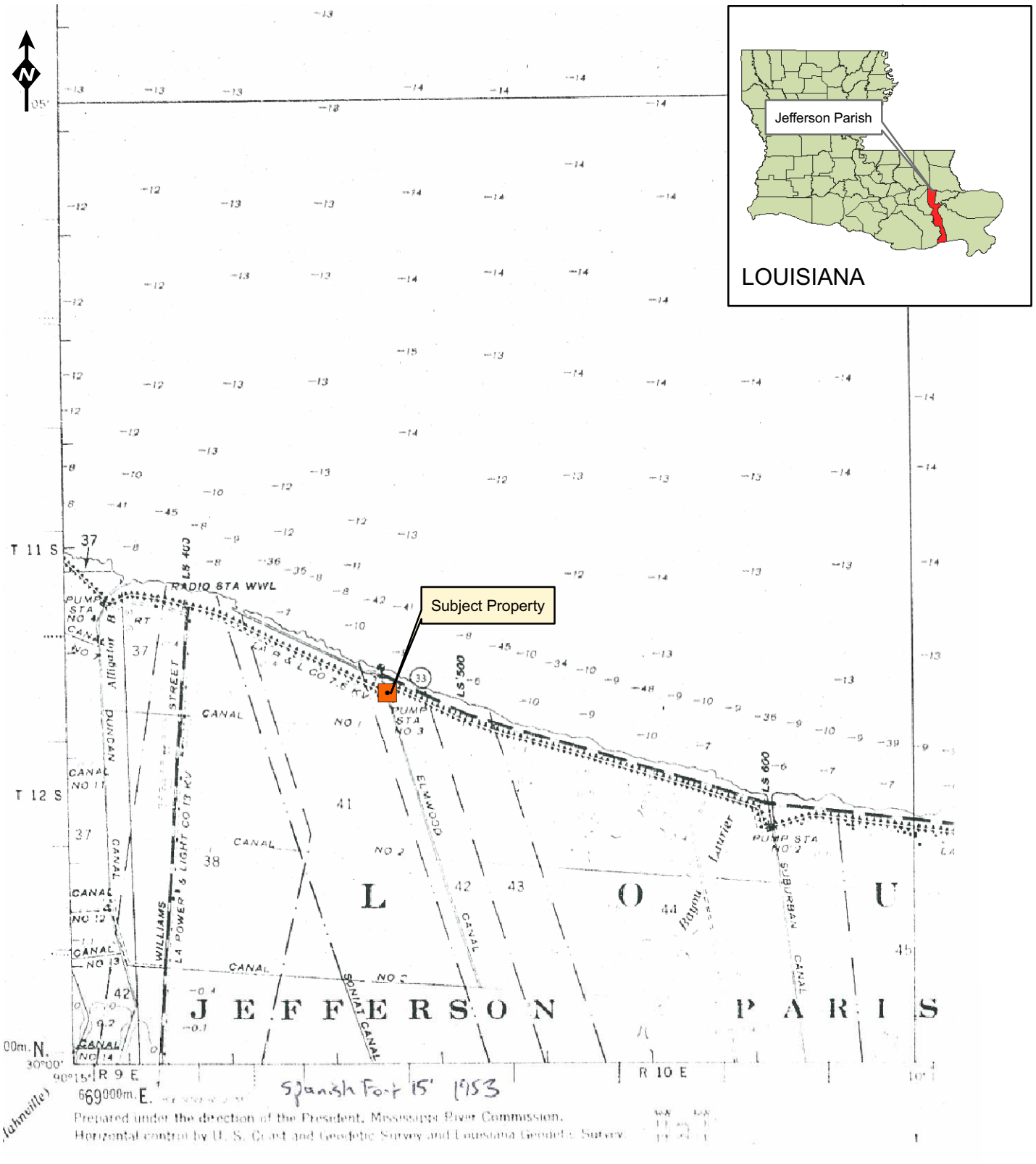

Elmwood Pump Station
1953 Spanish Fort, LA 15 minute USGS Topographic Quadrangle

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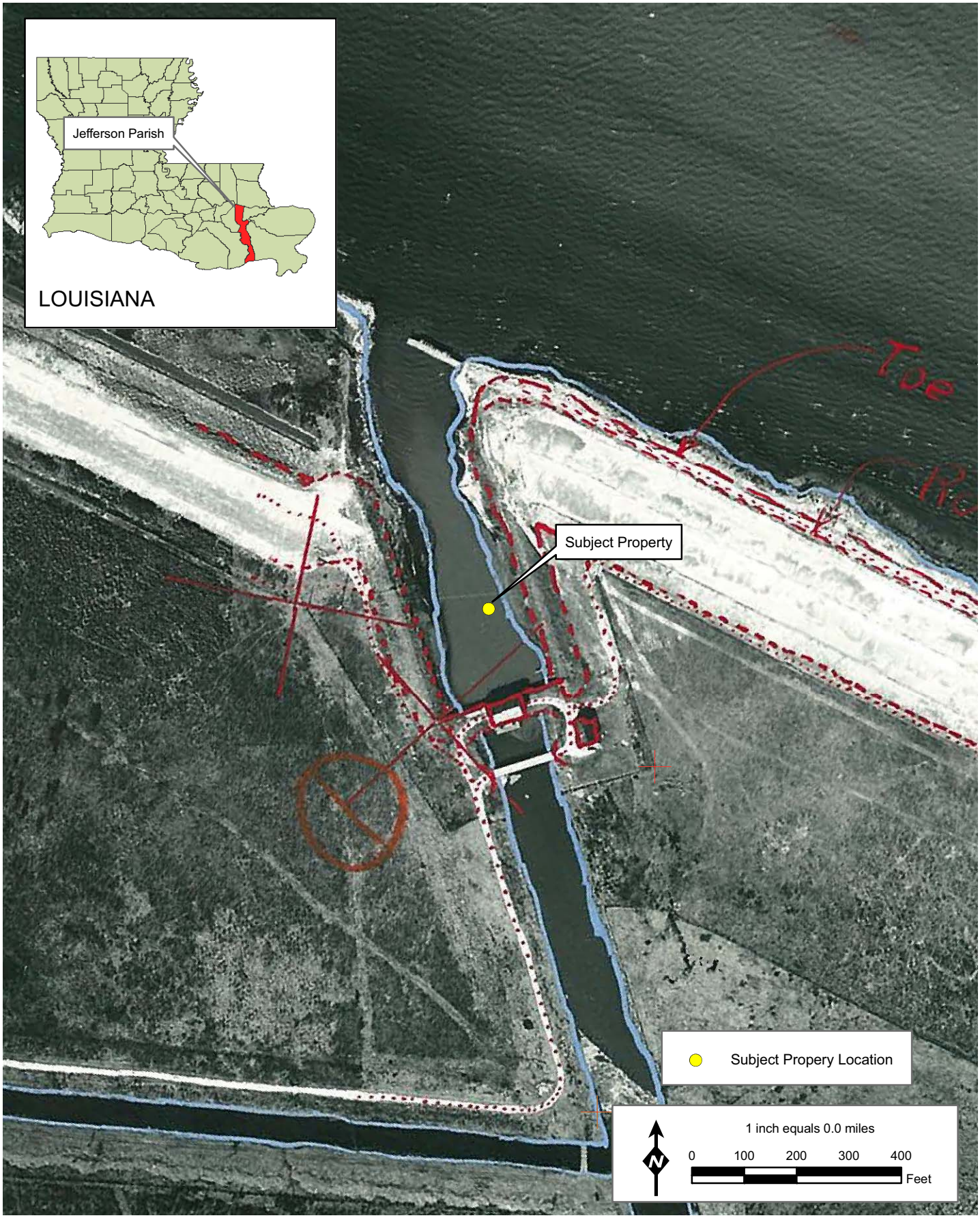

Elmwood Pump Station
1957 Aerial Photography

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Elmwood Pump Station
1964 Aerial Photography

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Elmwood Pump Station
1965 Indian Beach, LA 7.5 minute USGS Topographic Quadrangle

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Elmwood Pump Station
1967 Aerial Photography

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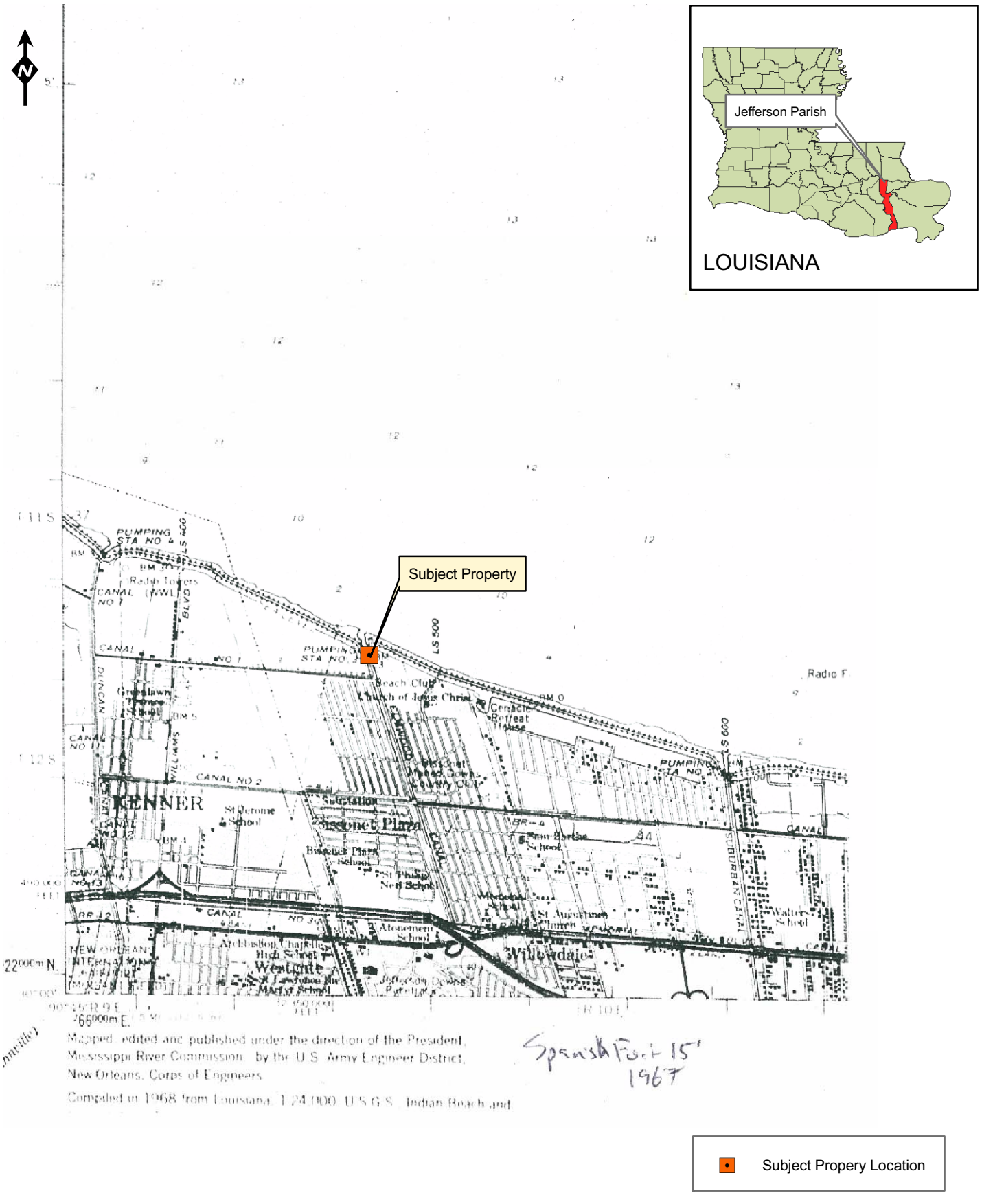

Elmwood Pump Station
1967 Spanish Fort, LA 15 minute USGS Topographic Quadrangle

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Elmwood Pump Station
1970 Aerial Photography

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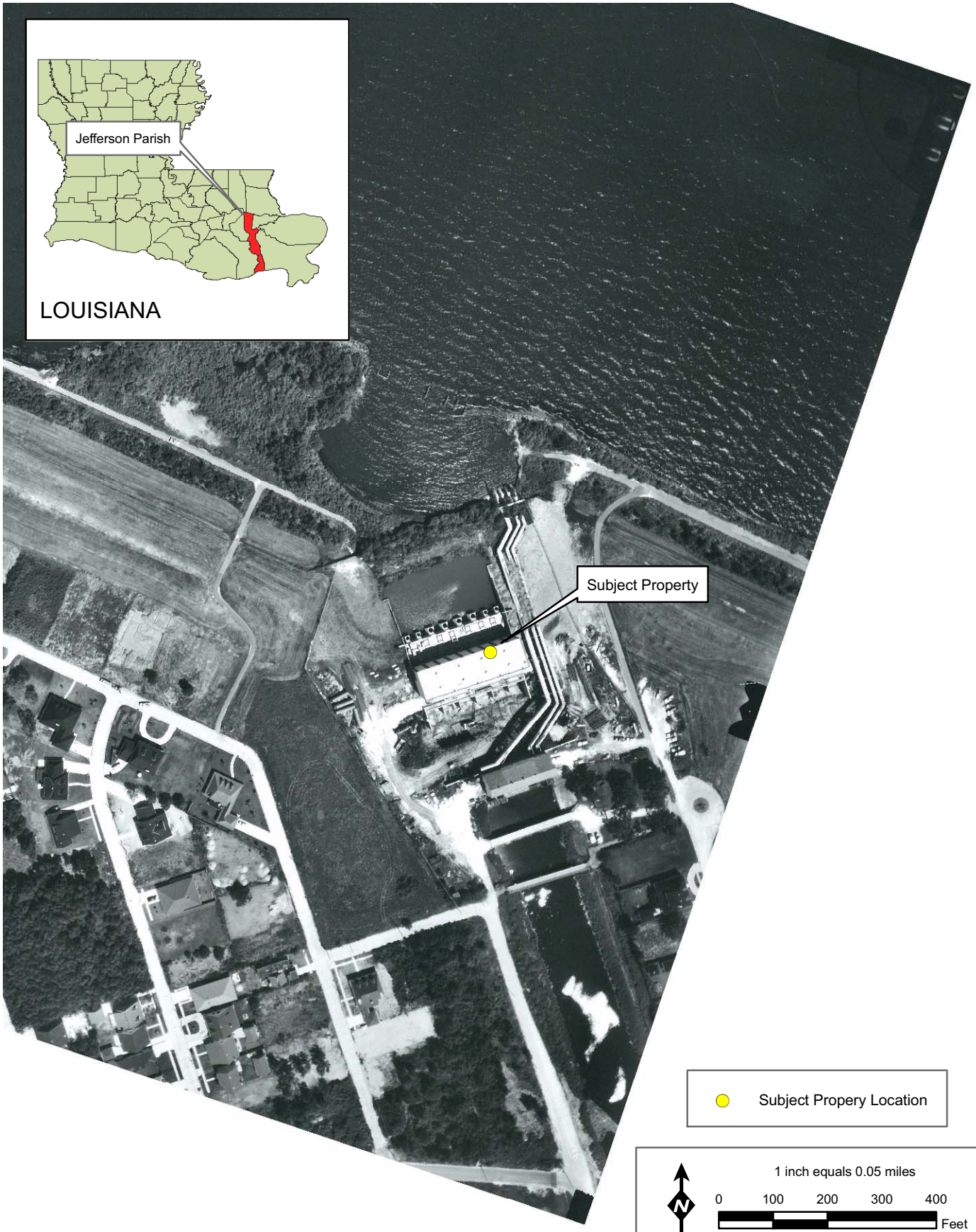

Elmwood Pump Station
1981 Aerial Photography

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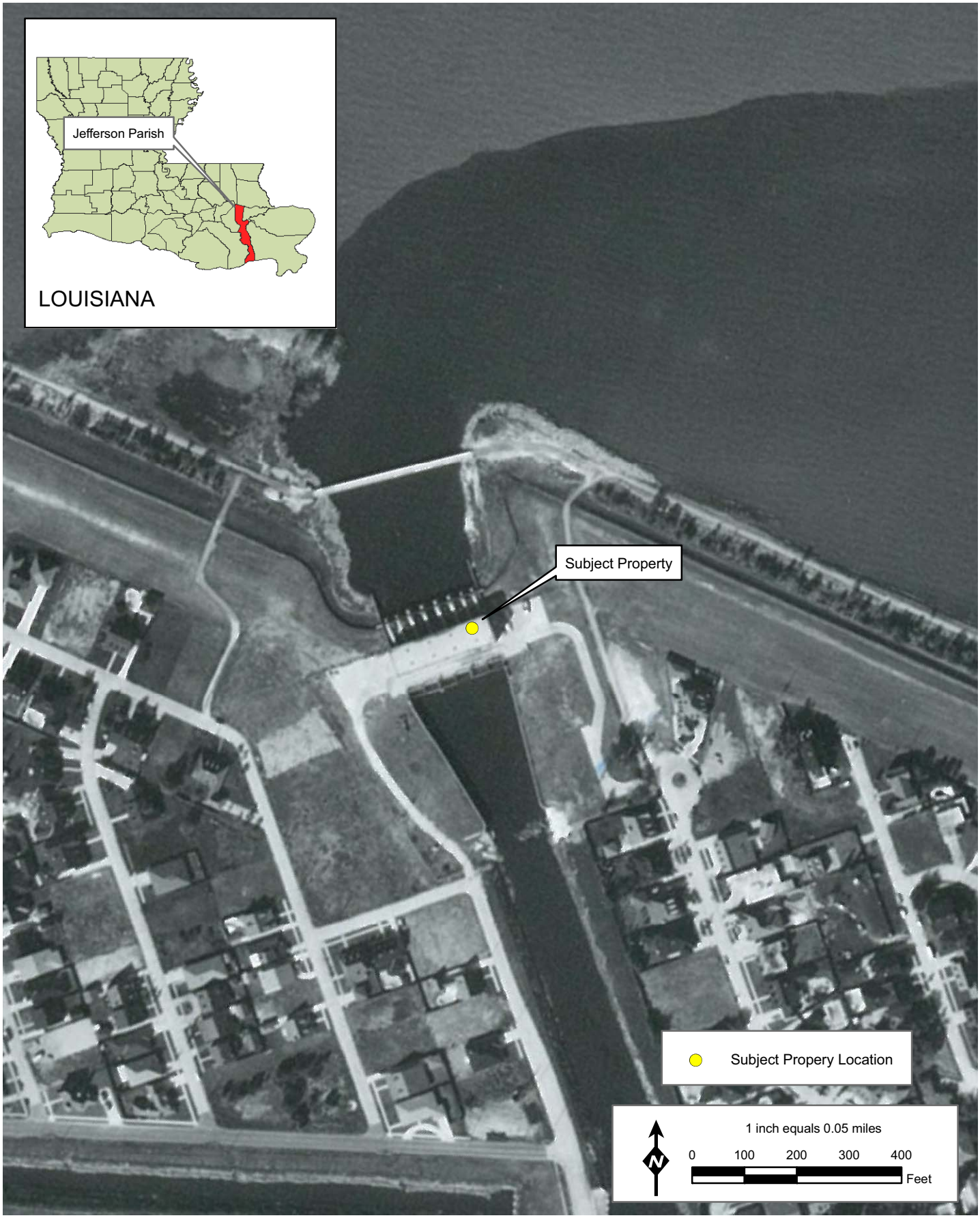

Elmwood Pump Station
1985 Aerial Photography

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Elmwood Pump Station
1992 Indian Beach, LA USGS Topographic Quadrangle

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Elmwood Pump Station
1998 Indian Beach, LA USGS DOQQ

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Elmwood Pump Station
2004 Indian Beach, LA USGS DOQQ

GSRC

March 2007

Elmwood Pump Station
2005 Indian Beach, LA USGS DOQQ

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APPENDIX B
SITE PHOTOGRAPHS

SITE PHOTOGRAPHS

Photograph 1. Water well on subject property

Photograph 2. Transformers on subject property

Photograph 3. Propane tanks adjacent to generators for cell tower

Photograph 4. Connex container on subject property

Photograph 5. Diesel storage tanks with containment basin

Photograph 6. Adjacent property to the east

Photograph 7. Diesel tanks under safe room

Photograph 8. View of adjacent property to the south

Photograph 9. View to the northeast of outfall basin and Lake Ponchartrain

Photograph 10. View to the northwest of outfall basin and Lake Ponchartrain

Photograph 11. Oil drums stored inside pump station building

Photograph 12. Interior view of pump station building

APPENDIX C
LIST OF PREPARERS

The following people were primarily responsible for preparing this report.

Name	Discipline/Expertise	Experience	Role In Preparing Report
Stephen Oivanki	Geologist Environmental Assessment	20 years of environmental assessment and remediation experience	Project manager, ESA preparation, field survey
Greg Lacy	Environmental Studies	10 years of environmental, natural resource, ESA, and NEPA studies	Field Survey
Denise Rousseau Ford	Environmental Engineering	15 years of environmental studies experience	Field Survey
Maria Reid	Forestry and Environmental Studies	5 years of environmental assessment and NEPA experience	Field Survey
Sharon Newman	GIS/Graphics	5 years GIS analysis	GIS and Graphics
David Alford	GIS/Graphics	4 years GIS/graphics experience	GIS and Graphics
Eric Webb, Ph.D.	Ecology/Wetlands	15 years NEPA and natural resources related studies	QA/QC

APPENDIX D
PERSONNEL QUALIFICATIONS

STEPHEN M. OIVANKI, P.G.
Qualified Environmental Professional (ASTM E1527-05)
Statement of Qualifications

Education: B.S. – Geology – Louisiana State University
M.S. – Geology – Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder, current refresher
USACE 1997 Wetland Delineation Manual – 40-hour course
Mold Assessment and Remediation in Buildings – Training Course

Registrations: Registered Professional Geologist #412 – State of Mississippi

Experience: **Self-employed Consulting Geologist – 10 years**
Oil and gas exploration, subsurface site investigations, mining exploration, engineering geology

Mississippi Department of Environmental Quality – 9 years
Subsurface geology, subsurface site investigations, coastal geology and geomorphology

Mississippi Department of Marine Resources – 3 years
Coastal Zone Manager, supervision of environmental staff, oversight and review of Coastal Zone permits and environmental regulations

Compton Engineering, Inc. – 5.5 years
Phase I Environmental Site Assessments – 40
Phase II Environmental Site Assessments – 12
Emergency Response Action Contractor – Miss. LUST Trust Fund
LUST investigations and remediation – 5
Contaminated site investigations and remediation – 7
Wetland delineations – 50
Mold assessments and remediation supervision – 10
Spill Prevention Control and Countermeasure (SPCC) plans – 12
Rubbish and Subtitle D Landfill permits – 5
Storm Water Pollution Prevention Plans - 20

Gulf South Research Corporation – 6 months
Phase I Environmental Site Assessments - 13

GREGORY B. LACY
Qualified Environmental Professional (ASTM E1527-05)
Statement of Qualifications

Education: B.S.-Biology-Georgia Southwestern State University
M.S.-Biology-Georgia College and State University

Training: HAZWOPER-40-hour hazardous waste responder, current refresher.
HAZWOPER-8-hour Training for Supervisors
EPA Watershed Management - Training Certificate
Lead Supervisor - Training Course

Experience: **DDL Omni Engineering - 5 years**
Petroleum, oil, lubricant remediation, Chemical and biological decontaminations, Spill response, Hazardous waste management, Waste minimization.

Gulf South Research Corporation - 2 years
Phase I Environmental Site Assessments - 15

DENISE ROUSSEAU FORD
Qualified Environmental Professional
Statement of Qualifications

Education: M.S., Civil and Environmental Engineering, Louisiana State University
B.S., Geology, Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder

Professional Organizations: Louisiana Brownfields Association (LBA) charter and founding member, 2006-2007 acting Executive Director

Experience: **Gulf South Research Corporation – 3 months**
Performs NEPA EA investigations and Phase I ESAs

Louisiana State University – 11 years
Preformed numerous technical reviews of Phase I and Phase II environmental site assessments, and cleanup action plans for non-profit organizations and municipalities involved in Brownfields transactions.

Performed technical reviews of various Superfund documents (including PAs, PA/SIs, RI/FSs and others) at sites in Corpus Christi, TX; Lake Charles, LA; Alsen, LA and other sites throughout EPA Region 6.

GDC Engineering – 3 years
Worked as an environmental geologist and project manger in the field of hazardous waste remediation. Specific projects included groundwater investigations at Deltech, in Baton Rouge, LA and DOW Chemical in Plaquemine, LA.

MARIA BERNARD REID
Environmental Professional
Statement of Qualifications

Education: B.S. – Forest Management – Louisiana State University
M.S. – Agricultural Economics and Agribusiness, Natural Resources Policy and Environmental Management and Planning – Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder, current refresher
USFWS Endangered Species Act Section 7: Interagency Consultation Training – 40-hour course
Wetland Delineator Training – 40-hour course

Experience:

Soil and Water Conservation District: Washington County, Arkansas – 2 years
Beaver Lake/White River Water Quality Technician – Prepared nutrient management plans for area ranchers, and planned and implemented Best Management Practices for nutrient management and water quality and soil erosion protection.

Gulf Engineers and Consultants: Baton Rouge, Louisiana – 1.5 years
Environmental Scientist – Conducted wetland delineations and threatened and endangered species surveys and prepared NEPA documents.

Gulf South Research Corporation – 3 years
Natural Resources - Conducted wetland delineations, threatened and endangered species surveys, and environmental site assessments, and prepared NEPA documents.

APPENDIX E
CONTACT REPORTS

Phone Log/Contact Report

Project No.:	80600105s	Date: 03/07/07	Time: 10:00am
Project Name:	Jefferson Parish Stormproofing		
Employee:	Denise Rousseau Ford	Person Contacted:	Manuel C. Aspuria
Organization:	Jefferson Parish Department of Public Works	Telephone No.:	(504) 838-4373
Reason for Call/Topics Discussed:	Phase I property owner/operator interview – Elmwood Station		
Copies to:	file		

Comments: I interviewed Mr. Manuel Aspuria, Jefferson Parish Public Works East Bank Superintendent about the property associated with the Elmwood Pump Station while on-site at the station. Mr. Aspuria stated that the water well on-site is only for pump use, and in emergency circumstances it can be used for showering but it is not ever used for drinking water purposes. He said that the wastewater from the station ties into Parish wastewater lines. He stated that all solid waste from the rakes or screens go to the Hwy 90 landfill in St. Charles Parish. He stated that antifreeze for this station and the Suburban pump station is stored at this site within the pump facility. Solvent (varsol) and lubricating oil are also stored in 55 gallon drums within the pump station. Generally each station stores approximately 1,000 gallons of assorted motor oils (in 55 gallon drums) within the pump facility. He reiterated that all pump stations have a spill prevention plan (binder with operator) and spill cleaning supplies and booms. Mr. Aspuria stated that did not know of any environmental contamination/issues or violations, liens or lawsuits on the property, and expressed that he had no environmental concerns with the subject area. He also stated that there was no PCB in the transformers, and that there was no lead-based paint or asbestos concerns at the station. Mr. Aspuria mentioned that, unless there is significant rainfall, the pumps are not run during the weekends due to neighborhood noise concerns.

Decisions/ Agreements Reached:

Action Items: Information added to the Phase I report.

FINAL

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Estelle #2 Pump Station
Jefferson Parish, Louisiana

April 2007

Submitted to:
U.S. Army Corps of Engineers. New Orleans District
Hurricane Protection Office
7400 Leake Avenue
New Orleans, LA 70118

Submitted by:
Gulf South Research Corporation
8081 GSRI Avenue
Baton Rouge, LA 70820

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
Estelle # 2 Pump Station
Jefferson Parish, Louisiana

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) report was prepared to support the U.S. Army Corps of Engineers, New Orleans District (hereafter referred to as the User) construction of infrastructure and improvements to the Estelle # 2 Pump Station property (hereafter referred to as the subject property), owned by Jefferson Parish, Louisiana. The 1.6-acre parcel is located adjacent to the Hero Cutoff Canal at 3850 Destrehan Avenue, Harvey, Louisiana. The subject property is currently a developed site with an established drainage pump station and storage facilities.

This report was prepared and the site reconnaissance was conducted according to the American Society for Testing and Materials (ASTM) guidelines (ASTM E1527-05), which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601) and petroleum products.

According to information gathered from document searches, interviews, and the site reconnaissance, Gulf South Research Corporation (GSRC) found no *recognized environmental conditions* related to operations of the pump station facility that may affect the subject property.

SIGNIFICANT ASSUMPTIONS

No significant assumptions were made regarding this assessment.

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

By contract agreement with the User, no title search or search of recorded property documents was conducted as part of this assessment.

USER RELIANCE

This report has been prepared by GSRC for the User. It is intended for the sole use by the User, and no other person or entity may use or rely on any such report for any purpose.

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1.0 PURPOSE OF THE PHASE I ENVIRONMENTAL SITE ASSESSMENT

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the processes described herein, *recognized environmental conditions* in connection with the subject property and to provide an opinion on: (1) indications that petroleum products or hazardous or toxic materials and/or waste exist, or have existed, on or adjacent to the subject property that could potentially have an adverse impact; (2) indications of possible contamination, based upon observable conditions and readily available and reviewed public records or information; (3) the possibility that violations of current environmental regulations have occurred, or are occurring, on the subject property; (4) the potential for spilled, leaked, or improperly handled hazardous substances or petroleum products to migrate to or from the subject property; and (5) the existence of unsafe or unhealthful conditions on the subject property.

1.1 BOUNDARIES OF THE PROPERTY AND SURVEY AREA

The subject property is located in Jefferson Parish (Figure 1) at 3850 Destrehan Avenue, Harvey, Louisiana adjacent to the Hero Cutoff Canal, as shown in Figures 2 and 3. A site plan was provided by the Jefferson Parish Department of Drainage. Global Positioning System (GPS) coordinates were taken in the field at the presumed property boundaries for comparison with the site plan and to geo-reference the site on historic maps and aerial photographs.

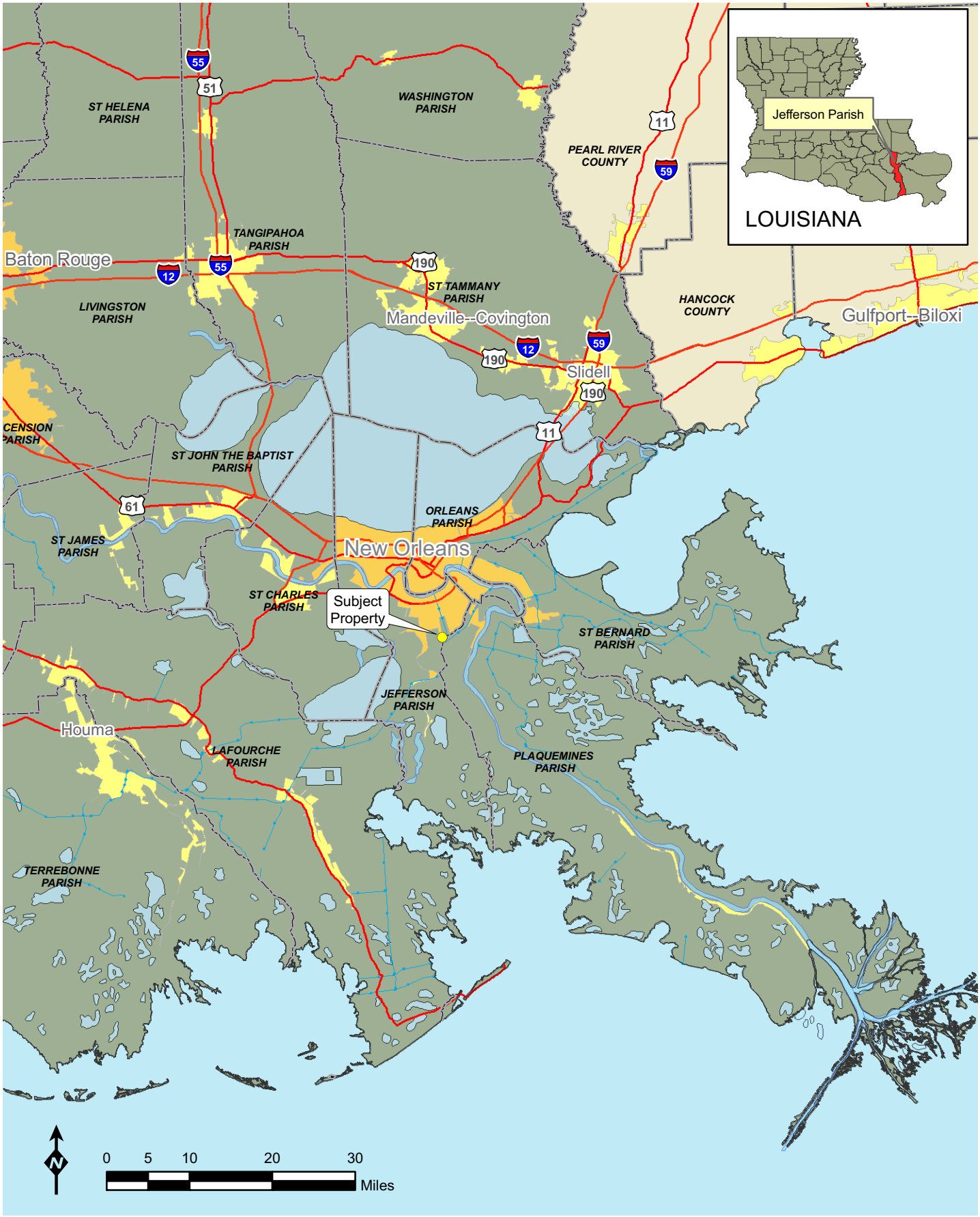

Figure 1: Vicinity Map

March 2007

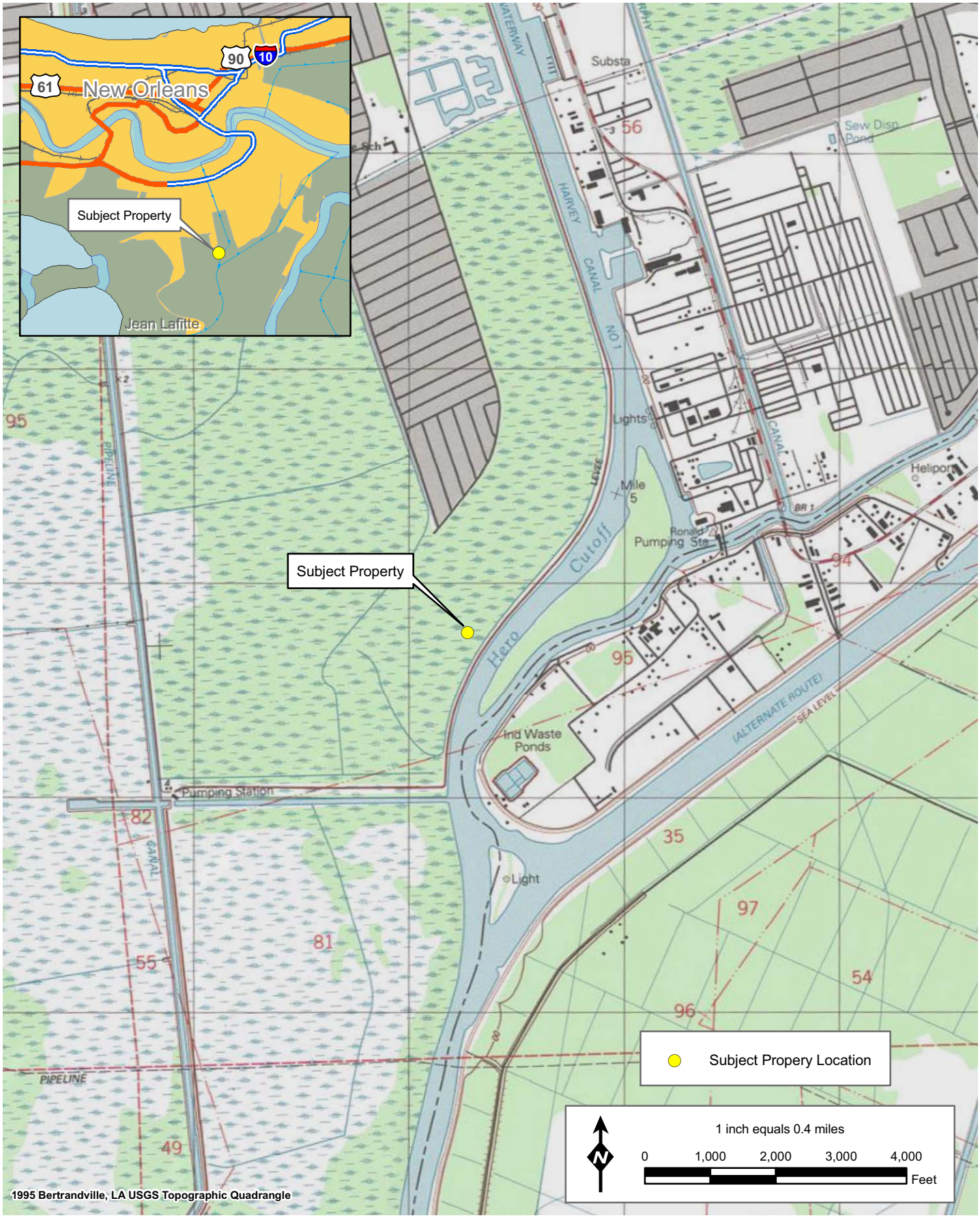

Figure 2: Estelle #2 Pump Station Location

GSRC

March 2007

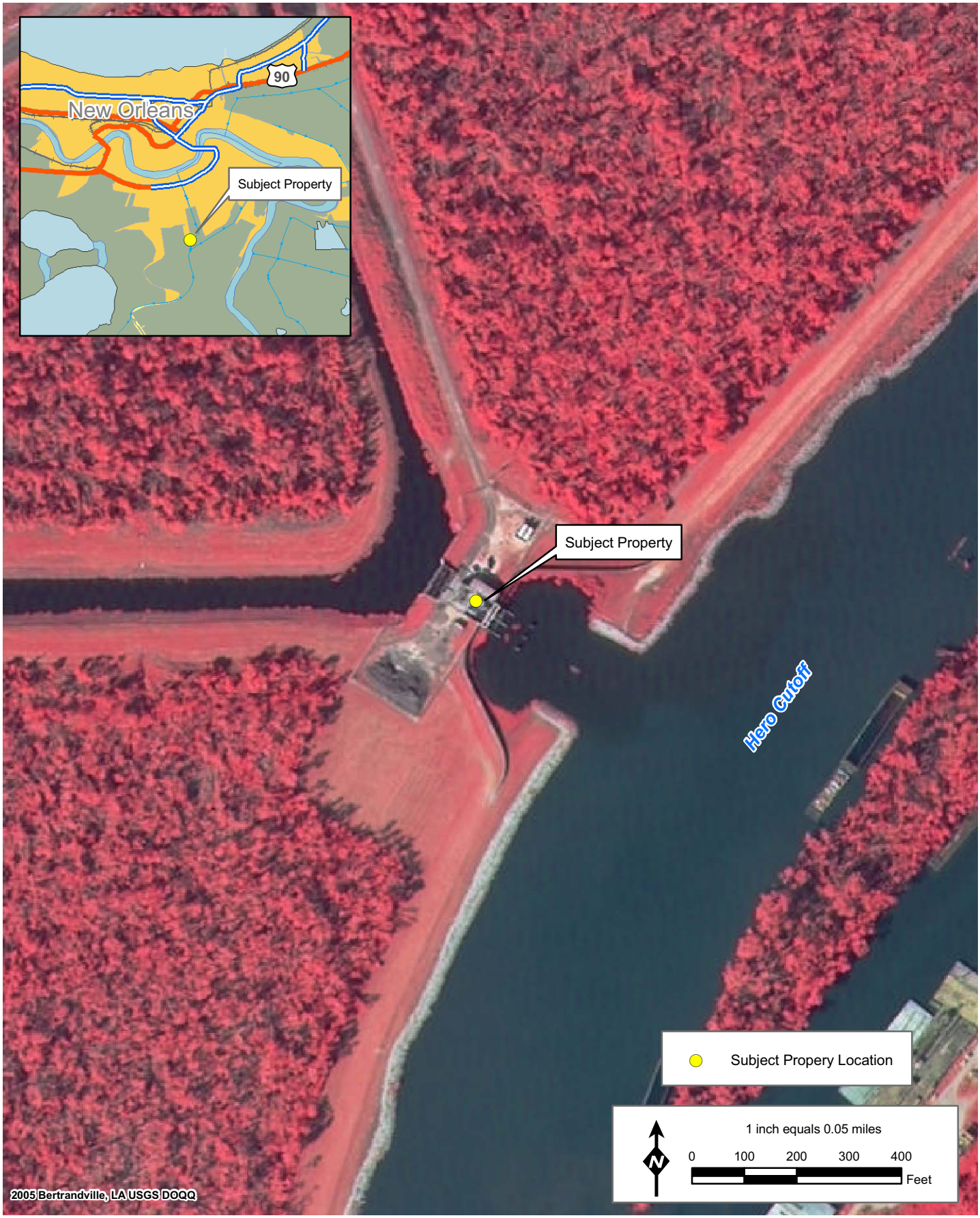

Figure 3: Estelle #2 Pump Station Area

GSRC

March 2007

2.0 SURVEY METHODOLOGY

2.1 APPROACH AND RATIONALE

This report was produced in accordance with the following:

> "The ASTM guidelines (ASTM E1527-05) which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the CERCLA (42 USC 9601) and petroleum products. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability; that is, the practice that constitutes all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice."

GSRC's scope of services for this project included four major components: (1) Federal, state, and local environmental records review, including a review of historical and physical setting records; (2) a site reconnaissance to search for visible indications of impacts or potential impacts to the environment or human health and safety; (3) interviews with key site personnel and local government officials; and (4) the preparation of this report. Following ASTM guidelines, the review of individual component items is subject to the "reasonable ascertainability" of that item.

The conditions disclosed by this investigation have been separated into the following categories of environmental conditions:

- *Recognized environmental condition* – A recognized environmental condition is defined in ASTM Practice E1527-05 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicated 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."
- *Historical recognized environmental condition* – A historical recognized environmental condition is defined in ASTM Practice E1527-05 as an "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. The final decision rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the property. If a past release of any hazardous substances or petroleum products has occurred in connection

with the property and has been remediated, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered a historical recognized environmental condition."

- *De minimis condition* – A *de minimis condition* is defined in ASTM Practice E1527-05 as 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."

The subject property parcel was accessible by vehicle and by foot. The site reconnaissance consisted of a thorough walk-through of the subject property, and the objective of the site reconnaissance was to obtain information indicating the likelihood of identifying any *recognized environmental conditions* in connection with the subject property. The term is not intended to include *de minimis conditions*. Observations were mainly focused on the subject property and any structures located on the subject property to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles.

2.2 USER PROVIDED INFORMATION

2.2.1 Title Records

No title records were provided by the User. Past ownership of the subject property was verified by interviews with the property owner's representative.

2.2.2 Environmental Liens or Activity and Use Limitations

No environmental liens or activity and use limitations were reported by the User. No environmental liens or activity and use limitations were reported by the subject property owner. Since there have been no prior owners of the property, the current owner's statement is considered conclusive.

2.2.3 Specialized Knowledge

Historical and current knowledge of the subject property was provided by interviews with the subject property owner's representative.

2.2.4 Valuation Reduction for Environmental Issues

No valuation reduction for environmental issues was reported by the User or the subject property owner. Since the subject property has been owned by the current owner since prior to

the first development of the property, and no sale of the property is pending, valuation reductions do not apply in this case.

2.3 LIMITATIONS AND EXCEPTIONS

The only limitation or exception made to the ASTM Practice E1527-05 was the lack of title records search or recorded document search for the subject property by contract agreement with the User. Interviews with the subject property owner and other historical sources were used to verify the past ownership of the property and the presence or absence of use limitations on the property.

2.4 DESCRIPTION OF DOCUMENTS REVIEWED

Federal and State Environmental Databases

GSRC contracted Environmental Data Resources (EDR) to search Federal and state environmental databases that track activities associated with hazardous waste and incidents that have resulted in major environmental impairment. These databases are prepared and maintained by various Federal and state environmental agencies such as the U.S. Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ). The minimum appropriate search distance was 1 mile from the subject property's boundary. The EDR report showing all information pertaining to the database searches is presented in Volume II (E). A summary listing of the Federal and state databases searched can be found on pages 1 and 2 of the Executive Summary in the EDR report in Volume II (E). Descriptions of the type and currency of data in those databases can be found on pages GR-1 through GR-14 of the EDR report.

GSRC conducted searches on the LDEQ website and EPA databases via the Internet such as Enforcement and Compliance History Online (ECHO) and Envirofacts Warehouse. No information regarding additional environmental concerns, other than those reported by EDR, within or in the vicinity of the subject property was found in the Federal or state databases (LDEQ 2007 and EPA 2007).

The EDR report indicates that there are no sites/facilities recorded from the database search within the search radii that may have or have generated, stored, treated, and/or disposed of solid or hazardous waste within or near the subject property.

EDR reported 43 sites/facilities that could not be accurately located and mapped (orphan sites) in the vicinity of the subject property. Ground reconnaissance revealed that none of the orphan sites are located within the minimum appropriate search radius of the subject property that would result in a business environmental risk to the subject property.

Sanborn Insurance Maps

No insurance map coverage was available for the subject property area.

City Directory Abstracts

A search of the Polk's City Directory indicated no addresses listed for Destrehan Avenue through 2006.

Historical Maps/Aerial Photographs

Historical topographic maps and aerial photographs provided by the User were used for this report, since they provided the most comprehensive coverage of the subject property. Historical quadrangle maps were available for years spanning 1891 to 1995. Historic aerial photographs were available from 1958 to 2005. These maps and photographs typically show any development or habitat changes over time. The historical topographic quadrangles and aerial photographs reviewed by GSRC are listed in Table 1 and are included in Appendix A.

2.5 SUBJECT PROPERTY INSPECTIONS/OBSERVATIONS

Photographs of the subject property parcels are presented in Appendix B, and the locations of photographs are shown in Figure 4. A site plan is presented in Figure 5. A site reconnaissance was conducted on March 7, 2007 by Stephen Oivanki and Maria Reid. The focus of the effort was to investigate the subject property for evidence of potential hazardous or toxic substances, or the presence of potential sources for environmental impacts, such as drums, petroleum products and underground storage tanks (USTs). The subject property was accessible by foot and by vehicle, and was visually inspected for any *recognized environmental conditions*. The

subject property is currently being used for an active drainage pumping station by Jefferson Parish.

Table 1. Historical Topographic Quadrangles/Aerial Photographs Reviewed

DATE	QUADRANGLE/PHOTOGRAPH NAME	SCALE
1891	New Orleans, LA 15-Minute Quadrangle	1:64,000
1932	New Orleans,LA 15-Minute Quadrangle	1:64,000
1938	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1947	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1948	Aerial Photograph	---
1950	New Orleans, LA 15-Minute Quadrangle	1:64,000
1951	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1954	New Orleans, LA 15-Minute Quadrangle	1:64,000
1960	Aerial Photograph	---
1966	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1967	New Orleans, LA 15-Minute Quadrangle	1:64,000
1970	Aerial Photograph	---
1977	Aerial Photograph	---
1987	Aerial Photograph	---
1995	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1996	Aerial Photograph	---
1998	Aerial Photograph	---
2004	USGS DOQQ Aerial Photograph	1:24,000
2005	USGS DOQQ Aerial Photograph	1:24,000

Sources: U.S. Geological Survey, U. S. Army Corps of Engineers

The subject property consists of approximately 1.6 acres, as defined by a GPS survey of the observed property boundaries in the field. There is a pump station structure on the property, and temporary storage containers (Connex boxes) (Photograph 10, Appendix B). According to the operator of the station, the containers contain spare parts and equipment. The ground is relatively flat terrain covered with either gravel/shell, grass or concrete. All of the property appears to have been previously disturbed by construction or grading.

The main pump station facility is located at the southeast corner of an unnamed canal, and it discharges into a small basin connected to the Hero Cutoff Canal on the opposite side of the levee. The subject property is bordered on the north, west and south by undeveloped wetlands. It is bordered on the south and east by the Hero Cutoff Canal.

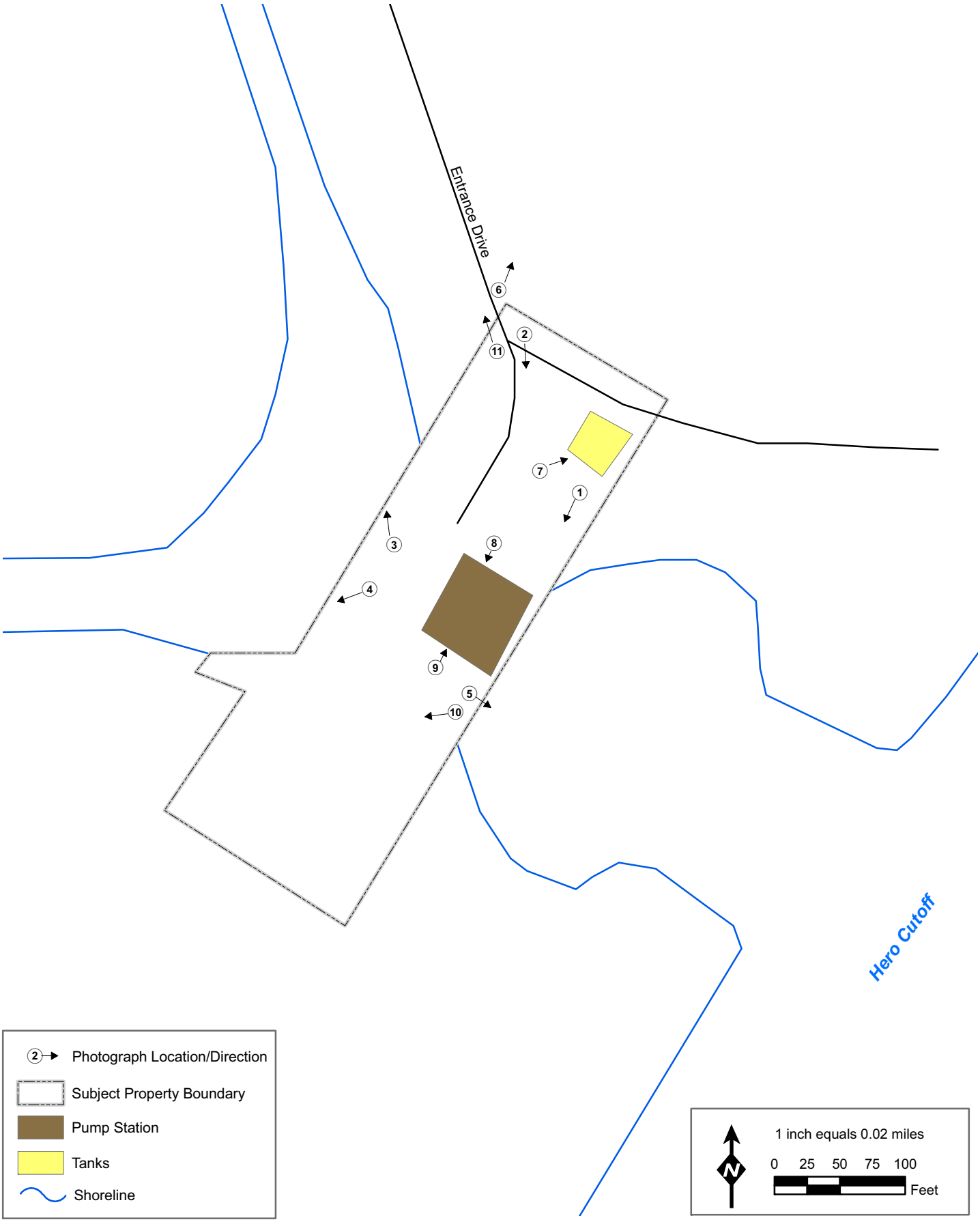

Figure 4: Survey Map of Estelle #2 Pump Station

GSRC

March 2007

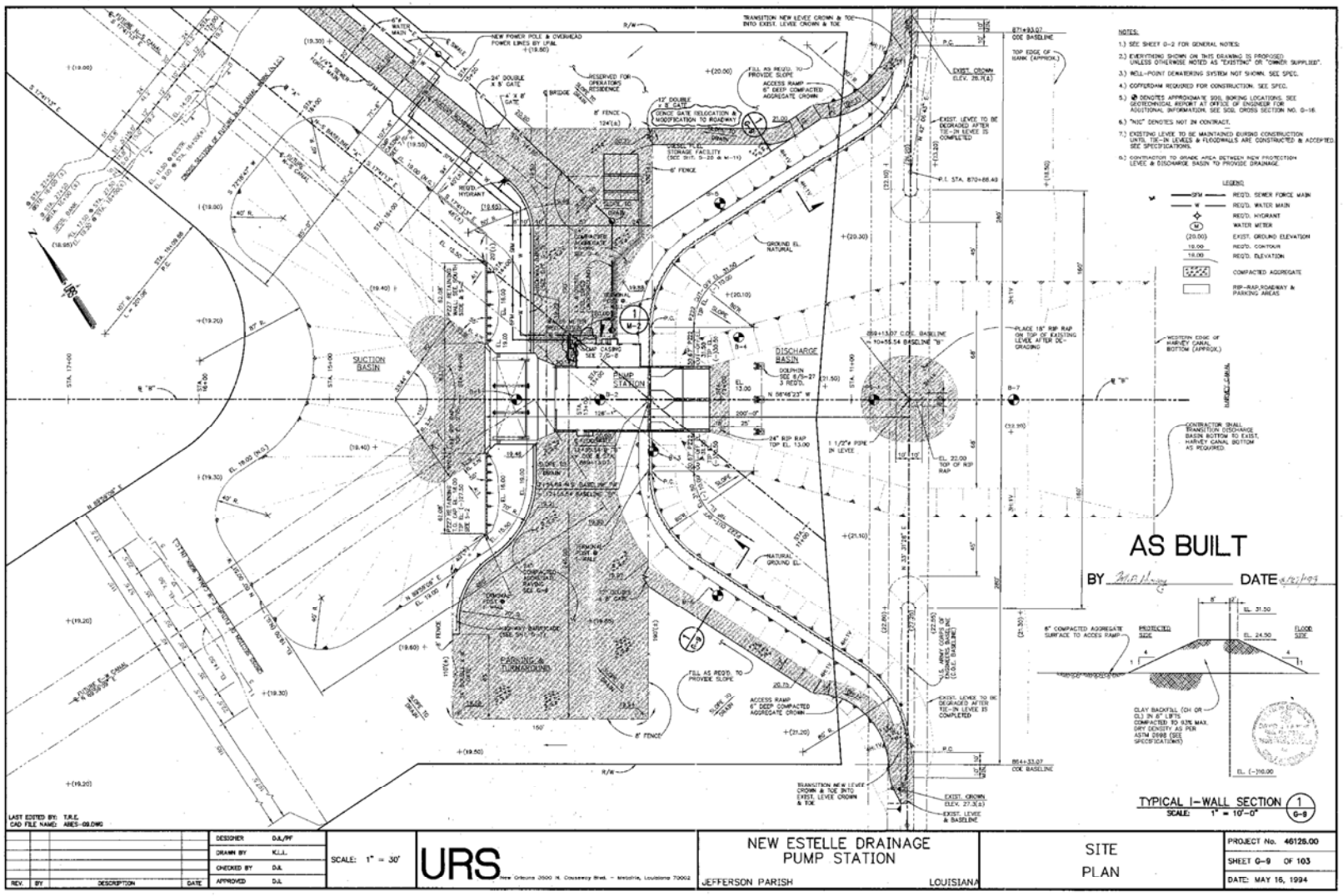

Figure 5: Estelle #2 Pump Station Site Plan

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There were two old empty 55-gallon drums located adjacent to the pump building (Photograph 9, Appendix B). Two old refrigerators were noted south of the pump building, as well as a pile of trash recovered from the intake rake structure (Photograph 10, Appendix B).

Lubricating oils, greases and some paint are stored inside the pump building, as shown in Photograph 8, Appendix B. Used oil and other lubricants are collected in a waste oil tank in the basement of the pump building, and the tank is emptied and the oil is recycled by a licensed transporter. There is a current Spill Prevention Control and Countermeasures (SPCC) plan kept on site, and a spill containment and cleanup kit is also stored on site.

Diesel fuel storage for the station pump engines is contained in two horizontal storage tanks with a combined capacity of 12,000 gallons (Photograph 7, Appendix B), and the tanks have an approved spill containment basin, as defined in the SPCC plan.

The pump station is currently on city water service for potable water, but waste water and sewage is handled by a septic tank and drain field on the site. There is no water well on the property, and cooling water for the pump engines is supplied by siphon from the adjacent canal.

2.6 PERSONAL INTERVIEWS

Station Operator

On March 7, 2007, GSRC interviewed the Estelle #2 Pump Station operator, Ms. Linita Bonvillian, who has been with the Jefferson Parish Department of Drainage for 5 years, based at the Estelle #2 station. She stated that the station was built in 1998, and construction started in 1995. The land was undeveloped swamp prior to the construction of the canals and the pump station. She stated that there had been no oil or fuel spills on the property since she has been employed there. The station does not keep hazardous materials on site, other than maintenance paint in 5-gallon buckets for the equipment. Used oil is recycled to a waste oil tank in the station basement, and then is disposed of by a licensed transporter. The transformers on the site are used to power the electric equipment at the station, and are owned and maintained by the local power company. A SPCC plan is kept on file at the station.

Other Interviews

Because other historical data and information sources indicated no prior use other than the current use and no other ownership prior to the current owner, and no indications of recognized environmental conditions were identified from other reliable sources, no further interviews of local officials were deemed necessary to determine the existence of recognized environmental conditions on the subject property. State agency information requests regarding individual properties are typically referred to the state database for information, and that database was consulted.

3.0 FINDINGS FOR SUBJECT PROPERTY

3.1 HISTORIC USE

The documents reviewed by GSRC to determine historical land uses and potential environmental conditions associated with those uses regarding the subject property and surrounding areas are described in the paragraphs below.

Historic Topographic Quadrangles and Aerial Photographs

Historic topographic maps dated from 1891 to 1998 and aerial photographs dated from 1948 to 2005 were inspected to identify structures and development on the subject property and surrounding properties. All of the topographic maps showed no development on the subject property. All aerial photographs dated prior to 1996 also showed no development on the subject property. The first indication of development of the subject property appeared on the 1996 aerial photograph. In 1996, the Estelle #2 Pump Station had been completed. The 1995 topographic map showed no development of the subject property, but the old Estelle #1 Pump Station to the west was visible.

The 1998, 2004 and 2005 aerial photographs showed the subject property in essentially its current configuration, with the pump station and associated canals and discharge basin in place. Various barges were parked across the Hero Canal from the station in all three photographs.

3.2 CURRENT USE

Environmental Setting

The subject property is located at 3850 Destrehan Avenue in Harvey, Louisiana at the end of a shell road extending south from Destrehan Avenue. The entire property is disturbed, and the ground cover consists of maintained turf grass and shell/gravel surfaces. All of the adjacent waterways (canals) to the north appear manmade. The undeveloped land areas around the subject property appear to be wetlands with native vegetation. A manmade earthen levee with concrete top walls separates the subject property from the Hero Cutoff Canal. The land surface is generally flat, with a slight manmade slope to the north and west on the property.

According to the current topographic map, the elevation of the subject property is less than 5 feet above mean sea level, and the soil component within the subject property is the Barbary Muck, as indicated on the NRCS soil map for the area. This soil consists of poorly-drained mud that has low infiltration rates and is generally saturated to the soil surface in wetlands (NRCS 2007). The subject property has been extensively filled with other soil and materials, so the indicated soil component is no longer valid. The topography of the subject property generally slopes toward the northeast, but is relatively flat. Because no *recognized environmental conditions* were identified on or adjacent to the subject property, an analysis of the geology and hydrology of the site is not warranted.

3.3 HAZARDOUS MATERIALS/WASTES

No hazardous materials were observed on the subject property, although 55-gallon drums and 5-gallon buckets of oil, lubricants, paint and thinners are stored in the pump house building.

3.4 SOLID WASTE

Several crushed refrigerators and some miscellaneous debris raked from the intake pond were located on the gravel parking area southwest of the pump building. None of the solid waste observed constituted a business environmental risk to the property.

3.5 OTHER ENVIRONMENTAL CONCERNS

According to the EDR report and from the search of Federal and state databases no environmental concerns for the following substances were within the appropriate search radii of the subject property:

- Oil/Water Separators
- Medical Biohazard Waste
- Ordnance
- Radioactive Wastes/Radon
- Wastewater Treatment, Collection, and Discharge
- Asbestos
- Transformers/Polychlorinated Biphenyls (PCBs)
- Lead-based Paint

Transformers with unknown PCB content were observed on a pole near the entrance to the fenced enclosure on the property. They appeared to be in good working condition with no visible leaks. A septic tank and drain field were observed on the property, but it appeared to be functioning properly. Sumps are present in the pump building around the motors and pumps.

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4.0 FINDINGS FOR ADJACENT PROPERTIES

4.1 LAND USES

GSRC inspected adjacent areas to the subject property with efforts concentrated on observing existing *recognized environmental conditions* with the potential to affect the subject property.

Adjacent property to the west, north, southwest and northeast is natural wetlands. Adjacent property to the southeast and east across the levee is the Hero Cutoff Canal, used to transport vessels and materials to the industrial properties upstream on the opposite banks. Due to the intervening levee structure, none of the possible hazardous materials transported on the canal would pose a threat to the subject property. Likewise, any release of hazardous materials from industries located across the canal would not pose a business environment risk to the subject property. No *recognized environmental conditions* were observed on any adjacent properties.

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5.0 APPLICABLE REGULATORY COMPLIANCE ISSUES

5.1 LIST OF COMPLIANCE ISSUES AND CORRECTIVE ACTIONS

According to the EDR report (Volume II, Section E) and information gathered from Internet searches, there are no outstanding violations or compliance issues regarding facilities/sites within the search radius surrounding the subject property.

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6.0 OPINIONS & CONCLUSIONS

We have performed a Phase I *Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E1527-05 of the subject property. Any exceptions to, or deletions from, this practice are described in Section 7 of this report. This assessment revealed no evidence of *recognized environmental conditions* in connection with the subject property. The EDR report and searches from Federal and state databases yielded no information regarding other environmental conditions on or within the vicinity of the subject property. In addition, none of the orphan sites/facilities listed in the EDR report are located within an appropriate search distance from the subject property to constitute a business environmental risk.

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7.0 DEVIATIONS

No deletions or deviations from ASTM Practice E1527-05 were noted. The lack of a search for use limitations or environmental liens does not affect the subject property, since all indications from other reliable historic sources are that the property was undeveloped wetlands prior to construction of the current pump station on the property, and there have been no owners other than the current owner.

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8.0 RECOMMENDATIONS

No *recognized environmental conditions* were indicated on the subject property that would require further environmental studies or assessments.

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9.0 CERTIFICATIONS

The opinions and conclusions set forth in this report, either expressed or implied, are based solely upon the work and information described herein. No soil, water, or air sampling and analysis were conducted for the subject property; therefore, no statement can be made as to their actual quality. Comments regarding the site reconnaissance and records research results are limited strictly to field observations and the actual records that were reviewed by GSRC. Any opinions concerning the likelihood that the subject property contains toxic or hazardous waste materials are intended solely as a probabilistic evaluation based upon such information. No warranty or guarantee is made or intended. Should any higher level of confidence be desired, physical sampling and laboratory analysis (Phase II of an ESA) would be necessary.

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all of the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Stephen Oivanki
Project Manager
GSRC

Signature 
Date April 23, 2007

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10.0 REFERENCES

EDR 2007, Estelle #2, 3850 Destrehan Avenue, Harvey, LA, EDR Radius Map with GeoCheck, I.N. 01870098.14r, March 5, 2007

Environmental Protection Agency (EPA). 2007. Enforcement and Compliance History Online: http://www.epa.gov/echo/> ,and Envirofacts Data Warehouse: http://www.epa.gov/enviro/index_java.html

Louisiana Department of Environmental Quality (LDEQ). 2007. Enforcement Actions. October 2003 to March 2006. http://www.deq.louisiana.gov/portal/tabid/225/Default.aspx

Natural Resource Conservation Service (NRCS) Web Soil Survey 2007, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Army Corps of Engineers, New Orleans Division (USACE) 1948 aerial photograph

USACE 1960, aerial photograph

USACE 1970, aerial photograph

USACE 1977, aerial photograph

USACE 1987, aerial photograph

USACE 1990, aerial photograph

USACE 1996, aerial photograph

U.S. Geological Survey (USGS) 1891, New Orleans, Louisiana 15-minute Quadrangle

USGS 1932, New Orleans, Louisiana 15-minute Quadrangle

USGS 1938, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1947, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1950, New Orleans, Louisiana 15-minute Quadrangle

USGS 1951, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1954, New Orleans, Louisiana 15-minute Quadrangle

USGS 1966, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1967, New Orleans, Louisiana 15-minute Quadrangle

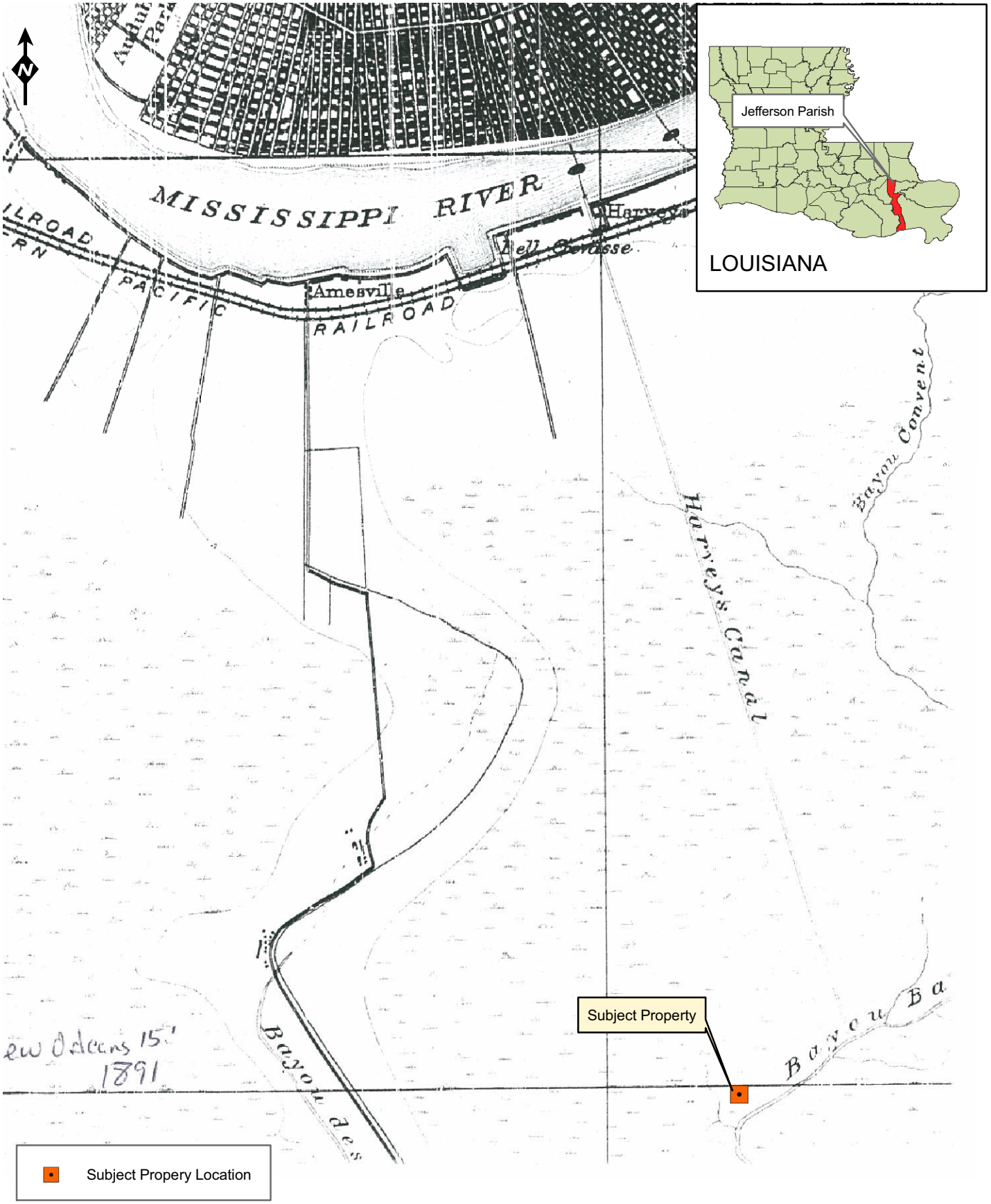
USGS 1995, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1998, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2004, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2005, DOQQ Aerial Photograph, 7.5 minute Quadrangle

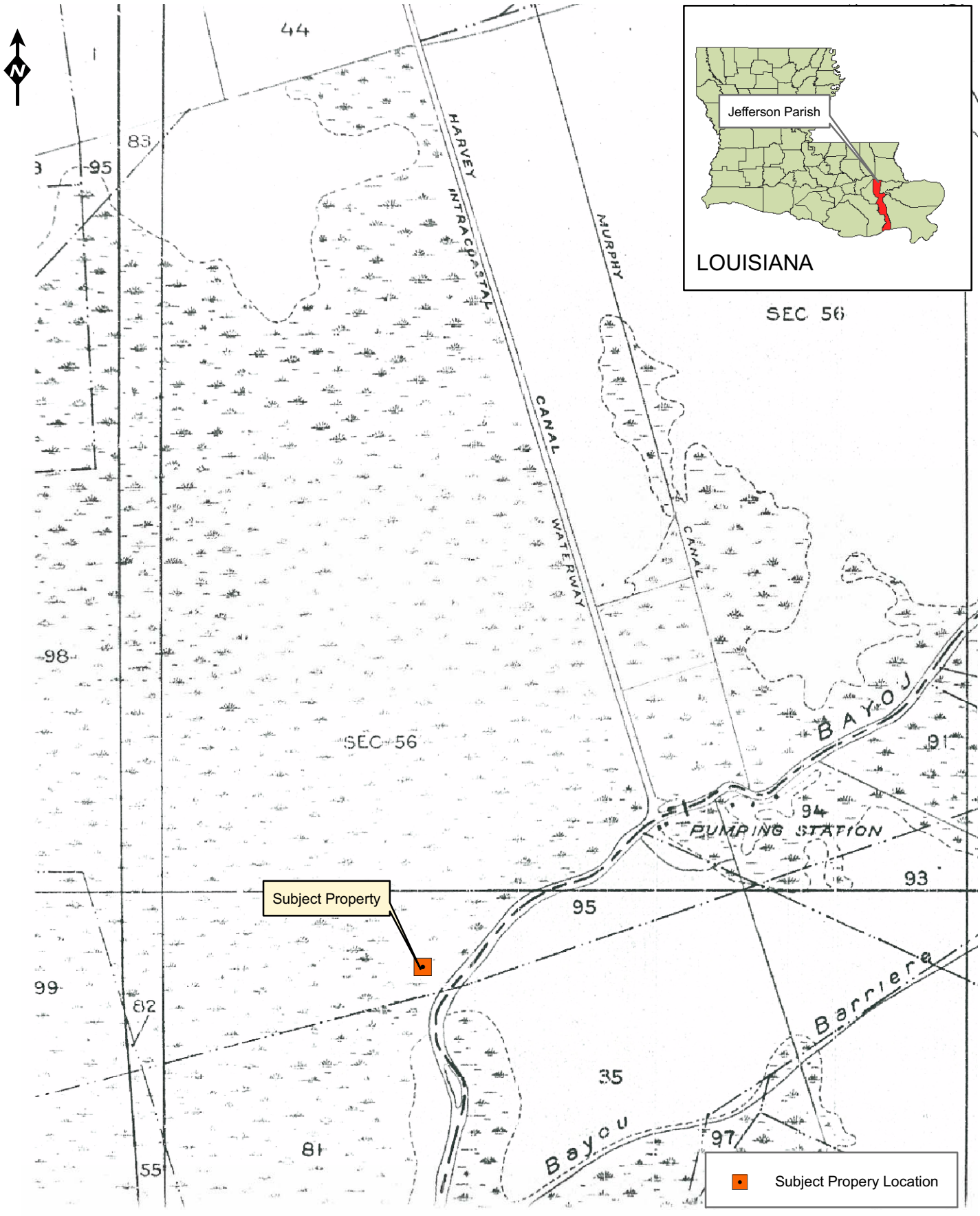
APPENDIX A
HISTORICAL TOPOGRAPHICAL MAPS AND AERIAL PHOTOGRAPHS



Estelle #2 Pump Station
1891 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

March 2007



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1932 New Orleans, LA 15 minute USGS Topographic Quadrangle

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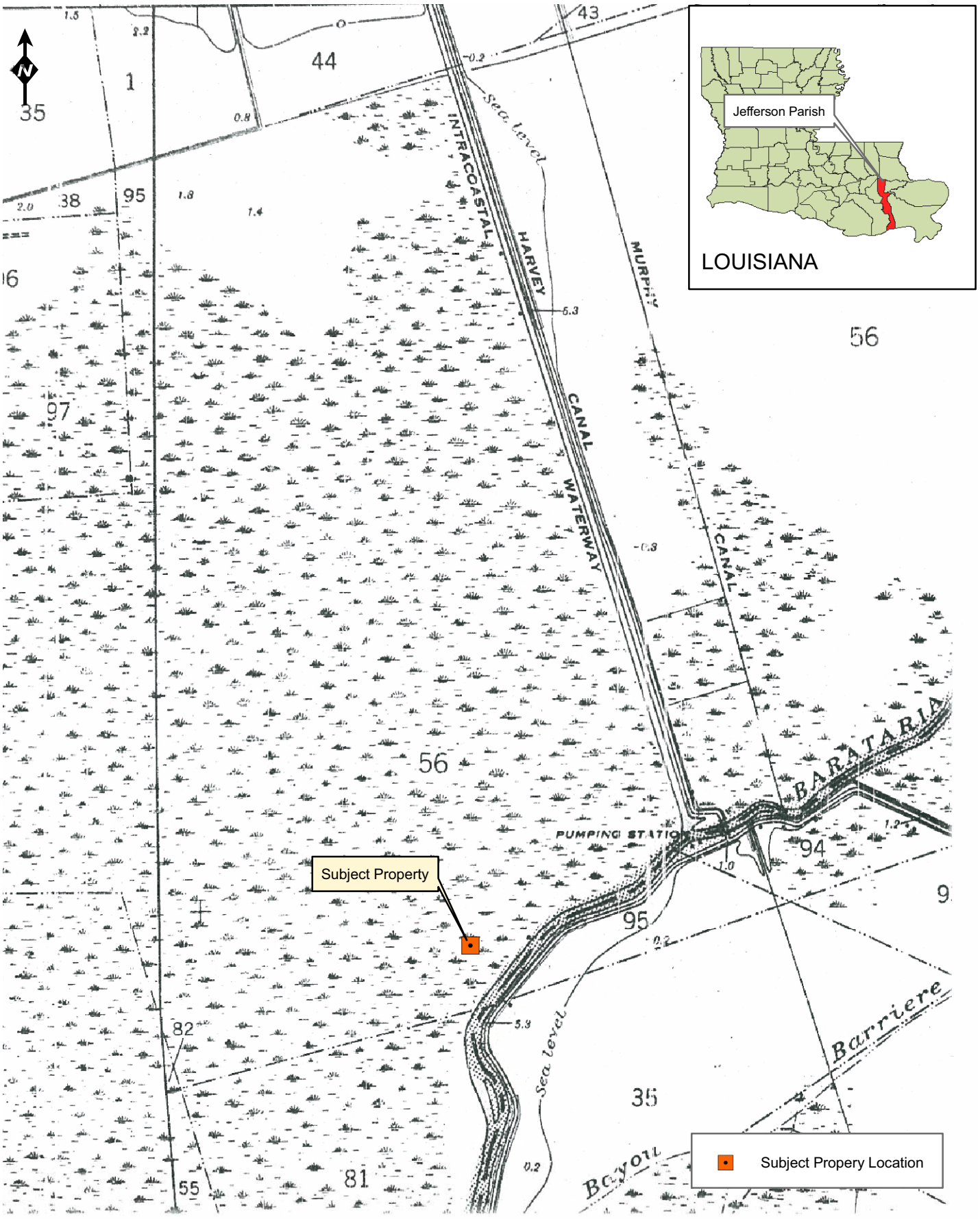

Estelle #2 Pump Station
1938 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

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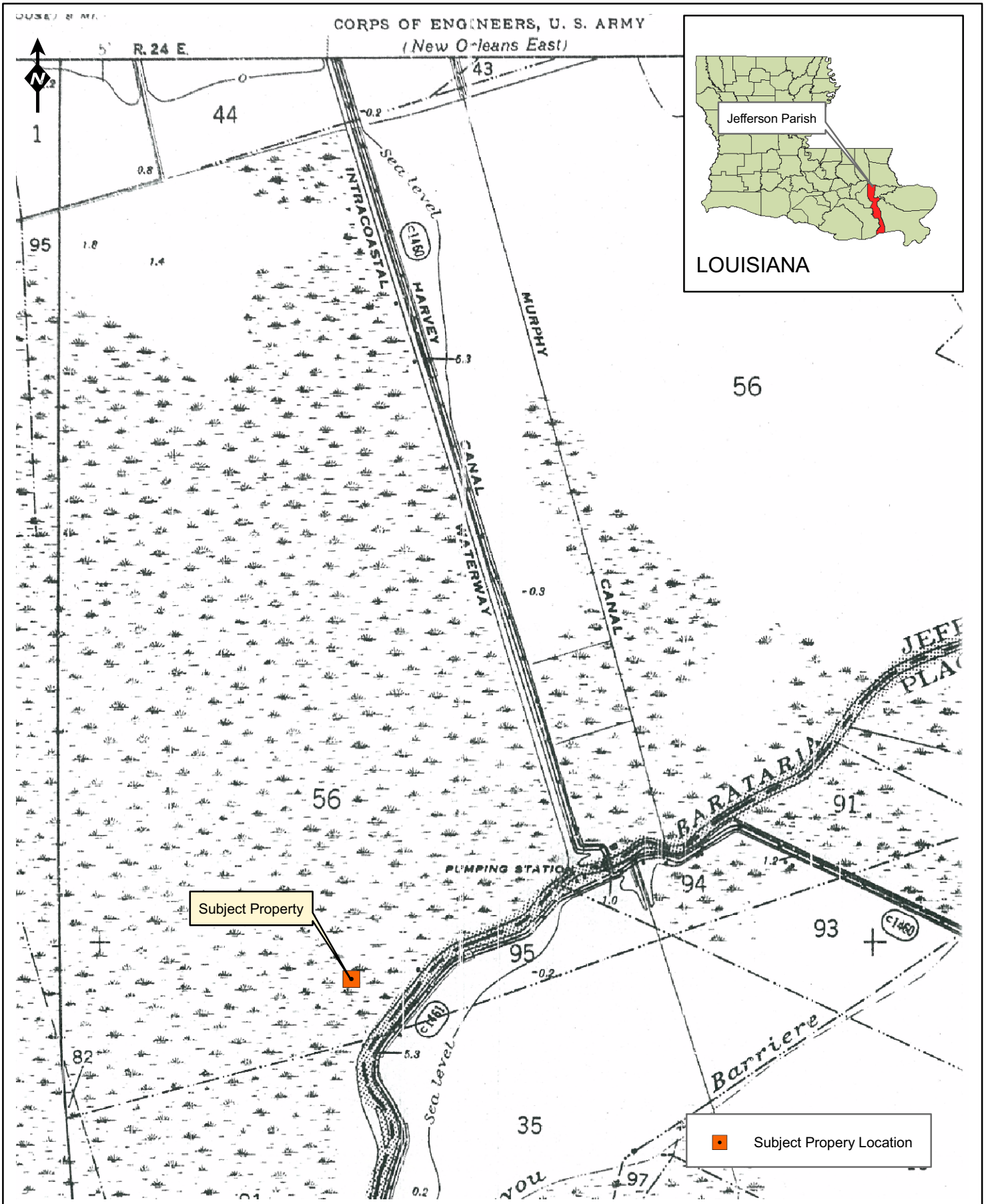

Estelle #2 Pump Station
1947 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

GSRC

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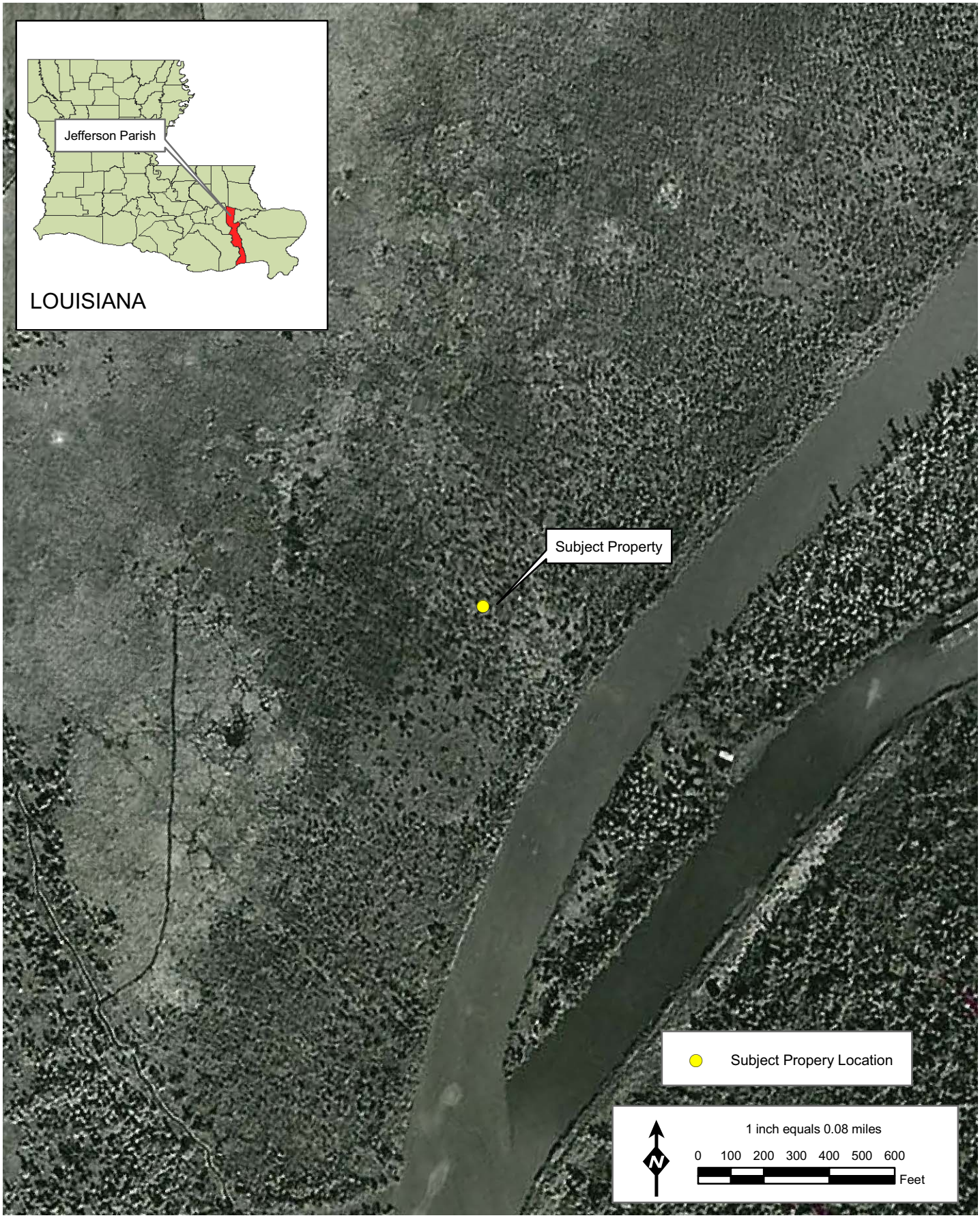
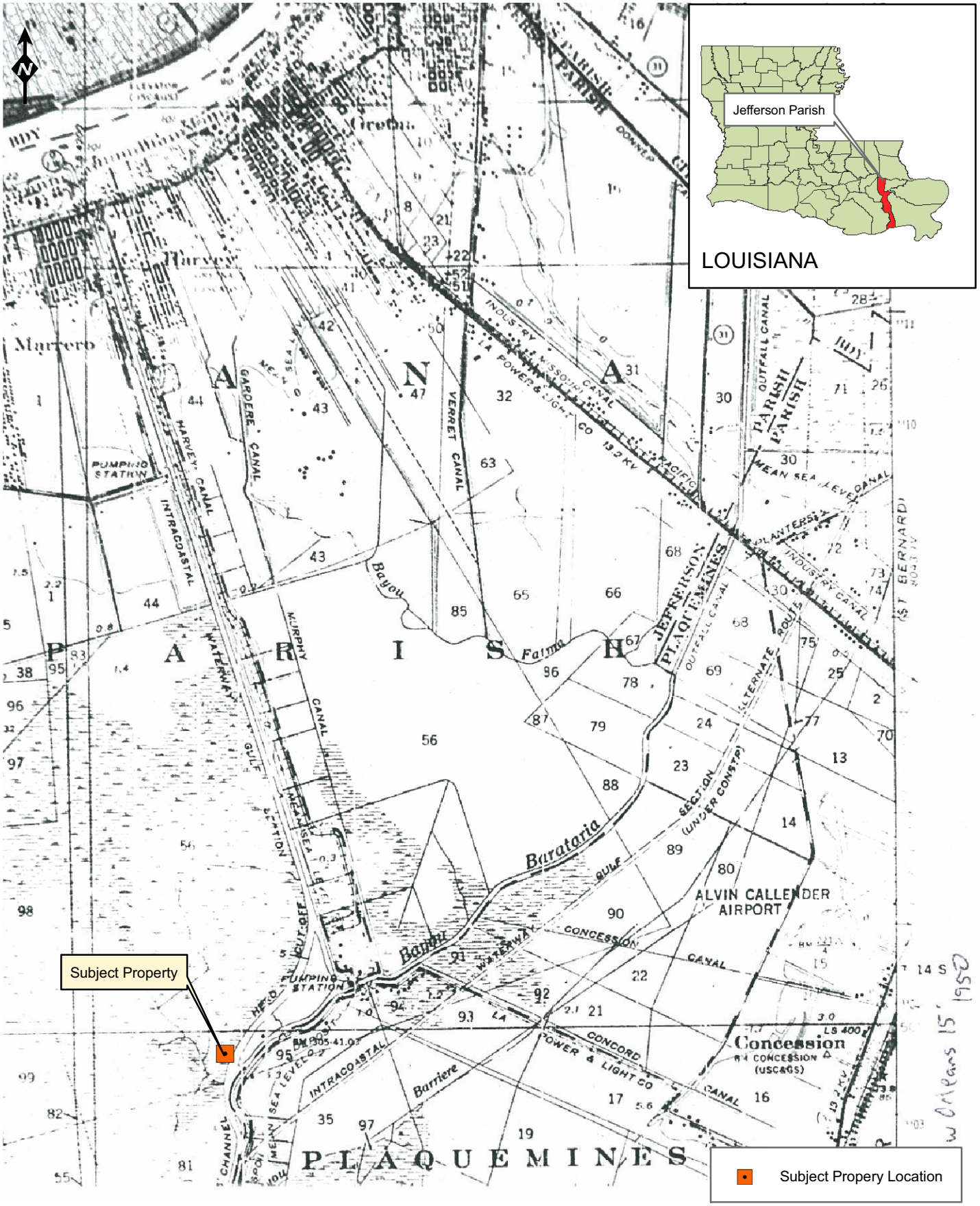


Estelle #2 Pump Station
1948 Aerial Photography

GSRC

March 2007



Estelle #2 Pump Station
1950 New Orleans, LA 15 minute USGS Topographic Quadrangle

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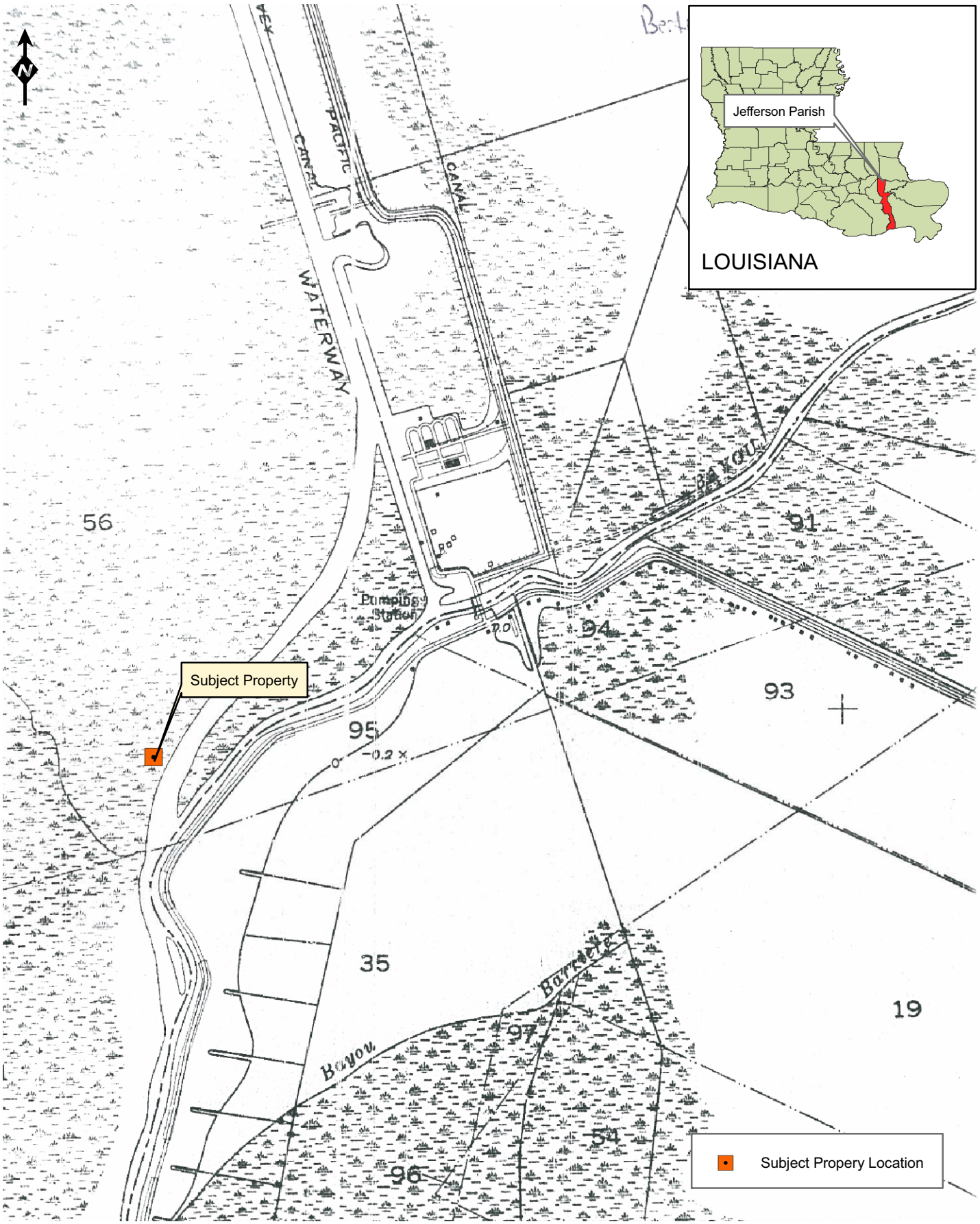

Estelle #2 Pump Station
1951 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

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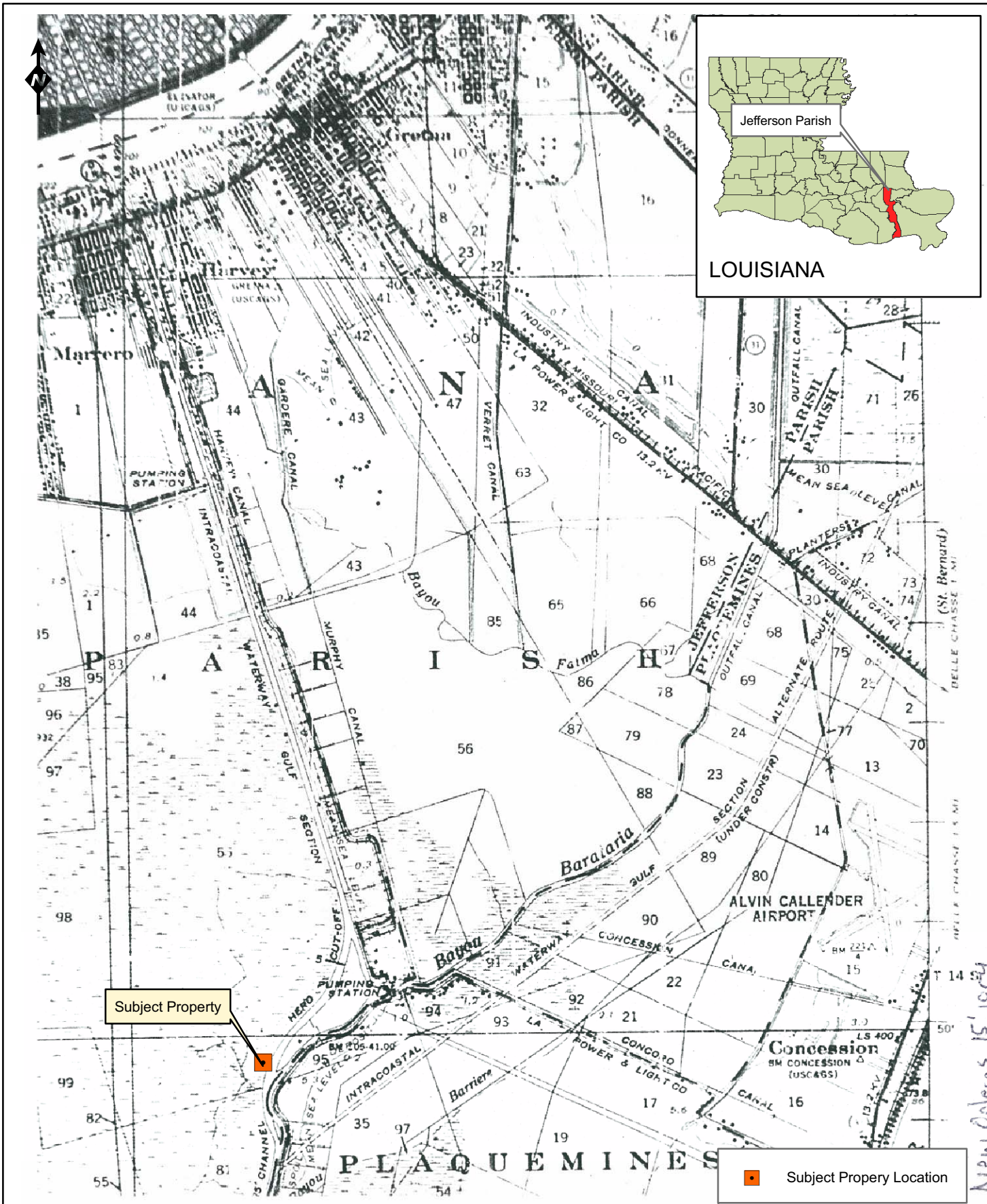
March 2007



Estelle #2 Pump Station
1954 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

March 2007