St. Bernard Parish
Environmental Information Document
Riverbend Oxidation Pond
Pump Station Upgrades & Force Main

St. Bernard Parish Government
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Table of Contents

Appendices

Section 1
Description of Problem

1.1 Background

Post Hurricane Katrina, St. Bernard Parish has proceeded to consolidate its wastewater treatment at one facility, the Munster Wastewater Treatment Plant (WWTP). The purpose of the consolidation was to reduce the overall operational and maintenance costs of the treatment systems within the Parish and improve the ability of the Parish's reduced staffing to properly operate these facilities. Reducing the number of permitted wastewater discharges from St. Bernard Parish would also limit potential non-compliances from Parish facilities and minimize future upgrade costs due to potential changes in discharge limitations.

By 2013, St. Bernard Parish decommissioned the Dravo, Fazendville, and Violet WWTPs and transferred their flows to the Munster WWTP. The Munster WWTP was expanded to accommodate the transfer of flows from these facilities and provide sufficient capacity for future repopulation of St. Bernard Parish. However, due to funding constraints one facility, the Riverbend Oxidation Pond, was not decommissioned. The costs to provide a pump station and force main to transfer flows to the Munster WWTP were not available at the time the consolidation was completed. This forced the continued operation of this facility. The issues raised by the continued operation of the Riverbend Oxidation Pond and reasons St. Bernard Parish desires to decommission this facility are provided below.

1.2 Description of Problem

From 2005 until 2015, the Riverbend Oxidation Pond discharged effluent to the Forty Arpent Canal. This 15-acre facility functioned primarily as a facultative lagoon and provided substantial wastewater treatment for the surrounding area **(Figure 1-1)**. However, the facility was insufficient to meet the BOD and TSS removal requirements to discharge to the Forty Arpent Canal. BOD and TSS discharges were often in excess of the discharge limits, resulting in the facility being non-compliant.

To address the compliance issues at the Riverbend Oxidation Pond, a project was implemented starting in 2012 and with construction completed by 2016 to provide the facility treatment upgrades and relocate its discharge to a wetland location. This project consisted of continued treatment of wastewater through the use of the 15-acre facultative lagoon, disinfection through the use of new ultraviolet disinfection system, and installation of a new pump station to transfer flows to a discharge location in the central wetlands. The facility was designed to accommodate 0.7 MGD average daily flow and peak flows up to 2.0 MGD through the disinfection system. A discharge manifold was provided at the wetland discharge to distribute flows throughout the wetland (**Figure 1-2)**. The facility was permitted to distribute discharge over a 250-acre wetland area. The permit included constraints on nitrogen and phosphorous limits that would be beneficial to the wetlands, in addition to BOD, TSS, Fecal Coliform and other discharge limitations. These limits were initially enforced through a compliance order and included in the

final permit issued in 2018. Upon completion of the upgrades at the Riverbend Oxidation Pond, the discharge from the Riverbend Oxidation Pond has been substantial compliant. Loadings of nitrogen and phosphorous to wetland discharge area have only been 50 to 60% of the loadings allowed.

Figure 1-1 – Location of the Riverbend Oxidation Pond

The upgrades completed in 2016 were supported by a grant from the State of Louisiana Coastal Protection and Restoration Authority (Contract No. 2514-12-05 and State Project No. PO-73 – Central Wetlands Assimilation – Riverbend Oxidation Pond Into Hydrological Unit A4 Project). This grant required completion of the improvements and operation of the wetland discharge for a period of one year. Based upon the anticipated implementation time for the proposed project indicated in Section 2 of this document, the discharge will be in operation for approximately six (6) years meeting the intent of the grant.

Despite substantial compliant operation, the Riverbend Oxidation Pond has been an operational and maintenance strain on St. Bernard Parish. This has increased costs and raised concerns about the long-term ability of this facility to maintain compliant operation. The ultra-violet disinfection system has required excessive attention from operation staff. The system requires substantial energy use on an annual basis. During its first year of operation it experienced multiple repairs due to electrical strikes. The system requires frequent maintenance from operational staff to prevent vegetation entering the treatment channel and fouling the UV bulbs.

Maintenance is also needed to remove snails from the system. Annual contracts are required to monitor the wetland discharge effects on the Central Wetlands. An outside contractor must obtain vegetation and soil samples to assess the discharge effects as part of the permit requirements. Monitoring for the impact of vectors such as wild hogs or nutria is also recommended. Combined with the need to periodically replace UV bulbs, the system has become maintenance intensive. To assure long-term compliant operation to produce properly disinfected wastewater discharge, substantial improvements are required. These improvements are also necessary to reduce the system operation and maintenance costs. In the last several years peak flows to the pond from upstream lift stations has resulted in the discharge pump station having difficulties matching these flows. The result has been water levels rising in the pond to the point of over topping the levees. Although this has only occupied under extreme events, additional temporary pumping measures have been provided as necessary. The need for increased discharge/ lift station capacity is a driver for the proposed project as well.

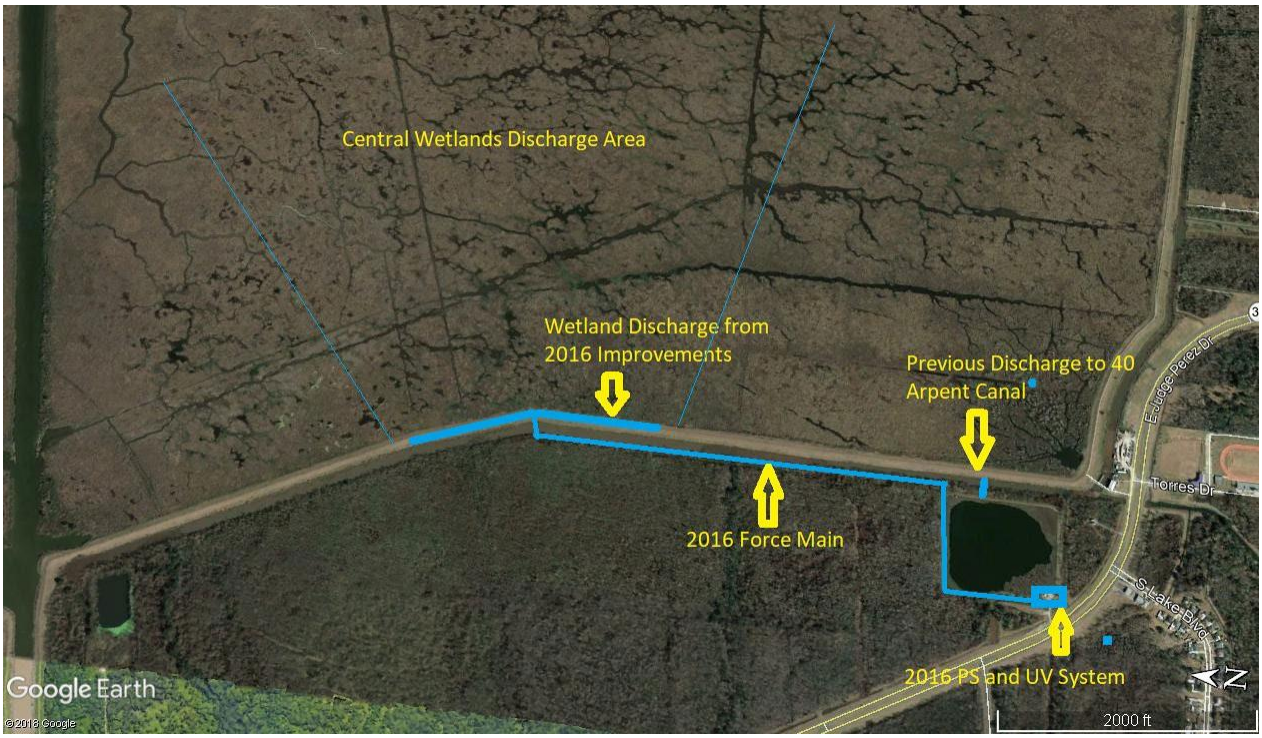


Figure 1-2 – Overview of 2016 Improvements to Riverbend Oxidation Pond

Section 2
Proposed Project

The proposed project is to upgrade the existing pump station at the Riverbend Oxidation Pond and construct a force main to discharge treated flows to the Mississippi River. This will remove the current wetland discharge from the Riverbend Oxidation Pond. The discharge to the Mississippi River will require a new permit application. Improvements will be made to the Riverbend Oxidation Pond to improve its treatment capabilities. Mechanical surface aerators will be installed to increase the treatment effectiveness of the facility. An isolation cell will be constructed prior to the outlet from the pond to the existing pump station. This cell will be covered to minimize algae production prior to the pump station. The existing ultraviolet disinfection system will be replaced with a chlorine based disinfection system. The existing pump station will be increased in capacity to a minimum of 4.0 MGD to address the current peak flows to the pond.

All flows would be transferred to the Mississippi River for discharge under a new permit. **Figure 2-1** provides the routing of the new force main proposed to transfer flows to the Mississippi River. As shown in this figure approximately 1,800 feet of new 12 inch diameter force main would be installed at the edge of the Highway 39 right of way. This would require a permit from the Louisiana Department of Transportation and Development (LaDOTD). The new force main will be then be tied into an existing 15 inch diameter pipeline whose ownership has been transferred to St. Bernard Parish. The ductile iron line runs approximately 5,500 feet to a discharge point at the Mississippi River. The line was initially used for water service, thus it has an intake point from the River and an intermediate pump station that will require modifications to assure a continuous pipe line to the River. However, it should provide existing crossing beneath Highway 39 and Highway 45 and an existing crossing of the Mississippi River levee. All of which should simplify project construction. No land acquisition will be necessary to implement this project. All activities will either occur at sites currently owned by the Parish or within existing rights of way.

By transferring the Riverbend Oxidation Pond flows to the Mississippi, it is anticipated St. Bernard Parish will experience the following benefits:

- Elimination of the need for capital improvements to the Riverbend Oxidation Pond to address capacity issues and upgrades needed for the current discharge
- Reduction in overall operation and maintenance costs for its treatment facilities in current operation. Elimination of the UV system should reduce overall energy needs. The weekly needs for operational staff to oversee the operation of the Riverbend Oxidation Pond will be reduced. Also, the monitoring requirements and costs for the wetland discharge will be eliminated. This will reduce overall monitoring costs.
- Ability for the Riverbend Oxidation Pond to be upgraded further in the future, if growth in this portion of the Parish occurs.

Figure 2-1 – Overview of Proposed Project

The estimated construction costs for this project are provided in **Table 2.1** for the force main construction and pump station upgrade costs, respectively. The total project construction cost is estimated at $2.2 million.

Table 2.1 – Proposed Project Estimated Costs of Pump Station and Force Main Construction

Item	Unit	Quantity	Unit Price	Subtotal
Manual Bar Rack	LS	1	$35,000	$35,000
Floating Aerator Installation	EA	4	$25,000	$100,000
Fill for Isolation Cell	CY	3000	$30	$90,000
Sheet Pile for Bar Rack	SF	880	$60	$52,800
Floating Cover for Isolation Cell	LS	1	$50,000	$50,000
Chlorination Equipment	LS	1	$75,000	$75,000
Electrical/Control Panel Upgrades	LS	1	$200,000	$200,000
Replacement Pumps	EA	3	$72,000	$216,000
New 12 " FM to River	FT	1800	$120	$216,000
Force Main Modifications at Existing PS	LS	1	$20,000	$20,000
Levee Crossing	LS	1	$35,000	$35,000
New Discharge Location	LS	1	$40,000	$40,000
Mobilization (5%)	EA	1	$51,740	$51,740
Subtotal				**$1,181,540**
Contingency (30%)				$354,462
TOTAL				**$1,536,002**

Section 3
Alternatives to Proposed Project

This portion of the EID assesses the alternatives to the proposed project and criteria utilized to evaluate the alternatives. The alternatives to the proposed project are discussed including the no action alternative. The criteria utilized to evaluate the alternatives are as follows:

(A) Long-term impacts on surface water quality
(B) Project life cycle costs
(C) Annual operational costs and staffing needs
(D) Long term permitting and regulatory compliance
(E) Wetland Impacts

The further description of the evaluation criteria is provided below. Each alternative is also presented followed by a discussion of their performance under these evaluation criteria. A summary of the outcome of this evaluation including a numerical scoring is provided at the end of this section.

3.1 Description of Criteria

Each project was evaluated by the following criteria on a scale of 1 to 10 with 1 being the lowest possible rating representing the most negative impact and 10 being the highest possible rating representing the most beneficial impact.

3.1.1 Long-term impacts on surface water quality

Improperly treated sewage discharged from a wastewater treatment facility may pollute and degrade nearby surface waters. In turn these improperly treated discharges could negatively impact the functions of local surface water bodies for recreational use and aquatic life propagation. The major bodies of water, which surround St. Bernard Parish are the Central Wetlands to the north and Mississippi River to the south. Treated wastewater from any of the alternatives will discharge to these locations.

3.1.2 Project Life Cycle Costs

This criteria will assess the capital construction costs and long-term operational costs of each alternative. The net present worth value of each alternative for these items will be compared.

3.1.3 Annual Operational Costs and Staffing Needs

The annual operational costs of each alternative will be compared. Also, the staffing needs will be assessed for each. Given the limited availability of trained operational staff for St. Bernard Parish, alternatives with lower staffing needs will be favored.

3.1.4 Long-Term Permitting and Regulatory Compliance

For each treatment facility that is maintained a separate discharge permit will be required incorporating separate regulatory compliance requirements. Alternatives requiring multiple

discharge permits will be anticipated to be at greater risk at future non-compliance, require greater monitoring efforts to assure compliance and have a greater potential for future capital upgrades due to potential changes in permit requirements.

3.1.5 Wetlands Impacts

The current Riverbend Oxidation Pond discharges to the Central Wetlands. Its intent is to provide an overall beneficial impact to these wetlands. Thus, each alternative needs to be evaluated in its anticipated impact to this current wetland area.

3.2 No Action Alternative

The no action alternative would consist of operating the Riverbend Oxidation Pond and its wetland discharge as currently configured. Under this alternative the facility would still provide treatment as a facultative lagoon followed by a UV disinfection system and pumping through the existing pump station to the wetland discharge location. The facility would operate under existing permit to discharge to the 250-acre tract within the Central Wetlands.

Under the no action alternative, it is anticipated that the UV disinfection system will remain a high maintenance concern requiring frequent cleaning of vegetation and snails to assure proper operation. Vegetation would need to be periodically dredged from the pond to prevent impacts to the UV system. The system will require high degree of oversight from operation staff and maintenance to assure compliant operation. Higher energy costs will be incurred due to the UV system operation and annual wetland monitoring costs will still be incurred, a higher potential for future non-compliant operation will remain if no improvements are provided to the facility. The potential for overflows of the pond due to peak flows will remain.

The central wetland discharge will still receive the benefit of freshwater and nutrients that are provided under the permit to provide potential benefits to the wetlands. If discharge permit conditions change at some point in the future, this facility will also incur additional capital improvement costs over the proposed project.

3.2.1 Long-term impacts on surface water quality

If no capital upgrades are made to the current Riverbend Oxidation Pond it is anticipated to struggle to meet its current permit requirements. This is anticipated to have an eventual impact on the Central Wetlands. Although these wetlands should continue to benefit from the phosphorus, nitrogen and freshwater levels introduced at the discharge, any substantial violations of the current discharge will have negative impacts. BOD and Fecal Coliform violations might be expected if additional capital improvements are not implemented within the next five years. Overflow of the pond banks may remain a concern during peak flows.

3.2.2 Project Life Cycle Costs

The life cycle costs for this alternative are anticipated to be similar to the Proposed Project. However, the impacts will likely be greater since taken no action will eventually result in non-compliance violations and require the improvements at a later date. Accordingly, it is difficult to estimate these costs, but they are anticipated to be greater than the proposed project.

3.2.3 Annual Operational Costs and Staffing Needs

This alternative is anticipated to have the greatest annual operational costs and staffing needs. Without implementing the capital improvements proposed by the Proposed Project, the day to day requirements to maintain the UV disinfection will be much greater. The system will require more attention to prevent fouling due to vegetation from the pond. A greater degree of periodic vegetation removal would also be anticipated. To assure proper disinfection greater power will be consumed due to the need to run all UV system at its highest level.

3.2.4 Long-Term Permitting and Regulatory Compliance

This alternative will require continuing to maintain two separate discharge permits. Thus, it will be anticipated to be at greater risk at future non-compliance, require greater monitoring efforts to assure compliance and have a greater potential for future capital upgrades due to potential changes in permit requirements.

3.2.5 Wetlands Impacts

Properly managed this alternative was initially implemented to have a positive impact on the Central Wetlands due to the introduction of nutrients (nitrogen and phosphorous) and freshwater. However, if upgrades at not provided to the current treatment systems over the long-term, eventual non-compliant discharges may occur negatively impacting the wetlands.

3.3 Transfer of Flows to the Munster Wastewater Treatment Plant

This alternative is to upgrade the existing pump station at the Riverbend Oxidation Pond and construct a force main to transfer flows for treatment to the existing Munster WWTP. This will remove the current wetland discharge from the Riverbend Oxidation Pond. The Riverbend Oxidation Pond would no longer be utilized as a facultative lagoon for wastewater treatment. Flows may only pass through the facility to be transferred to the existing pump station and to facilitate equalization of peak flows. The existing UV treatment system would be placed offline. All flows would be transferred to the Munster WWTP for full treatment and disinfection. **Figure 3-1** provides the routing of the new force main proposed to transfer flows to the Munster WWTP. As shown in this figure, approximately 3 miles of new force main would be routed within the banks of the 40 Arpent Canal from the Riverbend Oxidation Pond, to the location of the Violet WWTP. The new force main should be located within existing Parish right of way for the 40 Arpent Canal. At this point, the force main can be connected to an existing, previously installed force main to transport flows the remainder of the distance to the Munster WWTP. The existing pump station at the Riverbend Oxidation Pond can be utilized with upgrades to the existing pumps and electrical controls. It is anticipated the project will maximize the use of the existing infrastructure at this site. No land acquisition will be necessary to implement this project. All activities will either occur at sites currently owned by the Parish or within existing rights of way.

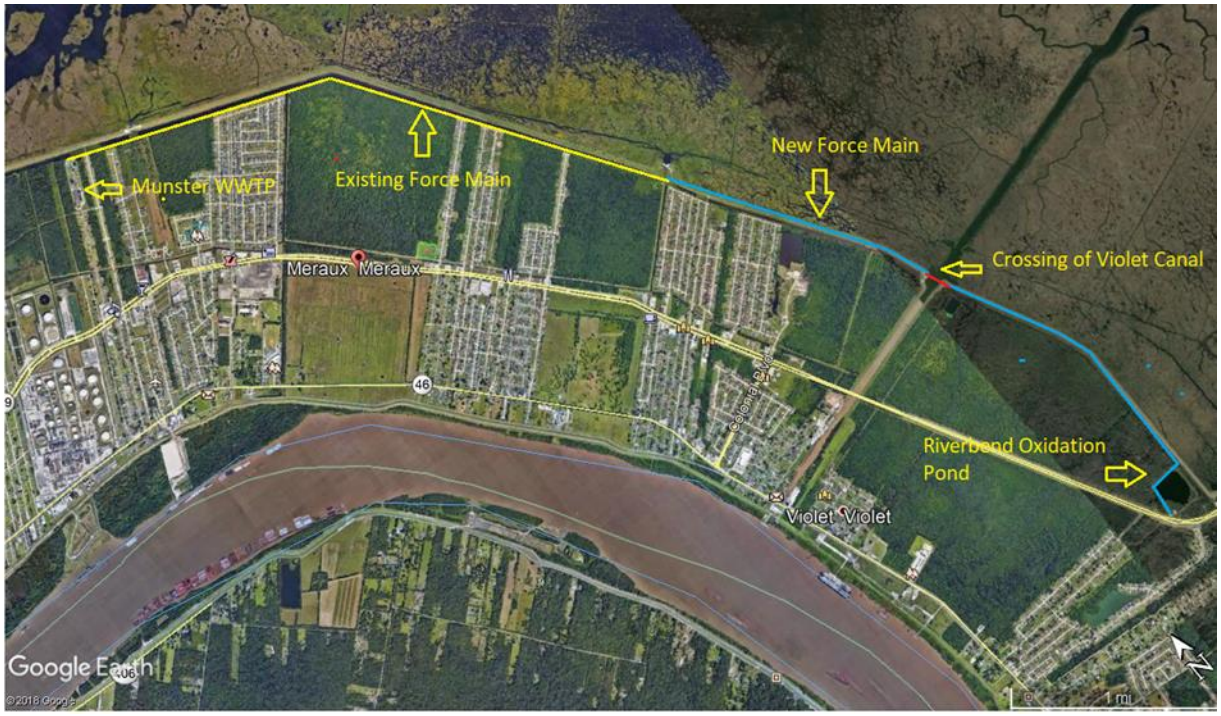


Figure 3.1 : Overview of Alternative to Transfer Flows to the Munster WWTP

Flows from the Riverbend Oxidation Pond will be transferred to the headworks of the Munster WWTP for treatment by this facility. The Munster WWTP is currently permitted for an average daily flow of 14.5 MGD and presently only receives approximately 60% of this permitted flow. Munster WWTP discharges to subsegment 070301 of the Mississippi River at a latitude of approximately 29.928137 and longitude of approximately -89.936687. The facility has more than adequate capacity to accept the approximate 0.5 MGD average daily flow from the Riverbend Oxidation Pond and accompany future repopulation of St. Bernard Parish. The Munster WWTP provides full secondary wastewater treatment and disinfection utilizing sodium hypochlorate prior to discharge to the Mississippi River. The Munster WWTP discharge currently consistently surpasses the requirements for its permit limits. With the addition of these flows from Riverbend and the population predicted in Section 4, it is anticipated flows to this facility will remain below its design capacity for the next twenty years.

Table 3.1 – Estimated Construction costs for Upgrades to the Riverbend Oxidation Pond

Item	Unit	Quantity	Unit Price	Subtotal
Mobilization	LS	1	$204,590	$204,590
Field Engineering and Survey	LS	1	$50,000	$50,000
Clearing and Grubbing	LS	1	$20,000	$20,000
16" Sewer Force Main (PVC, Open cut)	LF	750	$150	$112,500
16" Sewer Force Main (HDPE, Directional Drill)	LF	14,250	$180	$2,565,000
Ductile Iron Fittings	LB	6,000	$6	$36,000
Air release Valves	EA	15	$8,500	$127,500
Joint Restraintis	EA	40	$200	$8,000
Removal of Existing Equipment	LS	1	$20,000	$20,000
Bypass Pumping	LS	1	$100,000	$100,000
Coating of Existing Wel Well	LS	1	$50,000	$50,000
Valves and Appurtences	LS	1	$150,000	$150,000
2 - 60HP Submersible Pumps and Control Panels	LS	1	$325,000	$325,000
Electrical	LS	1	$200,000	$200,000
Manual Bar Rack	LS	1	$35,000	$35,000
Floating Aerator Installation	EA	4	$25,000	$100,000
Fill for Isolation Cell	CY	3000	$30	$90,000
Sheet Pile for Bar Rack	SF	880	$60	$52,800
Floating Cover for Isolation Cell	LS	1	$50,000	$50,000
Subtotal				**$4,296,390**
Contingency (30%)				$1,190,577
Total			TOTAL	**$5,486,967**

3.3.1 Long-term impacts on surface water quality

The high level of treatment currently achieved at the Munster WWTP will assure the flows transferred to this facility will not impact surface water. The flows proposed to be transferred are well within the facility's current treatment capacity. Thus, no long-term impacts on surface water quality will be anticipated.

3.3.2 Project Life Cycle Costs

The capital construction cost of the proposed project is estimated at $5.4M. As compared to the present worth of the construction costs and operation costs of the Proposed Project alternative as calculated in **Appendix A**, the life cycle cost of this project is anticipated to be $2.5M more than the proposed project.

3.3.3 Annual Operational Costs and Staffing Needs

This alternative is anticipated to have annual operational costs and staffing needs than the other alternatives. As indicated in **Appendix A** the current cost is anticipated to be $90k per year lower than the Proposed Project costs. It will require the less staffing than the no action alternative.

3.3.4 Long-Term Permitting and Regulatory Compliance

This alternative will require continuing to maintain one discharge permit. Thus, it will be anticipated to be at the least risk of future non-compliance, require the least monitoring efforts to assure compliance and have the least potential for future capital upgrades due to potential changes in permit requirements.

3.3.5 Wetlands Impacts

This alternative would remove the current discharge from Riverbend Oxidation Pond to the Central Wetlands. Thus, the benefit from this discharge to the Central Wetlands would be lost.

3.4 The Proposed Project

The proposed project was discussed in Section 2 of this document. It will include upgrades to the existing pump station at the Riverbend Oxidation Pond and treatment upgrades and construction of a force main to the Mississippi River. Discharge of treated wastewater from the Riverbend Oxidation Pond to the Central Wetlands will be discontinued. The impacts of proposed project are discussed below.

3.4.1 Long-term impacts on surface water quality

If the proposed capital upgrades are made to the current Riverbend Oxidation Pond it is anticipated to meet its new discharge permit limits. Thus, no long-term impacts on surface water quality will be anticipated.

3.4.2 Project Life Cycle Costs

Appendix A of this document provides an analysis of the life cycle costs of this project based on anticipated operational costs. This analysis strictly establishes the increased operational and maintenance cost of to the proposed project compared to the transfer of flows to the Muster WWTP. The proposed project is anticipated to have higher annual operational maintenance cost. However, when combined with the anticipated construction costs its life cycle costs are anticipated to be $2.5 M lower.

3.4.3 Annual Operational Costs and Staffing Needs

This alternative is anticipated to have the lowest annual operational costs and staffing needs of all the alternatives. As indicated in **Appendix A** the current cost is anticipated to be $90M per year less than the transfer of flows to the Munster WWTP. However, its operational costs are anticipated to be slightly lower than the no action alternatives. It will require the less staffing than the no action alternative.

3.4.4 Long-Term Permitting and Regulatory Compliance

This alternative will require continuing to maintain two separate discharge permits. Thus, it will be anticipated to be at greater risk at future non-compliance, require greater monitoring efforts to assure compliance and have a greater potential for future capital upgrades due to potential changes in permit requirements.

3.4.5 Wetlands Impacts

This alternative would remove the current discharge from Riverbend Oxidation Pond to the Central Wetlands. Thus, the benefit from this discharge to the Central Wetlands would be lost.

3.5 Evaluation of Alternatives Summary

Table 3.2 is an orthogonal table scoring each alternative against criteria on a scale of one (1) to ten (10) as discussed in previous portions of this section. Again, the maximum score of tens represents the highest positive impact while the minimum score of one represents the highest negative impact. The previous discussion provides the basis of the scoring provided in **Table 3.2**. Based upon this scoring the No Action Alternative provided the lowest scoring and the transfer of flows to the Munster WWTP alternative provided the second lowest scoring. The Proposed Project scored the highest of all the alternatives and therefore was chosen as the best option to produce the most positive impact. This is due primarily to having the greatest long-term impact on operational costs and staff, the best long-term permitting and regulatory compliance approach.

Table 3.2 – Tabulation of the Evaluation of Alternatives

Criteria	No Action Alternative	Transfer of Flows to the Munster WWTP	Proposed Project
A	4	9	9
B	7	4	10
C	4	9	10
D	5	9	5
E	8	2	2
Total Score	**28**	**33**	**36**

Section 4
Environment Setting of the Proposed Project

4.1 Social and Economic Conditions

Southeast Louisiana is underlain by numerous oil and gas fields. The economic base for the Parish includes oil and gas production, shipping, manufacturing, residential development, and chemical and petroleum production. The major industrial employer is the petroleum industry. Agriculture continues to be a source of income in this region.

4.1.1 Political Jurisdiction and Boundaries

The planning area is located within St. Bernard Parish, Louisiana. St. Bernard Parish adopted a Home Rule Charter as its form of government on November 8, 1988, which provides for separate legislative and executive branches, independent of each other. Legislative matters are handled by a seven-member Council, in which five are elected from districts and two at-large members are elected parish-wide. The Council's principal function is to enact ordinances or laws. However, the Charter also gives the Council broad additional powers including levying taxes, appropriating funds, and fixing penalties for violations of local ordinances. The daily routine of government is the responsibility of the Parish President, who heads the executive or administrative branch. The Parish President carries out the policies developed by the Council and implements the Council's decisions. Department heads are appointed by the Parish President and must be confirmed by a majority vote of the Council. All programs are handled on a parish-wide basis by departments staffed with professionals.

4.1.2 Geographical Boundaries

The "Proposed Project" area is situated within the Mississippi Delta Plain south of the Lake Pontchartrain Basin with the Mississippi River bordering the proposed service area on the south (at the St. Bernard Parish line) and the 40 Arpent Canal bordering the North. The geographical boundaries immediately surrounding the project area are illustrated in Section 2 (**Figure 2-1**).

4.1.3 Demographics

4.1.3.1 Historical and Projected Population

Historical and projected population data for St. Bernard Parish is shown in **Table 4-1**. The population in St. Bernard Parish was on a very positive growth trend from 1940 until the 1980's when the collapse of the oil industry in the general area caused a tremendous drop in growth trends. In 2005 due to the excessive flooding impacts of Hurricane Katrina, the population of St. Bernard Parish was reduced by over 50%. Since this time the Parish has exhibited a reasonable repopulation rate showing a 22% growth between 2010 and 2016. At this rate St. Bernard may be expected to reach 90% of its pre-Katrina population by 2030.

Table 4-1
Historical and Projected Population Data [1]

Year	Population	Growth
1900	5,031	--
1910	5,277	246
1920	4,968	-309
1930	6,512	1,544
1940	7,280	768
1950	11,087	3,807
1960	32,186	21,099
1970	51,185	18,999
1980	64,097	12,912
1990	66,631	2,534
2000	67,229	598
2010 [2]	35,987	-31,242
2016 [1]	44,091	8,104
2019	47,244	3,153
2030 [2]	60,000	15,909

[1] U.S. Bureau of Census

[2] Estimate based on post Katrina population growth to date

4.1.3.2 Ethnicity/Gender

The 2016 census of population for St. Bernard Parish indicated a total population of 44,091, with an ethnicity breakdown as presented in **Table 4-2**.

Table 4-2
Ethnicity 2000 Population Characteristics [1]

Category	Total	% of Total Population
White	28,351	64.3
Black	9,524	21.6
Hispanic	4,277	9.7
Asian	935	2.12
Other	1,004	2.28
Total	44,091	

[1] U.S. Census Bureau

4.1.3.3 Socio-Economic Profile

The socio-economic profile for St. Bernard Parish indicates the median age, median family income, median home value, and percent of families above and below $15,000 of income. These and other socio-economic data are identified in **Table 4-3**.

Table 4-3
Socio-Economic Profile [1]

Description	Value
Median age, 2016	33.2 years
Median Household income, 2016	$45,265
Median home value, 2016	$133,400
Number households with incomes below $15,000	16.5%
Number Households with incomes over $15,000	83.5%

[1] U.S. Census Bureau

4.1.4 Environmental Justice

The overall impact of the proposed project should benefit the entire Parish. Decommissioning of this facility should reduce the Parish's annual operating costs. The proposed project will not require a new treatment facility within the Parish. Thus, no subsegment of the Parish's population will be impacted by a siting decision. The Riverbend Oxidization Pond, will remain virtually unchanged . The new discharge location utilizes an existing intake location

4.2 Natural Elements

4.2.1 Climatic Elements

St. Bernard Parish is located in an area of humid subtropical climate. The area's climate is affected by its proximity to the Gulf of Mexico and several lakes and water bodies nearby. These large water surfaces moderate temperatures. The winter average temperature is 54°F with an average daily minimum temperature of 44°F. During the summer the average temperature is 90°F (United States Department of Agriculture (USDA), 1989).

The average relative humidity is approximately 65 percent. Humidity is higher at night with an average of approximately 90 percent at dawn. The sun shines 60 percent of the day light hours in the summer and 50 percent in the winter (USDA, 1989). The prevailing wind is from the southeast with an average wind speed of 10 miles per hour (mph) in the spring. Hurricanes occur every few years.

The total annual precipitation is 59-inches. Most rainfall occurs during the months of April through September. The growing season falls within this period. Thunderstorms occur about 70 days each year during the summer months.

4.2.2 Biological Elements

St. Bernard Parish consists of large acreages of marshes, swamps, bayous, and open-water areas that provide habitat for many species of fish and wetland wildlife. There are smaller areas of cropland, hardwood forest, swamps, and pastureland that provide habitat for open land and woodland wildlife.

The marshes are a part of the coastal estuarine complex that significantly supports the marine life from the Gulf of Mexico. St. Bernard Parish borders the Gulf of Mexico and provides a base for a large marine fishing industry. St. Bernard Parish has experienced severe coastal marsh erosion as a result of land subsidence, the construction of navigation canals, oil and gas exploration, and saltwater intrusion. There are efforts to retain the remaining coastal marshes, although most of the marshlands in St. Bernard Parish exist outside of the levee system, which is external to the populated developed areas of the Parish.

There are several types of marshes in St. Bernard Parish. These marshes are based on salinity levels and the type of vegetation that grow in these areas. The wildlife population in these marshes also depends, to a large extent, on salinity and native plants. The brackish and saline marshes and fresh water wetlands are discussed below. The wetlands in the vicinity of the proposed project area are shown in Appendix B – Figure 3.

4.2.2.1 Brackish Marsh

The Brackish marsh is the dominant marsh type in St. Bernard Parish. The average level of salinity in the soils of the brackish marsh is about 8 parts per thousand. Native plants are tolerant of moderate amounts of salt. The dominant plants are marshhay cordgrass, only bulrush, dwarf spikesedge, March Morning Glory, saltmarsh bulrush, big cordgrass, sumpweed, and widegeongrass (USDA, 1989).

The brackish marsh provides habitat for large number of geese, mink, otter, raccoon, and muskrat. There are also ducks, nutria, the American Alligator, and swamp rabbits that use the brackish marsh. The brackish marsh is part of the estuary that provides a nursery for some species of fish and crustaceans (USDA,1989).

4.2.2.2 Saline Marsh

The saline marsh is closest to the Gulf of Mexico and extends inland for several miles. Soil in the saline marsh is regularly inundated by saltwater from the Gulf of Mexico. Salinity levels average about 16 parts per thousand. Native plants that grow in these soils are tolerant of high levels of salinity. The dominant plants include smooth cordgrass, needlegrass rush, seashore saltgrass, marshhay cordgrass, and saltwort.

The saline marsh is an important part of the estuary as it provides a nursery for crustaceans and saltwater fish, such as shrimp, blue crab, menhaden, croaker, spot, bay anchovy, and other sea life that spawns in the Gulf of Mexico. The Saline marsh has a lower population of ducks, nutria, the American Alligator, and swamp rabbits than the brackish marsh. There are moderate numbers of geese, muskrat, mink, otter, and raccoon that use the saline marsh.

4.2.2.3 Freshwater and Marine Wetlands

The freshwater wetlands associated with the Mississippi River batture exist along the river banks during the low river level seasons. Saltwater intrusion and subsidence has caused much of the freshwater marsh to become brackish and/or saline or convert to open water. Much of the swamps in the area are affected by saltwater intrusion, which has resulted in changes in the native plants and trees. Native trees that can be found in this area include water oak, Nuttal oak, overcup oak, water hickory, white oak, elm, baldcypress, persimmon, sugarberry, and sweetgum. There are small areas of bottom land hardwood forests in St. Bernard Parish that provide good habitat for woodland wildlife species such as white-tailed deer, squirrel, rabbit, raccoon, opossum, coyote, otter, mink, wood duck, nutria, and nongame bird and other animals.

4.2.3 Soil Type

Soils in the vicinity of the project area are shown in Appendix B – Figures 9 and 10. There are predominantly two soil types, the Harahan and Westwego clays. The Harahan Clay series consists of poorly drained and slowly permeable soils. The soils in this area are drained, former swamps as they are in the lower Mississippi River flood plain. The Westwego Clay series consists of poorly drained, very permeable soils. These soils are in broad, drained, former swamps on the delta of the Mississippi River. Westwego soils are commonly found near Harahan soils, as well as, two other soil types (Commerce Soil and Sharkey Soil). The Harahan and Westwego soils are protected from most floods by a system of levees, and are artificially drained by pumps, Flooding is rare, but it can occur during hurricanes or when levees or pumps fail. Elevation for these soil types range from sea level to approximately 3 feet below sea level (USDA, 1989).

4.2.4 Land Use

Land use in the vicinity of the Planning Area will not change. The developed and undeveloped areas in St. Bernard Parish will not be impacted by the construction. Some temporary disruption of property may be anticipated for force main construction. However, all such construction is anticipated within existing public right-of-way.

4.3 Topography

The topography of St. Bernard Parish is typical for the lower Mississippi Region. The land is essentially a flat plain which ponds the runoff from higher elevations and then slowly drains through many canals and natural bayous into Lake Borgne to the northeast, the Mississippi River to the west and south, and the Chandeleur and Breton Sounds to the east.

Prior to the construction of the man-made levees along the Mississippi River, flood waters deposited sediments carried along the riverbanks. Natural levees were formed sloping away from the River. These natural levees have a width of two to three miles in some areas with a slope of less than one percent. The top of the artificial levees along the Mississippi River, which are maintained by the Lake Borgne Basin Levee District, are at approximately 23-feet Mean Sea Level (MSL) while the maximum natural ground elevation adjacent to these levees is at approximately 15-feet MSL.

4.4 Hydrological Elements

St. Bernard Parish lies to the north and east of the Mississippi River and south of the Mississippi River-Gulf Outlet Canal (Intracoastal Waterway). The 40 Arpent Canal borders the Planning Area to the north, making it the closest surface water feature. Other potential hydrological influences are Lake Pontchartrain, which lies to the northwest of St. Bernard Parish, and Lake Borgne, which lies to the northeast.

The Mississippi River Gulf Outlet (MRGO) is a 500-foot wide 36-foot deep channel which was opened to navigation in 1963 (USDA, 1989). In this Parish, the hydrologic regime is influenced by the outlet as it provides a conduit for a large mass of saltwater from the Gulf of Mexico to enter interior drainage channels and to create greater fluctuations in tide levels. This area has a greater fluctuation of water levels and salinity values than most other parishes in Louisiana (USDA, 1989). After Hurricane Katrina, a barrier was constructed to remove the influence of MRGO on the local salinity levels in St. Bernard Parish. Since completion of this barrier salinity levels of the impacted marshes have been gradually decreasing.

4.5 Water Quality

4.5.1 Surface Water

Surface water in this Parish is influenced by natural and manmade factors. Freshwater and saltwater move through this region as a result of the interaction between the Mississippi River discharge and regional precipitation, winds, and tides (USDA, 1989). Despite the abundance of surface water contained in various bayous, the Mississippi River is the only water source adequate for the production of potable water for St. Bernard Parish.

4.5.2 Groundwater

Groundwater is produced from three aquifers in St. Bernard Parish. The three major aquifers (a 200-foot sand aquifer, a 700-foot sand aquifer, and a 1,200-foot sand aquifer) are located within the St. Bernard Delta. The Parish contains little or no potable groundwater due to saltwater intrusion. There are occasional lenses of freshwater floating on the saltwater (USDA, 1989). Appendix B- Figure 6 indicates there are no aquifers near the proposed project area.

4.5.3 Stormwater

The drainage system in the Parish is basically of the gravity type consisting of a network of subsurface drainage, canals, and ditches that flow to the 40 Arpent Canal. At the 40 Arpent

Canal, stormwater is pumped to the marsh between the back protection levees and the Mississippi River Gulf Outlet levee.

4.6 Ambient Noise Level

The noise in the existing area is a composite of a multitude of noise sources from various sections of the community and the natural environment. Noise from vehicular, rail, and water traffic is the primary contributors to the overall noise level.

4.6.1 Vehicular Traffic

The primary source of ambient noise in the planning area is vehicular traffic. There are four major roadways serving St. Bernard Parish:

- Interstate 510 (I-510)
- Louisiana State Highway 47 (LA 47, Paris Road)
- Louisiana State Highway 46 (LA 46, St. Bernard Highway)
- Louisiana State Highway 39 (LA 39, Judge Perez Drive)

These heavily traveled roads contribute to the community's ambient noise level.

4.6.2 Railroad Traffic

Noise due to railroad use comes from the Norfolk Southern Railroad that supports the Port of New Orleans and provides rail service to the Parish. The railway system adds to the ambient noise level in the planning area.

4.6.3 Water Traffic

Ambient noise produced by local water transportation is primarily from the Mississippi River. The river provides local water transportation, as well as, serving as a major water route for areas upstream of the Parish. There is continuous water traffic associated with the transport of goods and supplies from upstream ports. Additionally, there are several loading and unloading facilities located along the Mississippi River bank in the Parish.

4.7 Environmentally Sensitive Areas

Appendix B Figures 3-5 and 7-8 display information on wetlands, coastal resources and scenic rivers in the vicinity of the proposed project area. Marshes and wetlands associated with the Mississippi River are considered to be environmentally sensitive areas, since they are critical as nurseries for marine and aquatic life. The new force main will be built within an existing servitude. This area is not considered a wetlands area according to the
U.S. Fish and Wildlife Service National Wetlands Inventory. The Estuarine and Marine Wetlands and Freshwater Forested/Shrub Wetlands in the area will not be

affected by the proposed project. There are no other officially designated environmentally sensitive areas within the project site.

4.8 Archaeological and Historical Sites

Appendix B Figures 10 and 12 display locations of historic resources in the vicinity of the project area. The National Register of Historic Places lists all significant historic properties, including buildings, sites and districts. **Table 4-4** shows the list of St. Bernard Historic Places.

None of the St. Bernard Parish Historic Places will be negatively affected by the proposed project.

Table 4-4
St. Bernard Parish Historic Places

Site	Date-Established
Chalmette National Historical Park, Chalmette	National Park
Magnolia Mound Archaeological Site	May 22,1978
Fort Proctor (Beauregard), shell Beach Vicinity	Sept. 20, 1978
Chandeleur Light, New Orleans Vicinity	June 25,1986
Sebastopol Plantation House, St. Bernard Vicinity	Aug. 13,1986
Friscoville Street Historical District, Arabi	July 9,1998
Old Arabi Historic District, Arabi	July 9, 1998
Kenilworth Plantation House, St. Bernard	April 24, 2006
Pecan Grove Plantation House, Meraux	March 20, 2013
Ducros, Dr. Louis A., House, St. Bernard	June 9, 2014
Ford Motor Company Assembly Plant, Arabi	June 22, 2018
1939 St. Bernard Parish Courthouse	January 31, 2019

4.9 Energy Sources

Energy in the planning area is provided through the Entergy Corporation's three electric generating plants operated near Taft, Louisiana. The plants consist of Waterford Nos. 1, 2, and 3. Waterford Nos. 1 and 2 are coal-burning facilities and Waterford No. 3 is a nuclear facility. Waterford Nos. 1 and 2 are designed for 811 megawatts and Waterford No. 3 is designed for 1,100 megawatts.

The area has experienced no shortages of energy supplies in the past. Due to the energy demands of the surrounding area, the trend appears favorable for adequate energy supplies in the future.

Section 5
Environment Impacts of the Proposed Project

5.1 Primary Impacts

Primary impacts are those impacts directly attributable to the construction, operation, and maintenance of the "Proposed Project", the Riverbend Oxidation station at the Riverbend Oxidation Pond and force main improvements to transfer flows to the Mississippi River.

5.1.1 Short-Term Impacts

5.1.1.1 Alteration of Land Forms, Streams, and Drainage Patterns

Proposed improvements will not result in alteration of stream or drainage patterns. Excavation and grading activities will take place during construction, but the construction sites will be graded to the approximate original contours. Employing proper erosion control practices during construction will reduce potential impacts. Rapid establishment of an appropriate ground cove on graded areas will be implemented.

The new force main will cause only temporary disruptions during the excavation and laying of the line and should be routed within existing rights-of-way. By using proper site management techniques during construction and re-establishment of ground cover, these disruptions will be minor and temporary.

5.1.1.2 Erosion and Sediment Control Measures – Sedimentation of Watercourses

Erosion due to site grading and other construction activities will be minimized by keeping vegetative clearing to a minimum, as well as, limiting the duration of time that the disturbed ground surfaces are exposed to rainfall and runoff water. Runoff will be diverted from areas subject to erosion, and exposed ground surfaces will be reseeded as soon as possible. Anticipated new force main required will be within the Highway 34 right of way. Construction of this portion of the force main will require specific erosion control measures.

5.1.1.3 Dredging, Tunneling, and Trenching Activities in Area Watercourses

There is no anticipated dredging, trenching, in watercourses. The trenching that will occur will take place along the Highway 34 right of way and will be covered over immediately after trenching procedures.

5.1.1.4 Protection of Vegetative Cover and Trees

Construction practices to be employed will minimize tree removal during the placement of the new force main. Construction within existing rights-of-way should minimize tree removal.

5.1.1.5 Methods of Vegetative Clearing

Vegetative clearing, where necessary, will be accomplished by mechanical removal. Clearing involving use of herbicides, defoliants, blasting, and/or burning will not be employed.

5.1.1.6 Disposal Method of Vegetative Spoil and Excess Soil

Excavated topsoil and vegetative cover will be segregated and stockpiled to be subsequently placed on disturbed areas. Excess vegetative spoil and soil will be hauled away to an engineer approved and designated area.

5.1.1.7 Land Acquisition

The proposed construction activities will take place at the existing facilities site with no additional land acquisition requirements. The addition of the new force main and upgrade of the existing pumping station should not exceed the existing right-of-way boundaries. Reuse of the existing waterline transferred to St. Bernard parish will not require land acquisition.

5.1.1.8 Existing Facility Abandonment – Disposition of Land

This project will abandon the current force main discharge from the Riverbend Oxidation Pond to the wetlands north of the 40 Arpent Canal. Since this line is 10 inches in diameter or smaller it will be abandoned in place.

5.1.1.9 NPDES Compliance Bypassing

The proposed action will not result in the bypassing of untreated wastewater during implementation.

5.1.1.10 Section 404, Dredge and Fill Permit Requirements

A Dredge and Fill Permit should not be required for the addition of the new force main. A Corps of Engineers Permit Section 10 may be required for improvements necessary to cross the Mississippi River levee.

5.1.1.11 Dust Control Measures

The generation of dust during the construction phase will be kept to a minimum by minimizing vegetative cover removal, sprinkling water on disturbed surface areas, and keeping the duration of time that the exposed surfaces remain unvegetated to a minimum.

5.1.1.12 Effects Construction Noise

Construction activities will result in moderate noise generation. The primary generator of noise will be earth-moving equipment used for grading and excavation activities. Construction related to noise will not pose adverse effects on area residents or wildlife. Construction activities will temporarily increase noise levels nearby, but these increased levels will be of a short-term duration.

As part of the contractor requirements, equipment used in construction activities will be muffled, and most of the construction activities will be limited to daylight hours. The contractor will be required to meet all applicable Occupational Safety and Health Administration (OSHA) standards and state and local noise regulations.

5.1.1.13 Effects of Night-Time Construction

The contractor will be required to limit construction activities to daylight hours. However, night-time work could be necessary under unusual circumstances. In such cases, only the immediate work area will be affected by lighting and construction activities. Such activities will be kept to the absolute minimum. The impacts that occur from night-time work will be of short duration with a negligible effect on area residents and wildlife.

5.1.1.14 Areas Affected by Blasting

No blasting will be required for construction of the proposed project.

5.1.1.15 Measures to Minimize Vehicular and Pedestrian Disruption and Hazards

Vehicular and pedestrian disruption will be minimized by restricting site access for all construction equipment and deliveries through the existing site access points for the Riverbend Oxidation Pond. This should minimize any construction traffic on residential roads or neighborhoods.

For the new force main to be installed along the Highway 34 right of way, the contractor may be required to maintain detours and the necessary number of barricades, signs, flags, and traffic cones, etc. to adequately direct vehicular and pedestrian traffic away from construction areas. It is anticipated constructing the force main at the edge of the right of way that these requirements will be minimized. Vehicular and pedestrian traffic disruption will be further minimized by other contractor requirements, such as (1) submitting a plan of activities to the construction administrator which will be outline in detail; (2) providing a work schedule to be followed to handle traffic during construction; (3) minimizing the duration of time that excavated materials are kept on traveled surfaces; and (4) minimizing the use of hauling and other equipment on area roads. Public safety officers in St. Bernard Parish will be notified of construction activities on thoroughfares. Only authorized personnel will be admitted to the construction area.

5.1.2 Long-Term Impacts

5.1.2.1 Effect of Construction on Land Use

The Pump Station at the Riverbend Oxidation Pond will be constructed on the existing site. This facility has been in operation for over 35 years. Additional construction activities for the force main will not result in a permanent long-term impact on land use. The new force main will only temporarily affect the land use and all construction will occur within the right-of-way.

5.1.2.2 Effect on Beneficial Land Use

Construction activities will be limited to the existing site property, and the new force main lines will occur within the existing public rights-of-way. Effects from construction will only be temporary.

5.1.2.3 Effect on the Natural Character of the Planning Area

All elements of the "Proposed Project" will take place on land that is currently used for treatment facilities and pipelines. All excavated areas will be restored to the approximate original contour. No changes in the natural character of the planning area will result from implementation of the "Proposed Project".

5.1.2.4 Interference with Natural Views

The "Proposed Project" elements will not interfere with any natural views in the planning area due to the small change in topographic relief throughout most of St. Bernard Parish, and the fact that plant structures have existed for over 20 years.

5.1.2.5 Use of Special Architectural Techniques

Structures will be designed to insure that they are compatible with the necessary project needs. No special architectural techniques will be required or necessary.

5.1.2.6 Landscaping

Preservation of existing vegetation will insure that landscaping will be held to a minimum. All excavated areas will be revegetated with native ground cover. During the design phase, a landscape plan will be developed, as appropriate.

5.1.2.7 Relationship of Wind Patterns to the Residential and Business Community and to the "Proposed Project"

Wind patterns in the planning area prevail from an easterly direction during most of the year. An occasional cold front will shift the wind to a northeast or southeast direction. The proposed project will be constructed within the existing plant site boundary and right-of-way. The Proposed Project is not anticipated to positively or negatively impact current odor conditions at the Riverbend Oxidation Pond.

5.1.2.8 Project Consistency with Basin and Area Wide Plans for Meeting Water Quality Goals

The Proposed Project will remove a discharge of treated effluent from the central wetlands. This discharge was anticipated to benefit the 250-acre area designated for the discharge from the nitrogen and phosphorus loadings provided.

Removal of this project may reduce the potential benefits of this project to wetland growth. However, this is dependent on long-term proper functioning of the treatment systems at the Riverbend Oxidation Pond.

5.1.2.9 Effect on Ground and Surface Water

The "Proposed Project" is consistent with water quality goals for segment 0703 of the Mississippi River; Segments 0410, 0411, and 0412 of the Lake Pontchartrain Basin; and segments 0202 and 0203 of the Barataria Basin. The "Proposed Project" will meet the needs of the planning area through the year 2030. The "Proposed Project" will not result in adverse impacts to groundwater quality.

5.1.2.10 Effect on Aquatic Ecosystems

Removal of this project may reduce the potential benefits of this project to wetland growth. However, this is dependent on long-term proper functioning of the treatment systems at the Riverbend Oxidation Pond.

5.1.2.11 Effect on Municipal and Industrial Water Supplies, Irrigation Recreation and Other Uses

The Mississippi River is used by many municipalities, industries, farmers and citizens for everything from drinking water to fishing. The "Proposed Project" will have not an effect on these uses.

5.1.2.12 Interbasin Diversion of Flows

The "Proposed Project" will divert flows from the Riverbend Oxidation Pond to the

Mississippi River. Thus, the discharge from these facilities will be diverted from the central wetlands to the Mississippi River. Overall, this should improve local water quality due to the Mississippi River's greater capacity to assimilate these discharges, and the future potential of the non- compliance discharges to the central wetlands.

5.1.2.13 Effect on Historical, Cultural and Archaeological Resources

If the "Proposed Project" is implemented, no historical, cultural or archaeological resources will be negatively affected. If archaeological resources are encountered during construction activities, all work will cease and the Louisiana Department of Culture, Recreation and Tourism, and Office of Cultural Development will be consulted to determine its significance. If necessary, construction activities will be modified or resource mitigation and recovery plans will be implemented, as appropriate. Any modification of construction activities is highly unlikely, due to the fact that all proposed construction areas have previously undergone construction activities.

5.1.2.14 Effect on Designated Recreational Areas and Natural Preserves

There is no recreational or environmentally sensitive areas near the project site. The "Proposed Project" will not induce growth in environmentally sensitive areas or on prime soils. Therefore, the project will not affect such areas. It is unlikely that any area adjacent to or in the vicinity of the "Proposed Project" will be designated a natural or recreational area. The force main route is not routed through any designated recreational areas or natural preserves.

5.1.2.15 Noise and Noise Sensitive Receptors

In this "Proposed Project", the noise level will not increase at existing sites. No new equipment that would emit high decibel noise levels, i.e. blowers, are anticipated by the Proposed Project. Only at the Riverbend site will the hp of the existing equipment increase but this is not anticipated to increase noise levels.

5.1.2.16 Access Control

The facilities are completely enclosed with a chain link fence that is locked at the end of the work day.

5.1.2.17 Insect Control Program

Implementation of the "Proposed Project" will not necessitate the development of an insect control program.

5.1.1.18 Pesticide Use – Application

The use of pesticides as part of the treatment system is not proposed.

5.1.2.18 Project Effluent on Terrestrial and Aquatic Habitat

All construction activities will take place at the existing facility and within the existing public rights-of-way. None of the construction activities, which are proposed, will have any lasting effect on aquatic communities.

5.1.2.19 Floodplain – Flood Hazard Evaluation

The "Proposed Project" will take place within the existing facility. The existing facility is not within the 100-year floodplain. The facilities are protected by the Mississippi hurricane protection levees. The current facilities are built above the current flood elevation. Pump and control panels will be provided in this same location and elevation.

5.1.2.20 Energy Consumption and Chemical Usage

The "Proposed Project" will require only a minimal increase in power usage due to increase in the hp of existing equipment at the Riverbend Pump Station. However, overall power use is anticipated drop when the existing UV disinfection system is taken offline. Some increase in chemical usage is anticipated based upon conversion to a chlorination system.

5.1.2.21 Air Quality

The "Proposed Project" will have no permanent negative effects on air quality. Calculation of temporary air quality impacts from construction is provided in Appendix C. The emissions are anticipated to be minimal.

5.1.2.22 Coastal Zones

The "Proposed Project" is within the coastal zone. However, no permanent effect on coastal zones will occur. Temporary construction impacts will occur during pipe laying activities, and the site is expected to return to its previous condition within a year of construction activities.

5.2 Secondary Impacts

Secondary impacts of the "Proposed Project" are those that could result from direct or induced changes. No secondary impacts are expected due to the proposed improvements since all improvements will be made within existing property lines and rights-of-way.

5.2.1 Impacts on Land Uses

It is not likely that implementation of the "Proposed Project" will alter the amount of development or pattern of urbanization in the planning area. Whatever induced growth might

occur would probably be insignificant. This project matches the existing capacity which allows for additional growth.

5.2.2 Relationship of Population and Land Use Changes on Air Quality

St. Bernard Parish is classified as an attainment area for all air pollutants. Land use and population are not anticipated to significantly change during the planning period. Therefore, a significant negative impact on air quality is not likely. Review of potential sources of air pollution indicated only temporary increased impacts during construction (Appendix C). This is due to emissions from construction equipment. The Proposed Project will not result in any new air emission sources. All new equipment will be powered via electric motors.

5.2.3 Relationship of Land Use Changes on Water Quality

The "Proposed Project" will insure proper maintenance and operation of the Parish's wastewater treatment system and thus should have a positive long-term impact on water quality.

5.2.4 Effect of Projected Growth on Public Services

The projected population will place increased demands on public services. The infrastructure of St. Bernard Parish is basically sound and adequate to handle these increased demands. The predicted rate of growth of the Parish should allow communities to plan for population growth and still have wastewater demands met by public services through 2030 and beyond.

5.2.5 Economic Impact

The proposed project is estimated to have a total construction cost of approximately $2.099 million. The revenues to finance these improvements are already available from user rates previously implemented by the Parish. Thus, the proposed project substantially fulfills the goals of this dedicated revenue source. Also, it substantially reduces long-term overall revenue expenditures by reducing annual operating costs.

5.2.6 Relationship of Anticipated Land use and Socioeconomic Activities

The "Proposed Project" should not have any adverse impact on socioeconomic activities in the planning area. The proposed action is consistent with planning activities conducted by St. Bernard Parish. Land use plans are consistent with the "Proposed Project".

5.2.7 Impacts of Induced or Growth-Related Development on Environmentally Sensitive Areas

The “Proposed Project” will not induce growth in floodplains or wetlands. Current regulatory and land use controls will prevent incompatible land uses in areas such as floodplains. There are no environmentally sensitive areas that will be affected permanently by the “Proposed Project” Development on prime agricultural areas is not an issue because the project improvements will be on existing wastewater treatment facilities property and right-of-way. There are no threatened or endangered species that will be affected by the “Proposed Project”. There is no critical habitat of known endangered or threatened species in the planning area or vicinity.

5.3 Cumulative Impacts

Cumulative impacts are the combined, incremental effects of human activity that may pose a serious threat to the environment. Construction at the treatment facility will be within the existing property lines and therefore will not pose any adverse effects to surrounding properties. Discharges to the Mississippi River will be increased but with the benefit of eliminating further potential non-compliant discharges to the 40 Arpent Canal. Therefore, no cumulative impacts are expected due to the proposed improvements.

Section 6
Adverse Impacts That Cannot be Avoided from the Proposed Project

Careful planning, design, and construction scheduling can minimize adverse environmental impacts. Regardless of the most conscientious efforts made in the direction, construction, operation, and maintenance of the "Proposed Project," unavoidable adverse environmental impacts in the planning area could still occur. Fortunately, all of these adverse impacts are of a short duration occurring only during the construction phase, affecting a small geographical area.

The unavoidable environmental impacts associated with the implantation of the "Proposed Project" are summarized as follows:

- Unavoidable generation of noise by construction activities (installation of force main pumps and upgrade of a pump station.
- Unavoidable, but minimal, levels of air pollutants emitted by petroleum powered construction equipment, and generation of dust.
- Unavoidable disruption of traffic in those areas where force main lines are being installed.

6.1 Unavoidable Generation of Noise

Implementation of the proposed action will require the use of machinery and equipment, which may increase ambient noise levels potentially creating a temporary nuisance. Equipment likely to be used includes excavating machinery, draglines, cranes, heavy trucks, heavy trucks, compressors, and pumps. Noise generation from the equipment ranges from 65 to 95 dB at feet. Contingency for noise will be required such that the contractor will adequately muffle noise sources to the greatest extent possible.

It is estimated that 90 percent of construction activities will be during daylight hours. Given the buffer zone surrounding the facilities, minimal impact is expected during construction activities. While there may small localized increases in pollutant levels, these should be undetectable offsite and should not result in the deterioration of existing ambient air quality. Again, the surrounding buffer zones and the construction access roads should minimize these effects.

Normal operation of the wastewater treatment systems will generate very low noise levels due to the enclosure of noise producing motors, pumps, etc. Operation of the current systems will not be significantly changed to create a nuisance or be intrusive to residents and area wildlife.

6.2 Unavoidable Levels of Air Pollutants

6.2.1 Petroleum Powered Construction Equipment

Gasoline and diesel powered construction equipment will generate gaseous and particulate emissions associated with internal combust engines. Potential emissions include hydrocarbons, carbon monoxide, oxides of nitrogen, particulates and other gaseous emissions. These emissions are not anticipated to have a significant impact based upon the calculation provided in Appendix C.

6.2.2 Generation of Dust

Construction activities related to the conveyance system and pump station upgrades could result in increased suspended particulate concentrations due to fugitive dust. The generation of particulate matter can be minimized by the application of water for dust reduction. Disruption of traffic will be minimal with proper planning and construction rescheduling. Excavating areas will be revegetated as quickly as possible and measures will be taken to mitigate this unavoidable impact.

Section 7
Relationship Between Local Short – Term Uses of the Environment and Long – Term Productivity

The relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity is often one of the trade-offs or balancing of impacts over time. Sacrifices may be made in short-term for long-term benefits. In opting for immediate gain, one may be foregoing opportunities for greater gain in some future time. Conversely, a relatively short-term benefit may have adverse cumulative effects with the possibility that future generations and the future economy may be burdened with the social and environmental costs of a project designed for short-term benefits only.

While there is no fixed timetable to distinguish the short-term from the long-term, a local short-term use of environment is generally defined as a direct consequence of the product in its immediate vicinity. Short-term effects include localized disruption during construction, excessive noise levels, increased air pollution, and rerouting of traffic. With the utilization of the existing site, short-term impacts from construction activities will be minimized and by further improving wastewater treatment, will enhance the long-term productivity. These negative impacts should be relatively inconsequential in the long-term. Long-term effects are those which are the result, directly or indirectly, of the facility and which, in most cases, are considered to be permanent effects.

In general, the majority of costs and inconveniences will be borne during or shortly after construction, while benefits would be shared both by present and future generations. The economic costs of designing and building the project will be borne in the near future. The probable adverse impacts cannot be avoided.

If the “Proposed Project” is implemented and the overall operation of the wastewater system is improved, the environments will be improved. There will also be an opportunity for the maintenance and enhancement of long-term productivity, which would not occur in the event of the “Proposed Project” being delayed or if the implementation does not occur. Future generations will benefit from long-term reduced operational costs resulting from the existing wastewater treatment facilities.

Section 8
Irreversible and Irretrievable Commitments of the Resources to the Proposed Project

The construction and operation during the force main and pump station upgrades to the Riverbend Oxidation Pond, will entail, to varying degrees, an irreversible and irretrievable commitment of nature, physical, human, and fiscal resources. Money, manpower, construction materials, and energy sources will all be committed to project implementation. The goals of the "Proposed Project" cannot be attained in any other manner without similar commitments. However, the commitment of manpower reflects the temporary creation of jobs. The benefits to be realized by the commitment of these resources are worth far more than the depletion costs of their commitments. The early consumption of these resources for the implementation of the "Proposed Project" is well justified. No irreversible environmental damage to natural, historical, or cultural resources is expected.

Section 9
Solicitation of Views and Public Participation

9.1 Discussion
St. Bernard Parish held a public hearing to discuss the proposed force main and pumping station upgrades to the Riverbend Oxidation Pond. At the meeting environmental impacts of the proposed alternatives were discussed. Appendix F includes the public notice, publisher's affidavit, and transcripts of the public meeting. No questions arose at the Public Meeting.

9.2 Solicitation of Views from Federal and State Agencies
Thirty days prior to the hearing, copies of this EID were sent to appropriate Federal and State agencies for a solicitation of views concerning the project. Appendix E includes the sample letter of solicitation of views, a list of addresses, and response letters sent.

9.2.1 Comments from Solicitation of Views
The response to comments received from state and federal agencies during the solicitation of views can be summarized as follows:

9.3 Public Hearing
9.3.1 General Discussion of Public Hearing Meeting
St. Bernard Parish held a public hearing at the St. Bernard Council Chambers located at 8201 West Judge Perez Drive in Chalmette, Louisiana. The purpose of the hearing was to discuss the proposed project. The project discussed was based on information provided within the EID.

9.3.2 Notice of Public Hearing Meeting
The notice of a public hearing was published in the official journal of St. Bernard Parish, the St. Bernard Voice. Appendix F includes copies of the Public Notices and Publisher's Affidavits.

9.3.3 Public Review of Documents Pertaining to the Public Hearing Meeting
During the project, documents relevant to the planning process were maintained in the St. Bernard Parish Government Department of Public Works, 8201 West Judge Perez Drive, Room 140 in Chalmette, Louisiana. These documents were made available to the public 30 days in advance of the hearing.

9.3.4 Public Hearing Meeting Record
The meeting record, which includes a sign-in sheet listing all persons in attendance at the hearing; and a verbatim transcript of the entire hearing are included in Appendix E.

Appendix A

Alternative Present Worth Analysis

Alternative Present Worth Analysis

Operational Cost Changes from Proposed Project

	Cost Item	Change in Annual Cost
Personnel	Operator	$ 40,000.00
	Helper	$ 18,720.00
Equipment Maintenance	General Maintenance	$ 40,000.00
Laboratory Costs	Parish Lab Costs	$ 12,500.00
	Annual Outside Tesitng	$ 5,000.00
Permit Fees	LDEQ	$ 500.00
	Consultant	$ 4,000.00
Sludge Removal Costs		$ 4,900.00
Electrical Cost for Proposed Project	Electrical Costs	$ 10,000.00
Chlorine Costs	Chlorine Costs	$ 1,000.00
	Total	**$ 136,620.00**

Discount Rate	Inflation Rate	Inflation Adjusted Interest Rate (d)	Capital Cost (P)	Change in Annual Operational Cost (A)	(P/A,8.68%,20)	Present Worth of 20 Yr. Annual Cost Change	Total
0.05	0.035	0.08675	$ 2,274,207.00	$ 136,620.00	9.3440	$ 1,276,571.30	$ 3,550,778.30

Annual to Present Worth Formula:

To Find P

Given A: $(P/A,i,n)\ P = A\ \frac{(1+i)^n-1}{i(1+i)^n}$

Inflation-Adusted Interest Rate:

$d = i + f + (i \times f)$

Assumptions:

Cost changes are in comparison to the improvements proposed to the alternative to the proposed project
Increased maintenance costs are subtracted from the capital cost of the alternative project to allow overall cost comparison
Assumed one full time operator and one half time assistance necessary to operate alternative to the proposed project
Equipment maintenance cost based upon 3% of available equipment plus current actual UV system maintenance costs
Laboratory and wetland monitoring costs based upon current actual costs for new discharge
Sludge removal cost based upon $150/dry ton to dredge sludge from pond compared to $115/dry ton to process and land apply from Munster for 140 ton/yr
The alternant project would require higher horsepower pumps and greater electrical costs compared to proposed project
Chlorine costs assumes about 4 tons of additional chlorine use per year at $250/yr

Appendix B

Resource Maps

Resource Maps

Introduction:

The maps included in this document were retrieved from several databases to display necessary environmental characteristics of the proposed project area and locations of relevant land marks in reference to the project area. Databases include the Federal Emergency Management Agency, U.S. Fish & Wildlife Service: National Wetlands Inventory, Louisiana Department of Natural Resources: Office of Coastal Management, U.S. Fish and Wildlife Service: Coastal Barrier Resources System, Environmental Protection Agency, National Wild and Scenic Rivers System, National Park Service: U.S. Department of the Interior, United States Department of Agriculture: Natural Resources Conservation Service, and the Office of Cultural Development: Division of Historic Preservation National Register. Links for each database are pasted below the corresponding map.

Resource Maps

Figure 1. Overview of Proposed Project

Resource Maps

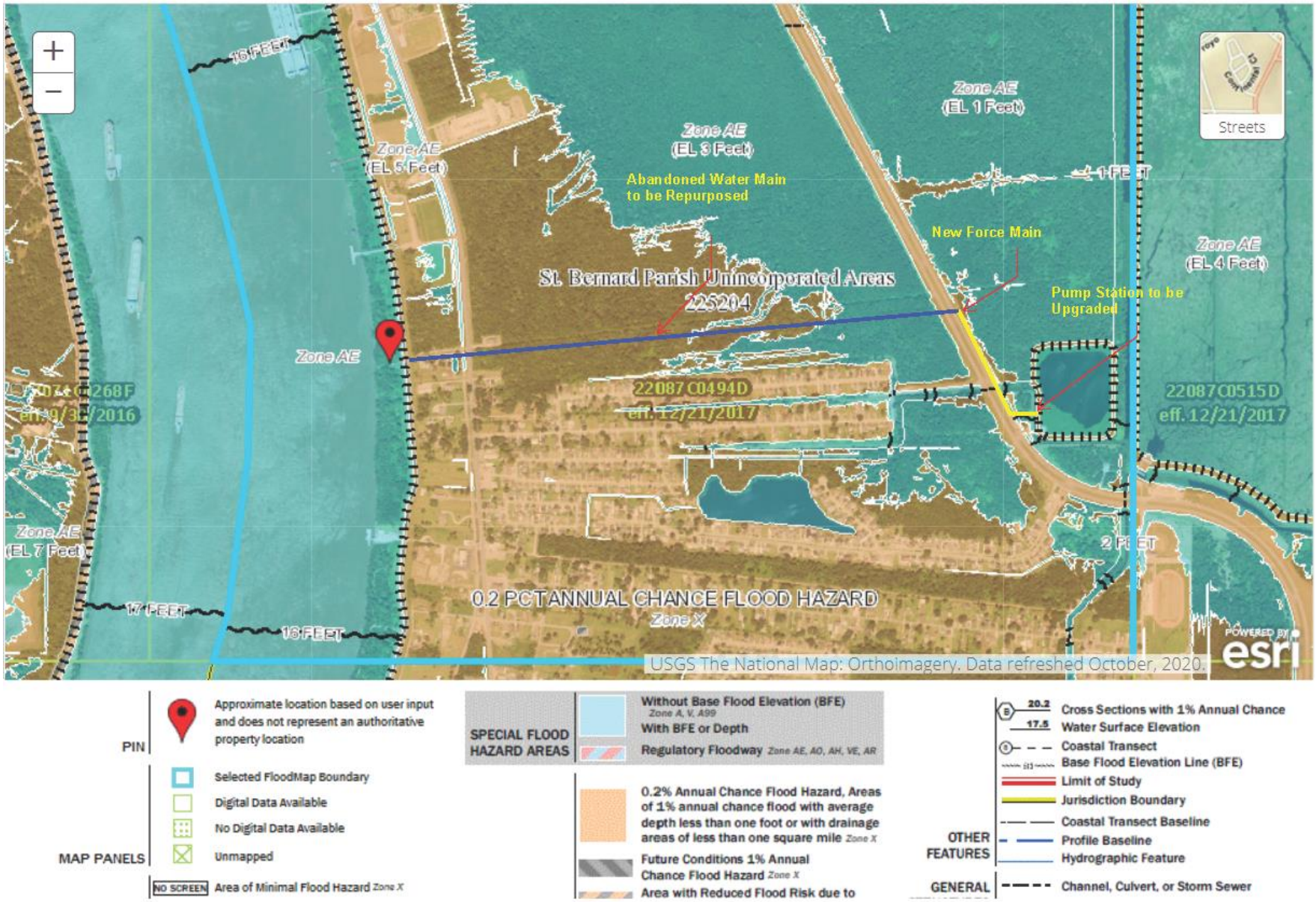


Figure 2. Flood Insurance Rate Map

https://msc.fema.gov/portal/search?AddressQuery=violet%2C%20louisiana#searchresultsanchor

Resource Maps

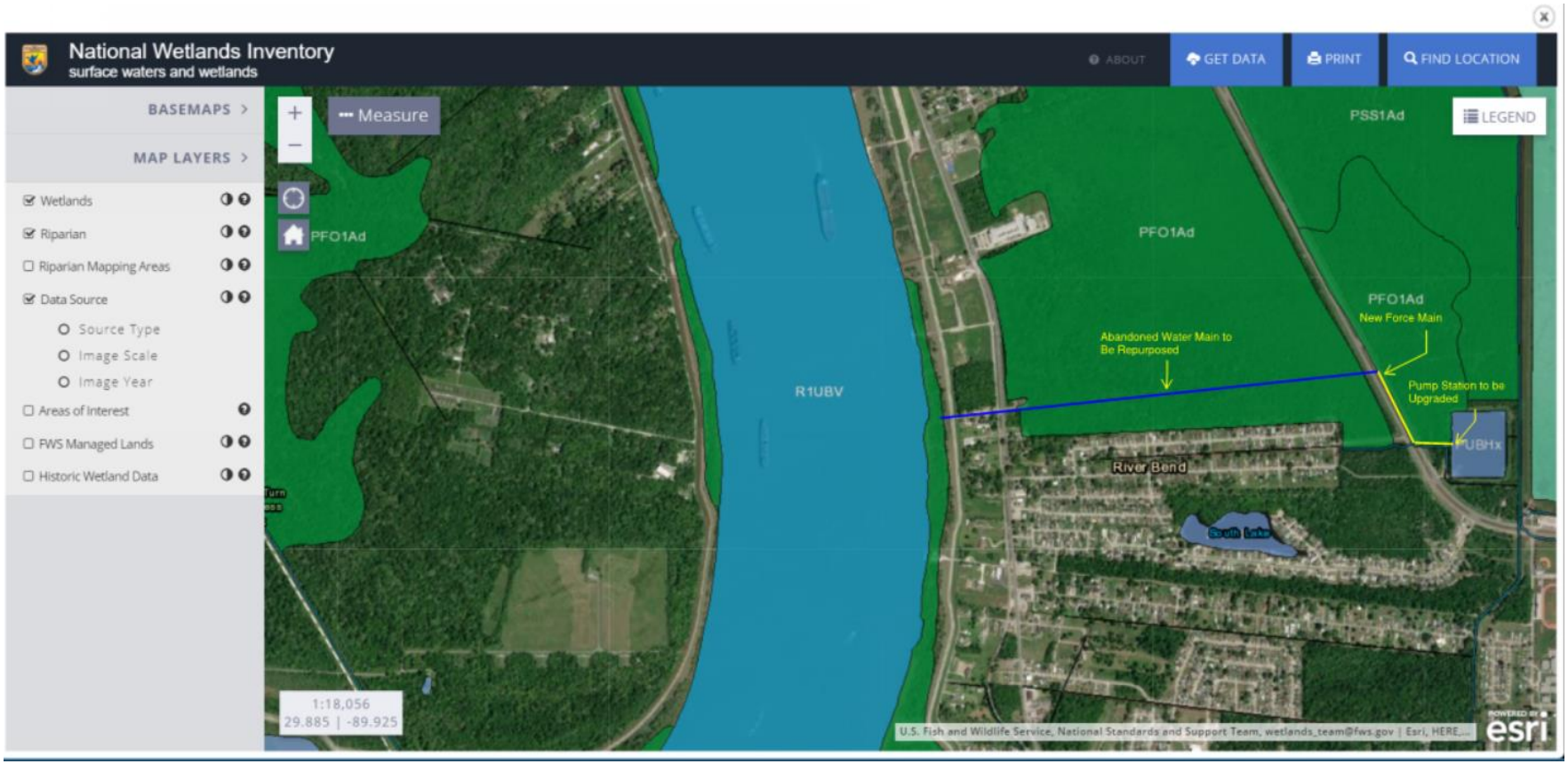


Figure 3. National Wetlands Inventory

https://www.fws.gov/wetlands/data/Mapper.html

Resource Maps

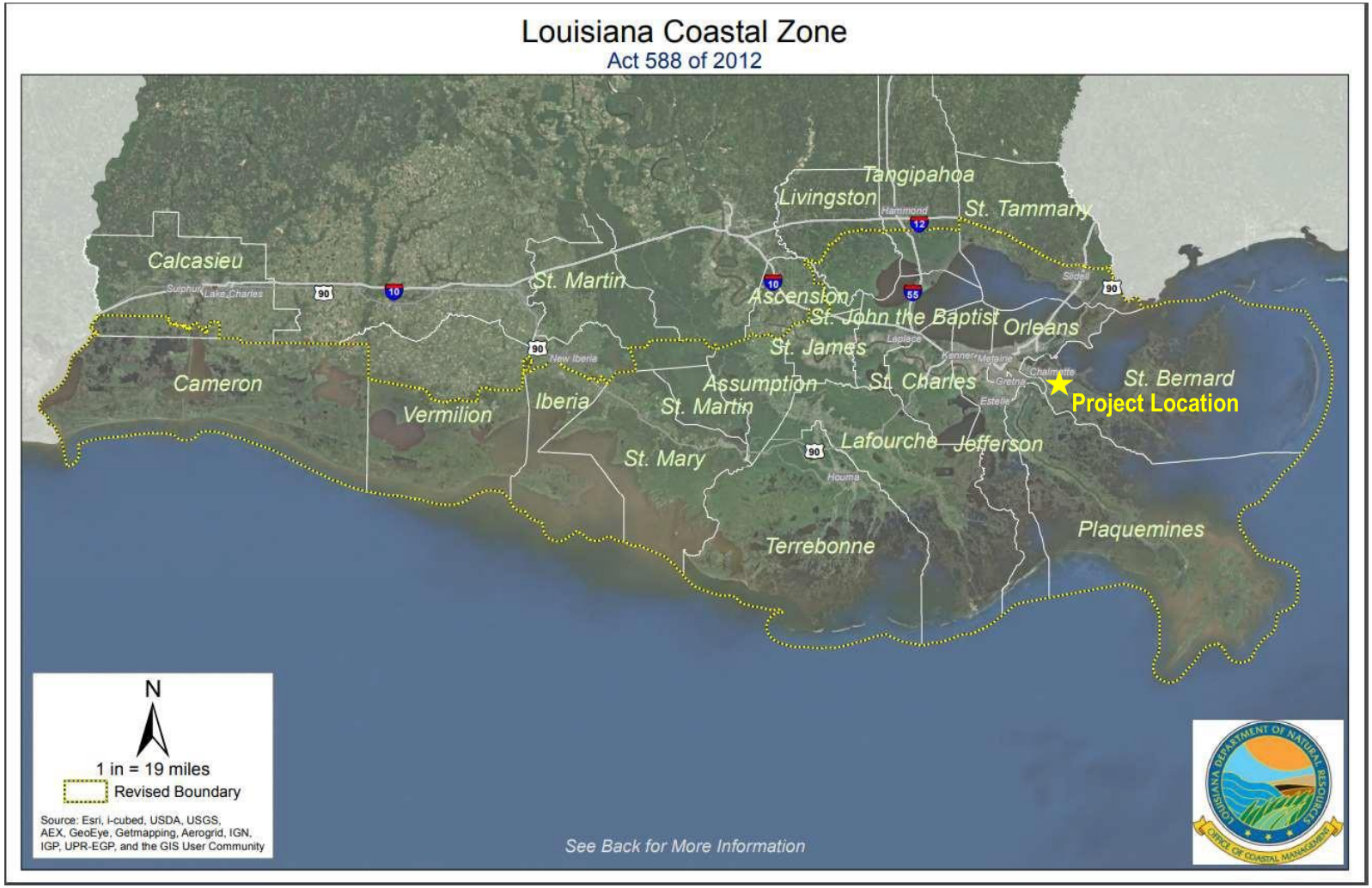


Figure 4. Louisiana Coastal Zone Map

http://www.dnr.louisiana.gov/assets/OCM/CoastalZoneBoundary/CZB2012/maps/Revised_CZB_with_Contact_Info.pdf

Resource Maps

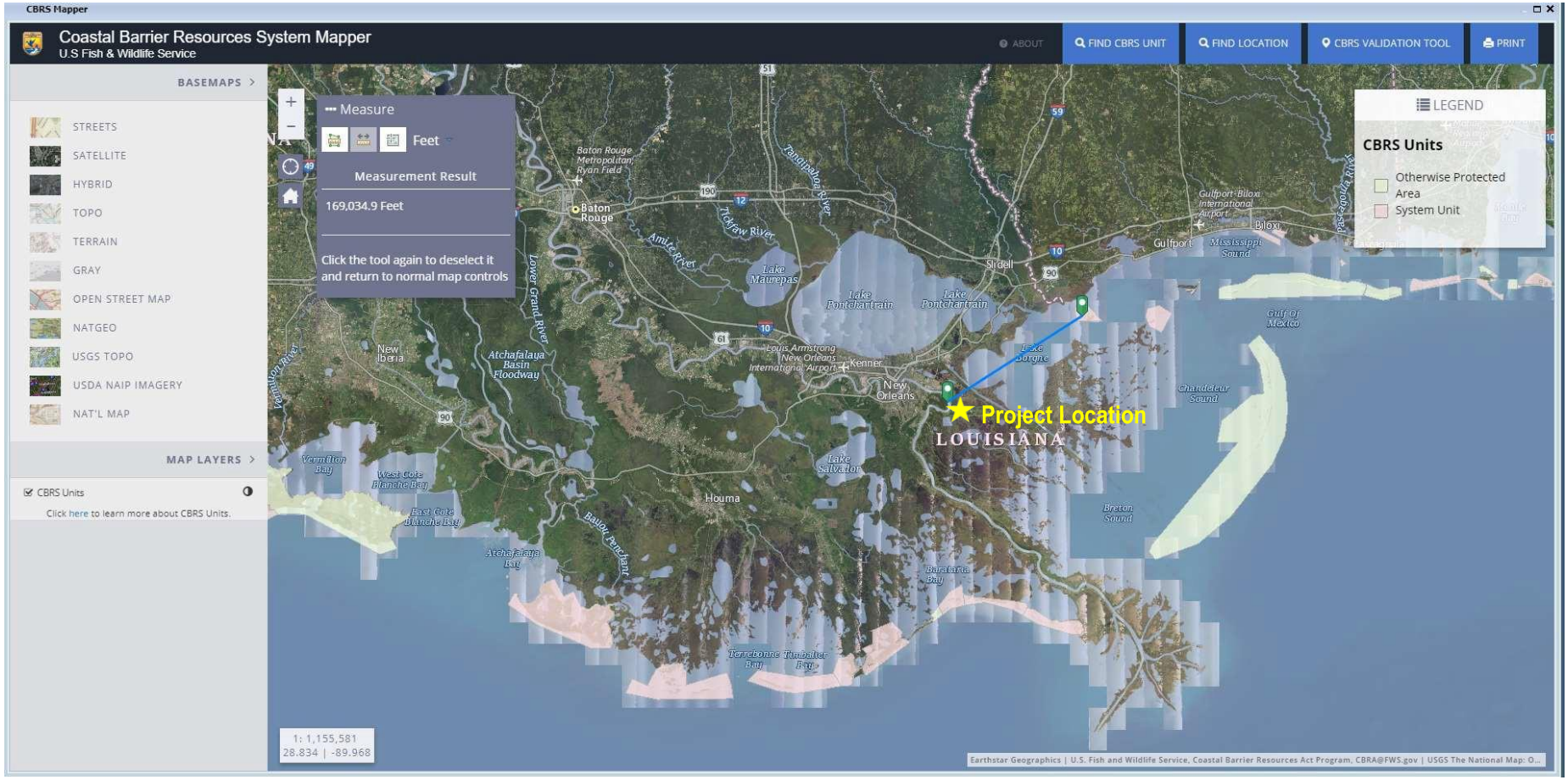


Figure 5. Coastal Barrier Resources System Mapper

https://www.fws.gov/cbra/maps/mapper.html

Resource Maps

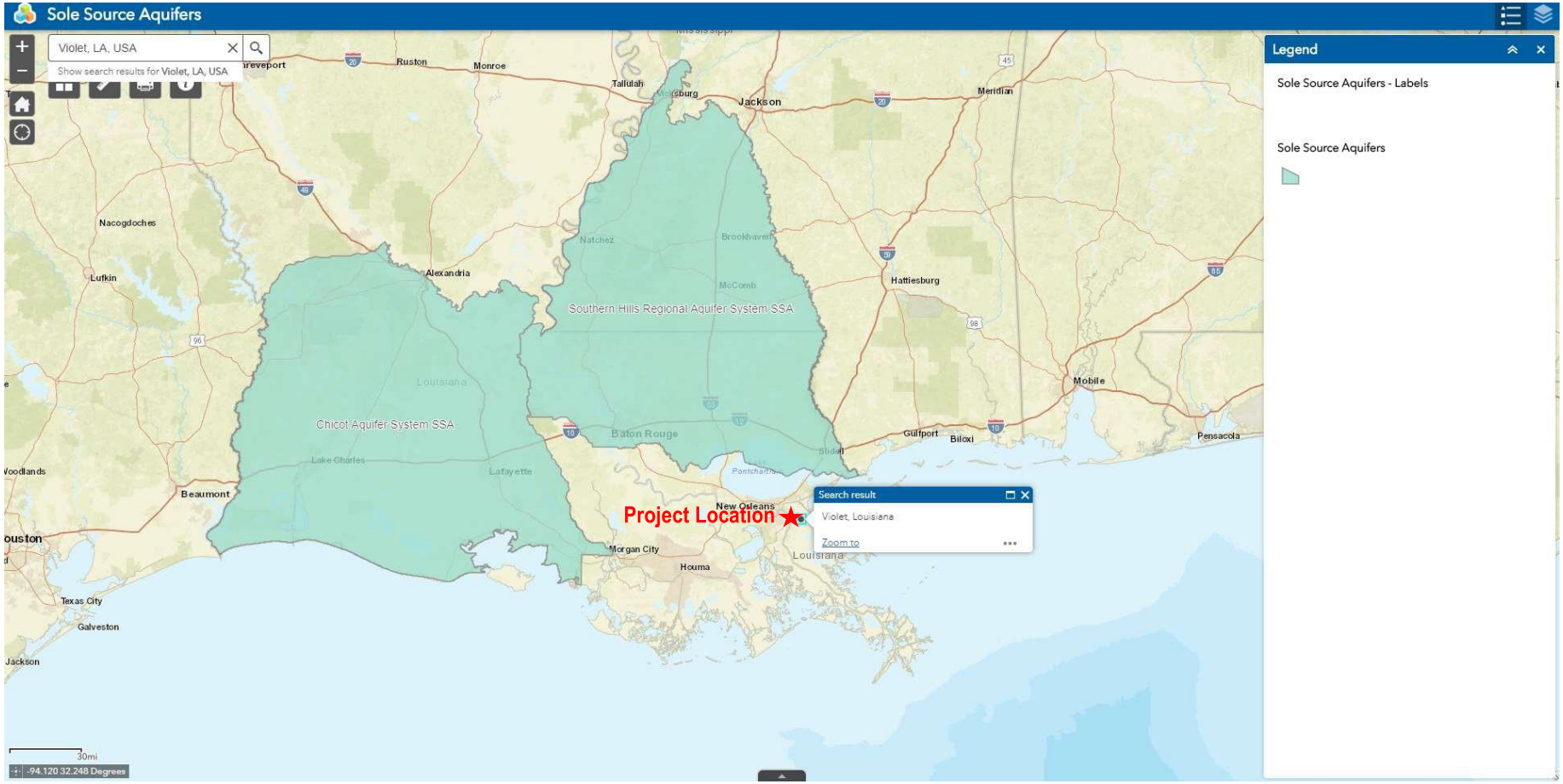
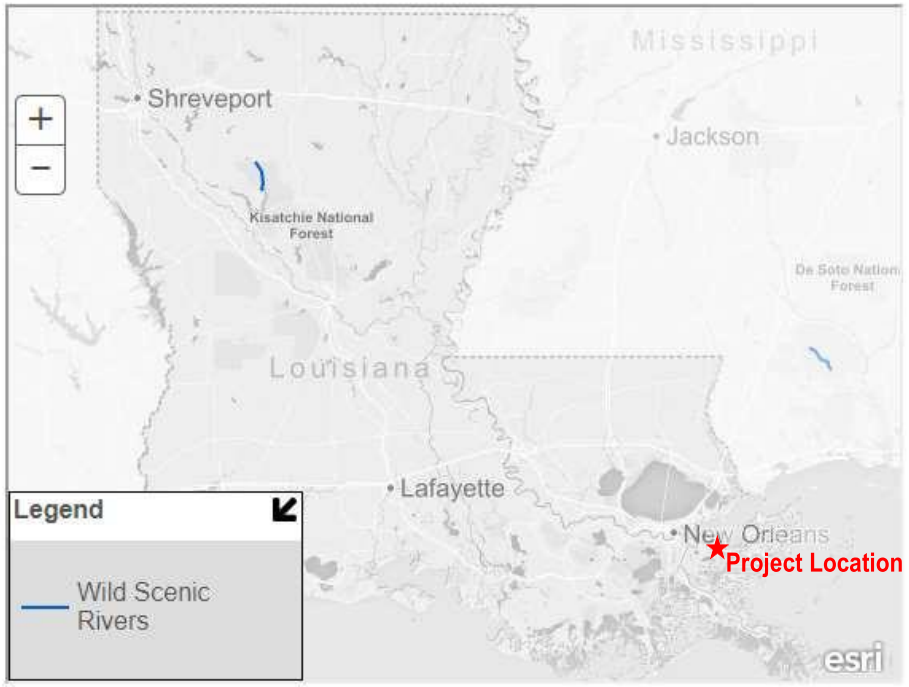


Figure 6. Sole Source Aquifers

https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b

Resource Maps

Louisiana has approximately 53,622 miles of river, of which 19 miles of one river are designated as wild & scenic—less than 4/100ths of 1% of the state's river miles.



+ View larger map

Saline Bayou

Figure 7. National Wild and Scenic Rivers System

https://www.rivers.gov/louisiana.php

Resource Maps

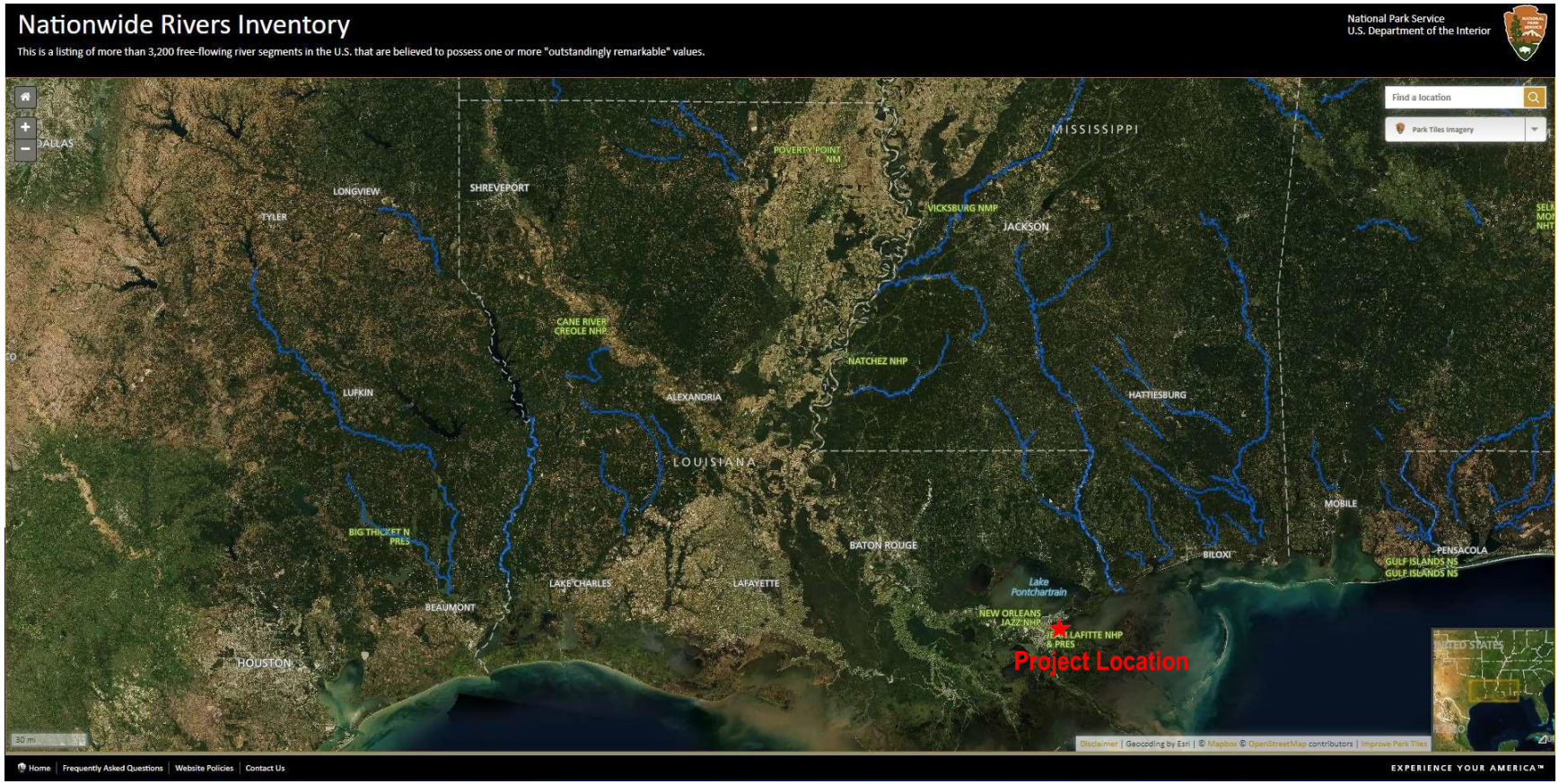


Figure 8. Nationwide Rivers Inventory

https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977

Resource Maps

Figure 9. Soils Map

https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Resource Maps

Report — Legend

St. Bernard Parish, Louisiana

Map unit symbol and name	Map unit acres
AD—Aquents, dredged, frequently flooded	17,630
BB—Barbary clay	5,573
BP—Bellpass muck, 0 to 0.2 percent slopes, very frequently flooded	18,653
CE—Clovelly muck, 0 to 0.2 percent slopes, very frequently flooded	33,189
Cm—Cancienne silt loam, 0 to 1 percent slopes	3,329
Co—Cancienne silty clay loam, 0 to 1 percent slopes	3,300
CS—Cancienne and Schriever soils, frequently flooded	536
Dp—Dumps	152
FA—Fausse clay, saline	10,045
FE—Felicity loamy fine sand, 0 to 3 percent slopes, very frequently flooded	5,048
Ha—Harahan clay, 0 to 1 percent slopes	2,469
Hf—Harahan clay, frequently flooded	301
LF—Lafitte muck, 0 to 0.2 percent slopes, very frequently flooded	33,834
LV—Levees-Borrow pits complex, 0 to 25 percent slopes	65
SC—Scatlake mucky clay, 0 to 0.2 percent slopes, tidal	63,759
Sh—Schriever silty clay loam, 0 to 1 percent slopes	4,911
Sk—Schriever clay, 0 to 1 percent slopes	3,230
TM—Timbalier muck, 0 to 0.2 percent slopes, tidal	33,620
Ub—Urban land	1,111
Va—Vacherie silt loam, 0 to 3 percent slopes	1,153
W—Water	234,901
Ww—Westwego clay, 0 to 0.5 percent slopes	991

Description — Legend

Component Legend

This report presents general information about the map units in the selected area. It shows map unit symbols and names for each map unit.

Figure 10. Soils Map Legend

Resource Maps

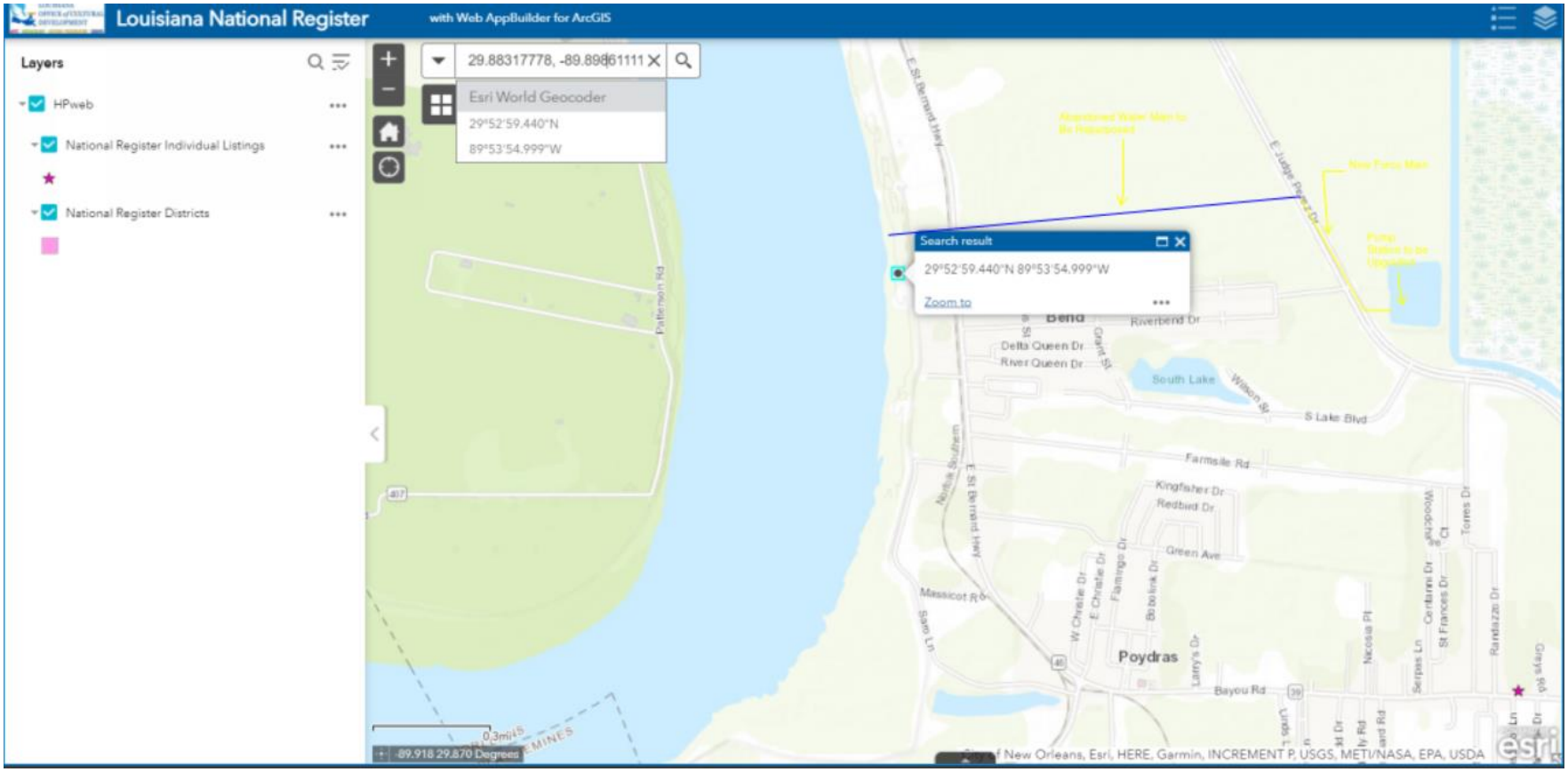


Figure 11. Louisiana National Register of Historic Places

https://www.crt.state.la.us/cultural-development/historic-preservation/national-register/

Resource Maps

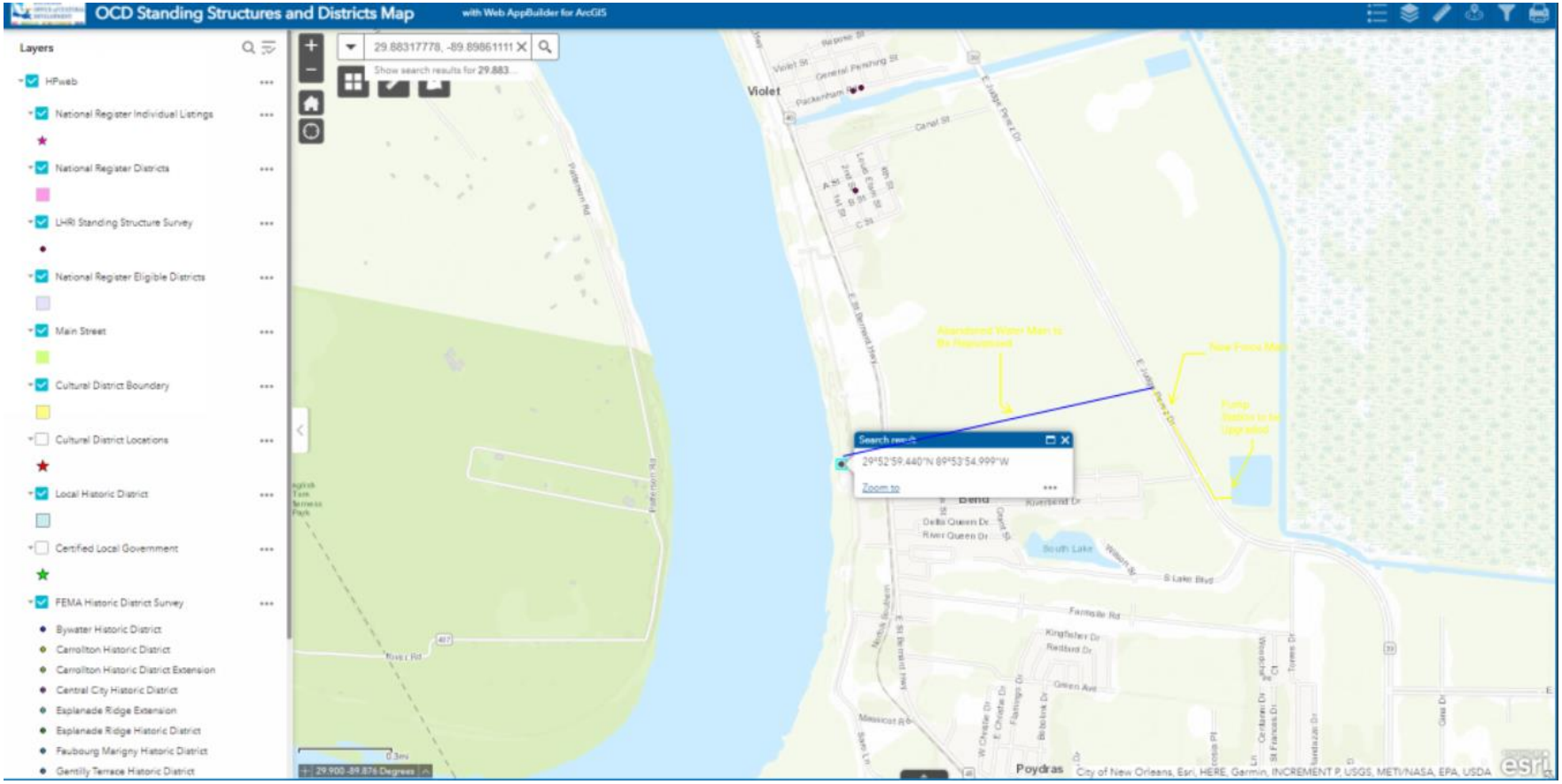


Figure 12. Standing Structures and Districts Map

https://laocd.maps.arcgis.com/apps/webappviewer/index.html?id=d6b1d2a16f214aaf9339064bc0f26312

Appendix C

Calculation of Air Emissions Produced from Construction

Calculation of Air Emissions Produced from Construction

Assumptions

Construction activities will be spread through an 18-month period

For light duty vehicles: 2008 year model, driven 40 miles/day. Emission factors: 1.289 g HC per mile per vehicle, 11.84 g CO per mile per

For heavy duty vehicles: 2008 year model, driven 10 miles/day. Emission factors: 0.453 g HC per mile per vehicle, 2.311 g CO per mile per

Decommissioning Riverbend Oxidation Pond

Riverbend Oxidation Pond										Emission of Air Pollutants (lbs)			
Equipment	Type of Fuel	Force Main				Pump Station Design		Flow Equalization / 5 Acres		HC	CO	NO_x	Total Emissions
		12" Diameter / 3,000 l.f. / Open Cut Method		1 Mississippi River Crossing Major		Effluent Pump Station Modifications		Misc. Improvement Riverbed Pond					
			@ 200 ft/day										
		# of Units	# of Days	# of Units	# of Days	# of Units	# of Days	# of Units	# of Days				
Pick-up	Gasoline	1	15	1	21	1	28	1	28	13.0	119.0	9.6	**142**
Tool Truck	Diesel	1	15	1	21	1	28	1	28	1.1	5.8	21.6	**28.6**
Trac-hoe	Diesel	2	15	1	21	1	28	1	28	1.3	6.6	24.5	**32.4**
Bulldozer	Diesel	1	15							0.1	0.8	2.8	**3.8**
Front-end Loader	Diesel	1	15							0.1	0.8	2.8	**3.8**
Pile Driving Rig	Diesel									0.0	0.0	0.0	**0.0**
Air Compressor	Diesel			1	21					0.3	1.8	6.6	**8.8**
Chop Saw	Gasoline									0.0	0.0	0.0	**0.0**
Chain Saw	Gasoline									0.0	0.0	0.0	**0.0**
2" Pump	Gasoline	1	15			1	28			4.9	44.9	3.6	**53.4**
Jack and Bore Rig	Diesel												
Welding Machine	Diesel												
Dump Truck	Diesel			1	21	1	14	1	14	0.6	3.2	12.0	**15.8**
Concrete Truck	Diesel									0.0	0.0	0.0	**0.0**
Dredge	Diesel									0.0	0.0	0.0	**0.0**
Crane	Diesel					1	14			0.1	0.7	2.7	**3.5**
Back-hoe	Diesel							1	14	0.1	0.7	2.7	
Direction Bore Rig	Diesel			1	21					0.3	1.8	6.6	**8.8**
Total	**Diesel**	**7**	**90**	**6**	**126**	**6**	**140**	**5**	**112**	**22**	**186**	**96**	**304**

Table 1: Average In-Use Emission Rates for Heavy-Duty Vehicles*
(in grams per mile)

Pollutant	HDGV (gasoline)	HDDV (diesel)
VOC	1.586	0.447
THC	1.635	0.453
CO	13.130	2.311
NOx	2.914	8.613
$PM_{2.5}$	0.044	0.202
PM_{10}	0.051	0.219

https://nepis.epa.gov/Exe/ZyNET.exe/P100EVY6.txt?ZyActionD=ZyDocument&Client=EPA&Index=2006%20Thru%202010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C06THRU10%5CTXT%5C00000033%5CP100EVY6.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=4

Average Emissions and Fuel Consumption for Light-Duty Trucks*
(most pick-uptrucks, SUVs, etc.)

Pollutant/Fuel	Emission & Fuel Consumption Rates (per mile driven)	Calculation	Annual Emission & Fuel Consumption
VOC	1.224 grams (g)	(1.224 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	32.35 lb
THC	1.289 g	(1.289 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	34.07 lb
CO	11.84 g	(11.84 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	312.95 lb
NOx	0.95 g	(0.95 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	25.11 lb
PM_{10}	0.0049 g	(0.0049 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	0.13 lb
$PM_{2.5}$	0.0045 g	(0.0045 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	0.12 lb
CO_2	513.5 g	(513.5 g/mi) x (15,000 mi/yr) x (1 lb/454 g)	13,572.69 lb
Gasoline Consumption	0.05780 gallons (gal)	(15,000 mi/yr) / (17.3 mi/gal)	693.64 gal

https://nepis.epa.gov/Exe/ZyNET.exe/P100EVXP.txt?ZyActionD=ZyDocument&Client=EPA&Index=2006%20Thru%202010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C06THRU10%5CTXT%5C00000033%5CP100EVXP.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=5

Appendix D

Sample Letter for the Solicitation of Views and Response Letters

January 25, 2021

Attn: State Historic Preservation Officer
P.O. Box 44247
Baton Rouge, Louisiana 70804

Subject: Federal Funding Assistance
Riverbend Oxidation Pond Pump Station
Upgrades and Force Main
St. Bernard Parish

St. Bernard Parish Municipal Government is pursuing federal funding from the United States Environmental Protection Agency (USEPA) for Riverbend Oxidation Pond Pump Station Upgrades and Force Main. To meet the requirements of the funding application process, views from appropriate federal, state, and local agencies are solicited.

Please review the attached Environmental Information Document (EID) pertaining to this project to ensure compliance with your agency's requirements. Your written input is requested before February 25, 2021 so that we may continue with the application process in a timely manner.

If you have any questions or require additional information, contact Courtney Nelson at (504) 454- 3866. Please send your response at Courtney Nelson's attention to 3012 26th St. Metairie, LA 70002. Thank you for your time.

Sincerely,

Donald Bourgeois Jr.

Director of Capital Projects

St. Bernard Parish

cc: Adam Faschan, Ph.D., P.E.

Attachment (1)

Commenting Agencies

Archeological and Historic Preservation Act

Attn: State Historic Preservation Officer
P. O. Box 44247
Baton Rouge, LA 70804
(225) 342-8160

Clean Air Act

Executive Management Officer
Office of the Secretary
Louisiana Department of Environmental Quality
P.O. Box 4301
Baton Rouge, LA 70821-4301
Phone (225) 219-3958

Coastal Barriers Resources Act (in Coastal Areas)

Attn: Field Supervisor
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, LA 70506
(318) 291-3100

Coastal Zone Management Act (in Coastal Areas)

Attn: Louisiana Coastal Management Division
Department of Natural Resources
P. O. Box 44487 Capitol Station
Baton Rouge, LA 70804

Endangered Species Act and Fish and Wildlife Coordination Act

U.S. Fish & Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, LA 70506
(318) 291-3100

Attn: Louisiana Natural Heritage Program
Louisiana Department of Wildlife and Fisheries
P.O. Box 98000
Baton Rouge, LA 70898
(225) 765-2821

Farmland Protection Act

Attn: State Conservationist Engineer
Natural Resources Conservation Service
3737 Government Street
Alexandria, LA 71302
(318) 473-7673

Floodplain Management, Executive Order 11988

Attn: Regional Director
Federal Emergency Management Agency, Region 6
Federal Regional Center
800 North Loop 288
Denton, Texas 76209

Attn: Floodplain Insurance Manager
Louisiana Department of Transportation & Development
P. O. Box 94245
Baton Rouge, LA 70804
(225) 274-4316

Attn: Projects Branch
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160
(504) 862-1556

National Historic Preservation Act

Attn: State Historic Preservation Officer
P.O. Box 44247
Baton Rouge, LA 70804
(225)342-8160

National Parks, Monuments

Southeast Region
National Park Service
Attn: Anital J. Jackson
100 Alabama St. SW
1924 Building
Atlanta, GA 30303

Protection of Wetlands, Executive Order 11990

Attn: Chief Regulatory Branch
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160
(504)862-2257

Attn: Wetlands Regulatory Coordinator-Louisiana
Marine and Wetlands Section (6WQ-EM)
EPA Region 6
1445 Ross Ave., Suite 1200
Dallas, TX 75202

Safe Drinking Water Act

Contract and Grants
Louisiana Department of Environmental Quality
P. O. Box 4314
Baton Rouge, LA
(225)219-3815

Groundwater

Attn: Groundwater/UIC Section (6WQ-SG)
EPA Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202
(214)665-8324

Sole Source Aquifer

Attn: Source Water Protection Branch (6WQ-S)
EPA Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Wild and Scenic Rivers Act

Attn: Scenic Streams Coordinator
Louisiana Department of Wildlife & Fisheries
368 Century Park Dr.
Monroe, LA 71203
(318) 473-7160

Intergovernmental Review Contact

Attn.: Walter R. Brooks, Executive Dir.
Regional Planning Commission
1340 Poydras Street, Suite 2100
New Orleans, LA 70112
Phone (504) 568-6611 Fax (504) 568-6643
www.norpc.org

St. Bernard Parish State Representative

Honorable Raymond E. Garofalo, Jr.
100 Port Blvd.
Chalmette, LA 70043
(504) 277-4729

Appendix E

Public Notice and Public Meeting Transcripts