



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, DC 20314-1000

CECW-MVD

29 AUG '16

**ENVIRONMENTAL ASSESSMENT #550
LAKE PONTCHARTRAIN AND VICINITY (LPV) – LEVEE LIFTS PRIOR TO
ARMORING - LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1,
JEFFERSON PARISH, LOUISIANA**

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) #550 for the proposed levee lifts for the Lake Pontchartrain and Vicinity (LPV) – 1.1, 2.2, 19.2 and 20.1, Hurricane Storm Damage Risk Reduction System (HSDRRS) at the Lakefront Levee, Jefferson Parish, Louisiana. This finding incorporates by reference all discussions and conclusions contained in the EA enclosed hereto.

The proposed action was submitted under 33 USC 408 at the request by the Southeast Louisiana Flood Protection Authority – East Bank, and the Coastal Protection Authority Board of Louisiana (collectively referred to herein as the “requester”). The proposed action (requester's preferred alternative) consists of raising approximately 7 miles of the LPV Lakefront Levee.

The HSDRRS construction of these levee section was to elevation 17.5-feet (NAVD88) to meet HSDRRS requirements and Federal Emergency Management Agency (FEMA) requirements for system accreditation. Since initial construction, the levee section has settled at or below the required elevation to provide the designed risk reduction afforded by the HSDRRS. In order to maintain the required level of risk reduction for HSDRRS and FEMA accreditation, the requester has proposed to raise the levee sections to elevation 17-feet (NAVD88). The requester estimates the proposed levee lift would require approximately 205,704 cubic yards of earthen borrow material to be hauled to the site. Levee material would be provided from borrow sources previously assessed as indicated in the EA. Borrow sites that may be utilized for the source of borrow material are 3C Riverside Borrow Areas 1, 2 & 3, Willow Bend Borrow Area Phases I & II, and River Birch Phase 1, 2, South Kenner Road and Landfill Expansion. If another borrow site were determined to be more suitable for obtaining borrow material, additional environmental evaluations would be required to determine compliance with all applicable Federal and State environmental laws and regulations.

Based on information analyzed in the EA, reflecting pertinent information obtained from agencies having jurisdiction by law/or special expertise, I conclude that the proposed action will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement. Reasons for this conclusion are in summary:

a. No significant adverse impacts were identified to uplands, wetlands, wildlife, cultural resources, recreational resources, transportation, air quality, noise quality, water quality, or aesthetic resources.

b. The proposed action has been coordinated with the U.S. Fish and Wildlife Service in accordance with the Endangered Species Act. Through this coordination, it was determined that the proposed action has no effect on any threatened or endangered species, or critical habitat.

c. This proposed action would not impact waters of the U.S. and therefore no further coordination is necessary.

d. The proposed action has been coordinated with the Louisiana Department of Natural Resources. A coastal use permit (CUP) P20160266 was issued on May 24, 2016 for LPV 1.1 and 2.2. A CUP P20160047 was issued on March 8, 2016 for LPV 19.2 and 20.1. Each proposed borrow site has previously been issued a CUP. Since the latest CUP issuance, the borrow sites have been active with no change to scope or described activity and therefore no further coordination is required.

e. A Phase 1 Environmental Site Assessment (ESA) Update for the subject reaches was completed in December 2015, which indicated the probability of encountering Hazardous, Toxic and Radioactive Waste (HTRW) for the proposed action is low. A Phase I ESA for the 3C Riverside property was completed 26 January 1999. This investigation concluded that previous Recognized Environmental Conditions (RECs) on the property have been cleaned and removed. No current RECs were found. A second ESA was completed for 3C Riverside Phase II on 23 July 2007. No RECs were found. A third Phase I ESA was completed for 3C Riverside Phase III on 24 July 2008. No RECs were found. The Phase I ESA for Willow Bend Phase I was completed in January 2008. The Phase I ESA for Willow Bend Phase II was completed 12 February 2009. No RECs were identified on either site. The Phase I ESA for South Kenner Road was completed on 09 August 2007. The Phase I ESA was completed on 10 August 2006. The site was revisited on 13 September 2007. CEMVN determined no significant changes in the area since the Phase I ESA was completed. A Phase I ESA for River Birch Phase 2 was completed on 10 August 2006. The site was revisited on 13 September 2007. No RECs were identified on any Riverbirch sites. All of these sites have been actively used since their original approval and therefore an update to the ESA is not required. If an HTRW problem is encountered, the requester will be responsible for planning and accomplishing any HTRW response measures, and all associated costs.

f. In accordance with Executive Order 11988 Floodplain Management, it has been determined that the proposed action would not accelerate development of the floodplain.

g. The proposed action would not result in any direct, indirect or cumulative impacts to cultural resources.

h. A 15-day Public Notice was published in the Baton Rouge and New Orleans Advocate beginning May 24, 2016 and ending on June 8, 2016. Only one comment, from the Louisiana Department of Wildlife and Fisheries (LDWF), was received. LDWF does not object to the proposed project provided that adequate erosion/sediment control measures are implemented to insure that no sediments or other activity related debris are allowed to enter adjacent wetlands or waters. USACE agrees with this comment and will ensure best management practices are implemented.

In consideration of the information summarized, I find the proposed action will not significantly affect the human environment and does not require an Environmental Impact Statement.



MICHAEL C. WEHR
Major General, USA
Commanding

ENVIRONMENTAL ASSESSMENT (EA #550)

LAKE PONTCHARTRAIN AND VICINITY (LPV) – LEVEE LIFTS PRIOR TO ARMORING - LPV 1.1, LPV 2.2 LPV 19.2, LPV 20.1, JEFFERSON PARISH, LOUISIANA



**U.S. Army Corps of Engineers
Mississippi Valley Division
New Orleans District
Regional Planning and Environment Division South**

May 2016

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ENVIRONMENTAL ASSESSMENT #550

LAKE PONTCHARTRAIN AND VICINITY (LPV) – LEVEE LIFTS PRIOR TO ARMORING LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1 JEFFERSON PARISH, LOUISIANA

1.0 INTRODUCTION

The Southeast Louisiana Flood Protection Authority – East Bank (SLFPA-E) and the Coastal Protection and Restoration Authority Board of Louisiana (CPRAB) (referred to collectively as the requester) have jointly requested permission from the United States Army Corps of Engineers (USACE) to construct alterations to portions of Lake Pontchartrain and Vicinity (LPV) Hurricane and Storm Damage Risk Reduction System (HSDRRS) Jefferson Parish projects to increase the system's current level of hurricane and storm damage risk reduction. Based upon information provided by SLFPA-E, the USACE, Mississippi Valley Division, New Orleans District (CEMVN) is ensuring compliance with applicable Federal laws, executive orders, regulations, policies and ordinances, and in that capacity is soliciting input regarding the requester's proposed alteration, referred to herein as the requester's preferred alternative.

This Environmental Assessment (EA #550) was prepared based upon information provided by the requester, to analyze the impacts of constructing a levee lift on levee Reaches LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1, and thereby altering approximately 7 miles of the LPV levee system.

The reaches were described previously in the Individual Environmental Report (IER) #3 titled "Lake Pontchartrain and Vicinity, Lakefront Levee, Jefferson Parish, Louisiana." The Decision Record for IER #3 was approved by the CEMVN District Commander on July 25, 2008. The approved action in IER #3 consisted of rebuilding earthen levees, upgrading foreshore protection, replacing floodgates, construction of fronting protection for four pumping stations, and construction or modification of breakwaters at four pumping stations in Jefferson Parish, Louisiana. In accordance with IER #3, the elevations of the existing levees, floodwalls, structures, and gates within the LPV HSDRRS in Jefferson Parish were raised to a height of 16.5-17.5 ft NAVD88, with the exception of the breakwaters at the pumping stations, which were modified and/or constructed to a height of 10 to 14 ft NAVD88. The proposed action assessed in this EA would take place within the footprint of the earthen levee portion of these reaches. IER #3 can be found at:

http://www.nolaenvironmental.gov/nola_public_data/projects/usace_levee/docs/original/IER3Final.pdf. IER #3 and its Decision Record are hereby incorporated by reference.

1.1 Project Name And Location

Project Name: Lake Pontchartrain and Vicinity – Levee Lifts Prior to Armoring – LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1.

Project Location: The proposed actions for LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 would be located on existing levees on the south shore of Lake Pontchartrain in Jefferson Parish, Louisiana, which are part of the larger LPV HSDRRS (Figure 1).

The LPV 1.1 reach located between the Duncan Pump Station No. 4 and the Elmwood Pump Station No. 3. The LPV 2.2 reach is located between the Elmwood Pumping Station No. 3 and the Suburban Pumping Station No. 2. The LPV 19.2 reach is located between the Suburban Pumping Station No. 2 and North Causeway Boulevard. The LPV 20.1 reach is located between North Causeway Boulevard and Orpheum Avenue.

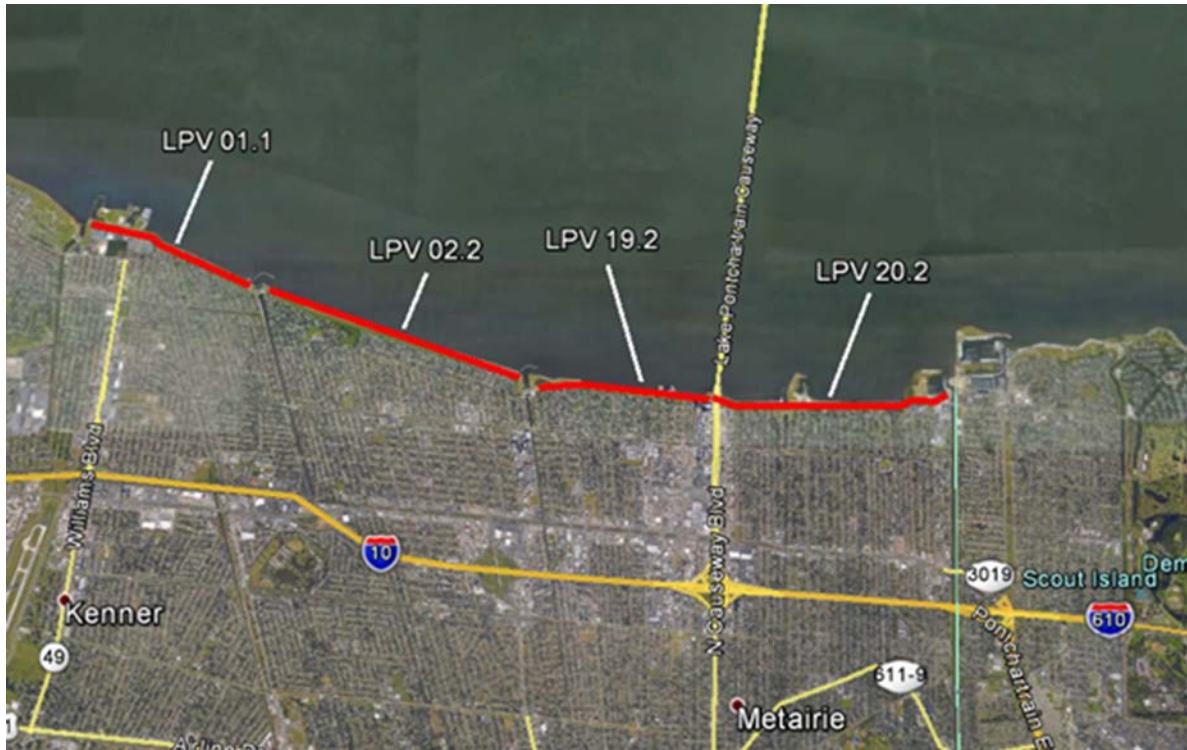


Figure 1. LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 Project Locations

1.2 Requested Permission Authority

Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408)

1.3 Purpose and Need for the Proposed Action

The purpose of the earthen levees as discussed in this document is to provide the required level of risk reduction associated with the LPV project. The elevation required for these earthen levee sections to provide the required level of risk reduction is elevation 15.5-feet (NAVD88) in year 2007 and elevation 17.5-feet (NAVD88) in year 2057. This change in elevation accounts for projected subsidence and sea level rise for the project's 50-year life.

Due to subsidence and consolidation since the actions carried out as described in IER #3, the current levee elevations are at or below the required elevation to provide the designed risk reduction afforded by the HSDRRS. If the proposed levee lifts are not performed, the levees would continue to settle and would not provide the required level of risk reduction to meet Federal Emergency Management Agency (FEMA) accreditation requirements.

The requester intends to raise these levee sections to elevation 17.0-feet (NAVD88) prior to CEMVN's placement of armoring material on the levee section to increase resiliency of the levee. The increase in elevation ranging between 0.0 – 1.5-feet would not have an adverse impact on the performance of the project and would extend the period of performance prior to the next required levee lift anticipated in the next 5-7 years.

1.4 Prior Reports

The CEMVN and others have prepared a number of studies and reports on water resources development in the vicinity of the project area. A full listing of previous Federal and non-Federal studies that have established an extensive database of information on the project area can be found in IER #3. These reports are hereby incorporated by reference. The most recent of these reports are listed below.

- On 18 December 2009, the CEMVN signed a Decision Record on IER Supplemental #3.a entitled "Lake Pontchartrain and Vicinity, Lakefront Levee, Jefferson Parish, Louisiana." The proposed action included construction of wave attenuation berms along the Jefferson Parish lakefront, and a T-wall, overpass bridge and traffic detour lane bridge spans at the Causeway Bridge abutment.
- On 25 July 2008, the CEMVN signed a Decision Record on IER #3, entitled "Lake Pontchartrain and Vicinity, Lakefront Levee, Jefferson Parish, Louisiana." The proposed action included rebuilding earthen levees, upgrading foreshore protection, replacing floodgates, constructing fronting protection for four pumping stations, and constructing or modifying breakwaters at four pumping stations in Jefferson Parish, Louisiana.
- In July 2006, CEMVN signed a Finding of No Significant Impact (FONSI) on an EA #433 titled, "USACE Response to Hurricanes Katrina & Rita in Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of Hurricanes Katrina and Rita.

Recent prior reports related to borrow material (fill material used to construct earthen levees) include the list below. Summaries of older additional reports regarding borrow material are provided in the Individual Environmental Reports listed below:

- On 22 January 2010, the CEMVN signed a Decision Record on IER #32 titled "Contractor-Furnished Borrow Material #6, Ascension, Plaquemines and St. Charles Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (GNOHSDRRS).
- On 31 July 2009, the CEMVN signed a Decision Record for IER #28, entitled "Government-Furnished Borrow Material #4, Plaquemines, St. Bernard, and Jefferson Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with approving government-furnished borrow areas for use in construction of the HSDRRS.

- On 20 October 2008, the CEMVN signed a Decision Record on IER #26 titled “Pre-Approved Contractor Furnished Borrow Material #3, Jefferson, Plaquemines, and St. John the Baptist Parishes, Louisiana, and Hancock County, Mississippi.” The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the GNOHSDRRS.
- On 6 May 2008, the CEMVN signed a Decision Record on IER #23 titled “Pre-Approved Contractor Furnished Borrow Material #2, St. Bernard, St. Charles, Plaquemines Parishes, Louisiana, and Hancock County, Mississippi.” The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the GNOHSDRRS.

2.0 ALTERNATIVES (INCLUDING THE PROPOSED ACTION)

Two alternatives were considered in this EA. These include the proposed action (referred to also as the requester’s preferred alternative) and the no action alternative. NEPA requires that in analyzing alternatives to a proposed action, a Federal agency consider an alternative of “No Action.” The No Action alternative considers taking “no action” and represents the Future Without Project (FWOP) condition to which action alternatives considered in detail are compared. The FWOP condition provides a baseline essential for impact assessment and alternative analysis.

2.1 Proposed Action

LPV 1.1 and 2.2

SLFPA-E and CPRAB (the requester) propose to raise the elevation of the Lake Pontchartrain and Vicinity (LPV) Levee Reach 1.1 and Levee Reach 2.2 to elevation 17.0' NAVD88 (Figures 2 and 3). The existing levee crown varies in elevation throughout the reach, ranging from approximately elevation +15.5 to +16.8. The levee lift for LPV Reach 1.1 would extend from Station 836+87, just east of Duncan Pump Station No. 4, to Station 915+22, just west of Elmwood Pump Station No. 3. The levee lift for LPV Reach 2.2 would extend from Station 925+68, just east of Elmwood Pumping Station No. 3, to Station 1043+27, just west of Suburban Pumping Station No. 2. All construction would occur within already disturbed areas within the existing levee authority right-of-way, and all ingress and egress to the project would occur on existing access roads at the end of Williams Boulevard, Erlanger Boulevard and Clearview Parkway.

All staging of equipment and materials would take place within previously disturbed areas within the levee right of way, just east of Williams Boulevard and adjacent to the levee ROW at the access road at Clearview Parkway. Approximately 42,267 cubic yards of earthen fill material would be hauled to the site and placed as embankment on the levee section. Equipment that may be used during construction includes dumptrucks, bulldozers, graders, sheepsfoot rollers, or similar equipment, and water trucks to be used on site. Haul trucks would be entering and exiting the areas on a daily basis during the period of construction.

Existing turf would be cleared and existing embankment foundation cavities and depressions would be broken down to flatten out the slope. The entire area of embankment to be raised would be broken to a depth of 6 inches in order to place and compact new embankment

material. Existing surfacing and any underlying fabric on existing ramps would be removed prior to placement of new fill material. Fabric will be disposed of in a permitted landfill; any crushed stone removed will be stored temporarily within the staging areas. Silt fencing would be used along the entire reach to control stormwater run-off from the project site. The Contractor would water down the access roads that are within the construction easement area as necessary to keep dust from being blown or drifting into the adjacent areas. Once the required levee elevation is obtained through addition and grading of embankment material, the levee section would be seeded and fertilized to establish turf. Water applied during the establishment and irrigation of grass on the embankment will be obtained from a municipal water supply. Any material hauled off-site would be properly disposed of in accordance with any applicable laws and regulations. Fill material would be provided from one or more borrow sources, which were previously assessed in prior NEPA documents and that are in compliance with all applicable permits and regulations. No wetlands or trees (woody vegetation) would be removed or disturbed by the proposed action. Additional details are provided in Appendix A.

LPV 19.2 and LPV 20.1

SLFPA-E and CPRAB (the requester) propose to raise the elevation of the Lake Pontchartrain and Vicinity (LPV) Levee Reach 19.2 and Levee Reach 20.1 to elevation 17.0' NAVD88 (Figures 4 and 5). The existing levee crown varies in elevation throughout the two levee reaches, ranging from approximately elevation +15.5 to +18.0. The levee lift for LPV Reach 19.2 would extend from Station 342+90, just east of the northern terminus of the Suburban Canal, to Station 419+53, just west of N. Causeway Boulevard. The levee lift for LPV Reach 20.1 would extend from Station 424+80, just east of N. Causeway Boulevard, to Station 521+42, just west of the northern terminus of the 17th Street Canal. All construction would occur within previously disturbed areas within existing levee authority right-of-way, and all ingress and egress to the project would occur on existing access roads at the end of Severn Avenue, Ridgelake Drive, Bonnabel Boulevard, and ramps in the vicinity of the Coast Guard station.

All staging of equipment and materials would take place within previously disturbed areas within the levee ROW, adjacent to the ingress/egress route near Causeway Boulevard. Approximately 26,496 cubic yards of fill material would be hauled to the site and placed as embankment on the levee section. Equipment that may be used during construction includes dumptrucks, bulldozers, graders, sheepsfoot rollers, or similar equipment, and water trucks to be used on site. Haul trucks would be entering and exiting the areas on a daily basis during the period of construction.

Existing turf would be cleared and existing embankment foundation cavities and depressions would be broken down to flatten out the slope. The entire area of embankment to be raised would be broken to a depth of 6 inches in order to place and compact new embankment material. Existing surfacing and any underlying fabric on existing ramps would be removed prior to placement of new fill material. Fabric will be disposed of in a permitted landfill; any crushed stone removed will be stored temporarily within the staging areas. Silt fencing would be used along the entire reach to control stormwater run-off from the project site. The Contractor would water down the access roads that are within the construction easement area as necessary to keep dust from being blown or drifting into the adjacent areas. Once the required levee elevation is obtained through addition and grading of embankment material, the levee section would be seeded and fertilized to establish turf. Water applied during the establishment and irrigation of grass on the embankment would be obtained from a municipal water supply. Any

material hauled off-site would be properly disposed of in accordance with any applicable laws and regulations. Fill material would be provided from one or more borrow sources, which were previously assessed in prior NEPA documents and that are in compliance with all applicable permits and regulations. No wetlands or trees (woody vegetation) would be removed or disturbed by the proposed action. Additional details are provided in Appendix A.

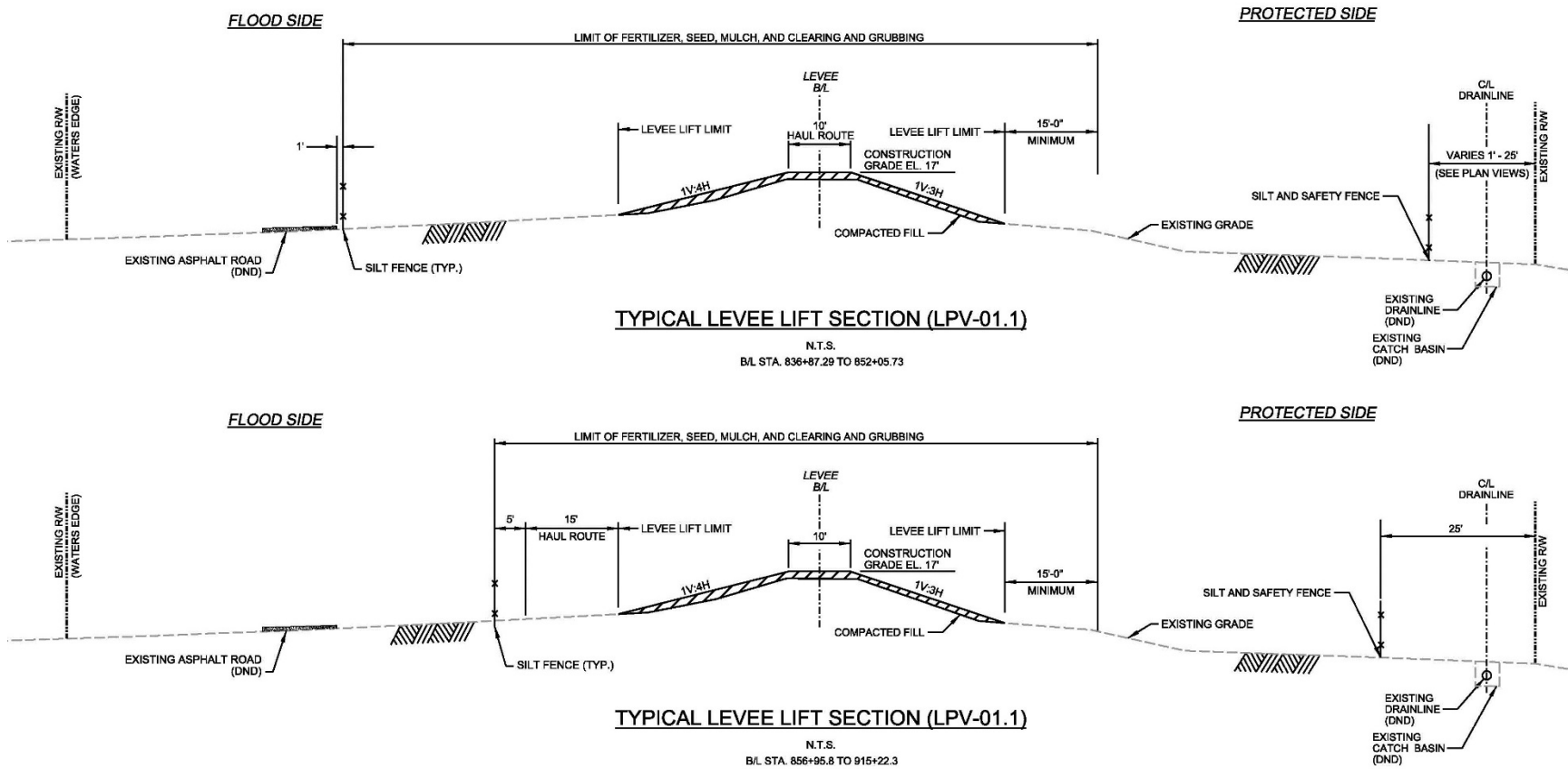


Figure 2. Typical Levee Cross Sections, LPV 1.1

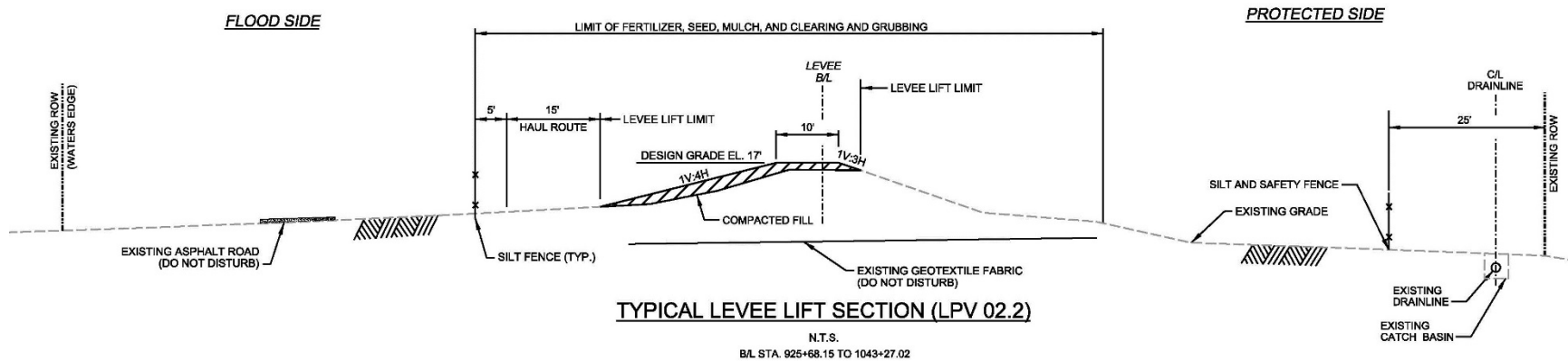


Figure 3. Typical Levee Cross Section, LPV 2.2

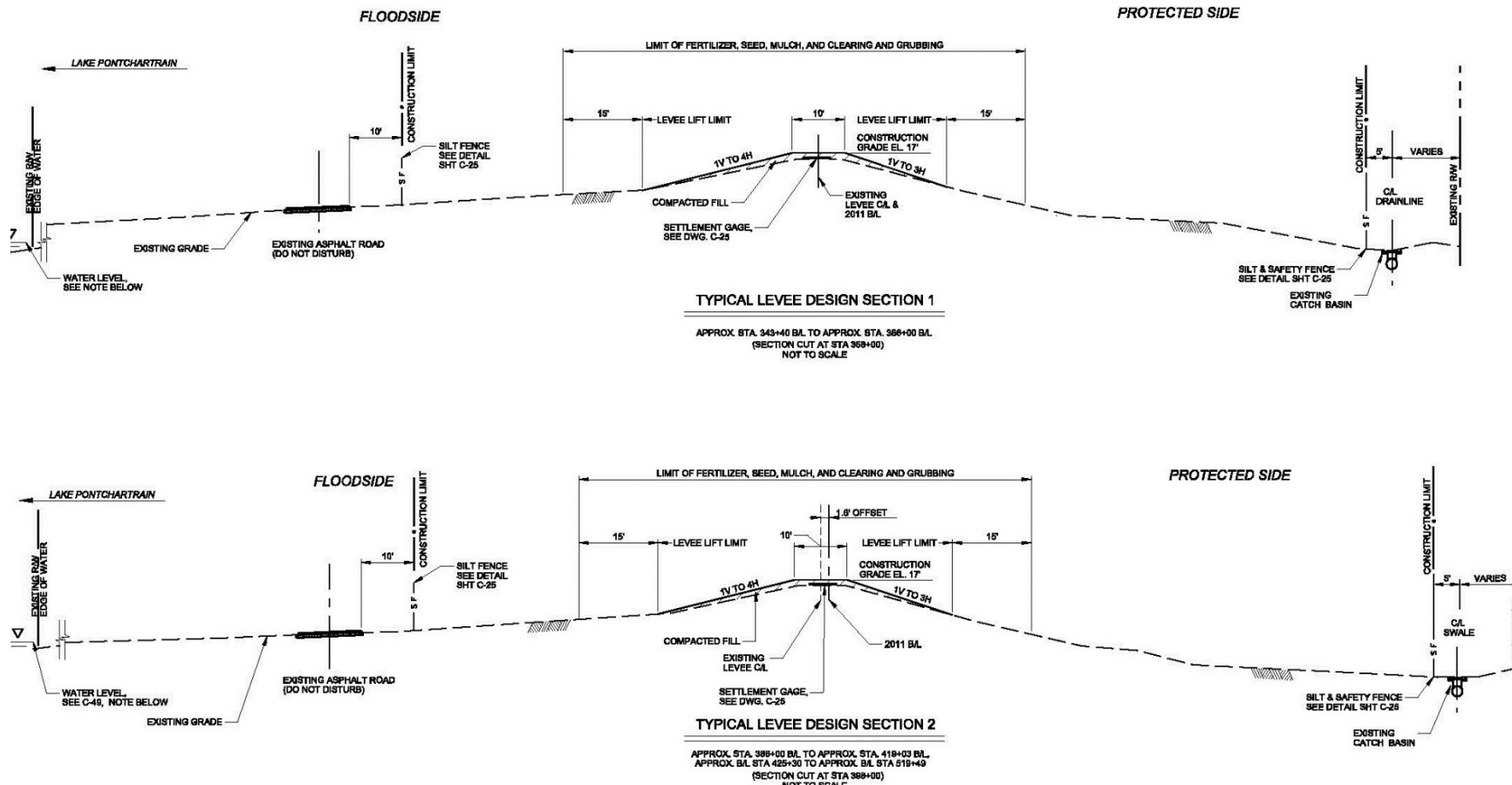
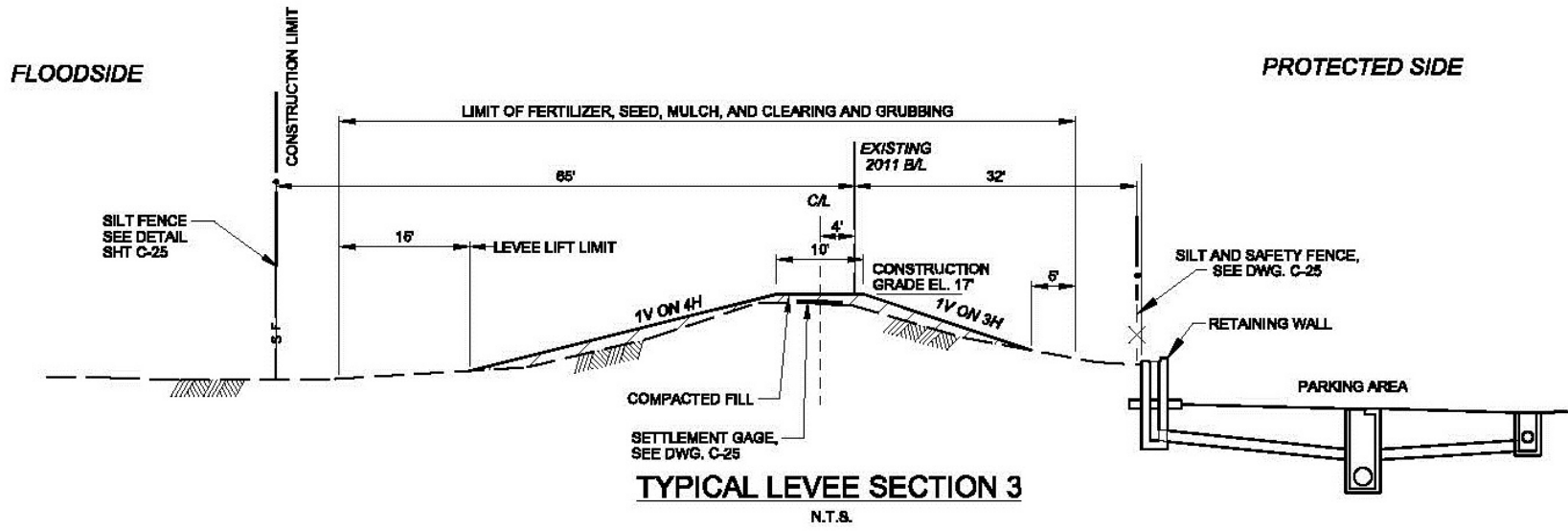


Figure 4. Typical Levee Cross Section, LPV 19.2 and 20.1



B/L STA. 519+89 TO 521+42

Figure 5. Typical Levee Cross Section, LPV 19.2 and 20.1 continued

Fill material would be provided from one or more borrow sources which were previously assessed in prior NEPA documents and that are in compliance with all applicable permits and regulations. The borrow sites listed below have demonstrated that all environmental compliance documentation is current and up-to-date for provision of borrow material for the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1.

One or more of the following borrow sites may be selected and utilized by the construction contractor for the source of borrow material under the requester's preferred alternative:

1. The 3C Riverside Borrow Area is located off Highway 3127 in St. Charles Parish, Louisiana. This borrow site is approximately 16 miles from the proposed LPV 1.1 project, 16.5 Miles from the proposed LPV 2.2 project, 19 miles from the proposed LPV 19.2 project, and 20 miles from the proposed LPV 20.1 project.
 - a. 3C Riverside Phase 1 – IER #23 previously approved approximately 118 acres for excavation. There are no bottomland hardwoods or jurisdictional wetlands associated with this site. This site was approved by CEMVN contractors in 2008 and has since been excavated.
 - b. 3C Riverside Phase 2 – IER #23 previously approved approximately 146 acres for excavation. There are no bottomland hardwoods located on this site. There is a canal on the southeastern portion of this property that is designated as Section 404 water. It would not be impacted by this proposed action. This site was approved by CEMVN contractors in 2008 and has since been excavated.
 - c. 3C Riverside Phase 3 – IER #32 cleared approximately 253 acres for excavation in 2010. The site includes approximately 174.6 acres of non-jurisdictional bottomland hardwoods. The removal of BLH for this proposed action is not authorized.



Figure 6. Existing 3C Riverside Properties Borrow Site

2. The Willow Bend Borrow Area is located south of River Road in St. John the Baptist Parish, Louisiana. This borrow site is approximately 22 miles from the proposed LPV 1.1 project, 22.5 miles from the proposed LPV 2.2 project, 26 miles from the proposed LPV 19.2 project, and 27 miles from the proposed LPV 20.1 project.
 - a. Willow Bend Phase I – IER #26 previously approved approximately 64 acres of farmland for excavation. This site was approved for use by CEMVN HSDRRS contractors in 2008 and has been previously excavated.
 - b. Willow Bend Phase II – IER #29 previously approved approximately 496 acres of farmland for excavation. The site includes approximately 76.2 acres of non-jurisdictional bottomland hardwoods in portions of the property. The removal of BLH for this proposed action is not authorized. This site was approved for use by CEMVN HSDRRS contractors in 2009 and has been previously excavated.



Figure 7. Existing Willow Bend Borrow Site

3. The River Birch Borrow Area is located in Jefferson Parish, Louisiana. There are three sites owned by River Birch Incorporated and Hwy. 90, LLC that will eventually be utilized as a landfill. The landfill is the primary use of the site and borrow excavation is considered a secondary use. The Phase 1 and 2 sites are located on Highway 90, approximately 0.7 miles west of Live Oak Boulevard in Jefferson Parish, Louisiana. These borrow sites are approximately 8 miles from the proposed LPV 1.1 project, 8 miles from the proposed LPV 2.2 project, 8 miles from the proposed LPV 19.2 project, and 9 miles from the proposed LPV 20.1 project. The South Kenner Road Borrow Area is located on South Kenner Road in Jefferson Parish, Louisiana. The South Kenner Road borrow site is approximately 7 miles from the proposed LPV 1.1 project, 7 miles from the proposed LPV 2.2 project, 8 miles from the proposed LPV 19.2 project, and 9 miles from the proposed LPV 20.1 project.
 - a. River Birch Phase 1 – The IER #19 cleared approximately 9.7 acres for excavation. This site was approved for use by CEMVN HSDRRS contractors in 2008 and has been previously excavated.
 - b. River Birch Phase 2 – The IER #19 cleared approximately 79.4 acres for excavation. This site was approved for use by CEMVN HSDRRS contractors in 2008 and has been previously excavated.

- c. South Kenner Road – IER #26 previously approved approximately 240 acres of maintained land for excavation. This site was approved for use by CEMVN HSDRRS contractors in 2008 and has been previously excavated.
- d. River Birch Landfill Expansion – IER #31 cleared approximately 196 acres for excavation. This site was approved for use by CEMVN HSDRRS contractors in 2010 and has since been excavated.



Figure 8. Existing River Birch Borrow Sites

If another borrow site were determined to be more suitable for obtaining borrow material than those listed above, additional evaluations would be required to determine compliance with all applicable Federal, State environmental laws and regulations.

2.3 No Action Alternative (Future Without Project):

Under the No Action Alternative, the area would continue a trend of land loss caused by both environmental factors such as subsidence, erosion, tropical storms and sea level rise and human factors such as flood risk reduction, canal dredging, development, interruption of accretion processes and oil and gas exploration.

Under this alternative, the 100-year level of risk reduction would not be provided in these reaches of the LPV project. The LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 levee reaches would settle below the 100-year base flood elevation based on geotechnical analysis utilizing

settlement curves. Without implementing the proposed levee lifts, these levee reaches will continue to settle and are currently estimated to be between 1.0 – 2.0-feet below the 100-yr level of risk reduction by year 2057.

The proposed borrow locations are existing operating businesses in business to sell dirt. The sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow material. These borrow locations are anticipated to remain active into the future until excavation of the material is exhausted.

2.4 Data Gaps And Uncertainties

The excavation of the proposed contractor-furnished borrow areas is subject to compliance with local and state regulations or ordinances, including any local or state rules concerning backfilling excavated sites. It is the responsibility of the landowner of the borrow site to coordinate and secure appropriate permits from the local parish/county authority before starting any work on the property. Some unknown impacts due to backfilling activity, though not a part of the proposed action, may include traffic impacts, river dredging impacts, stockpile/staging locations, and potential wetland and water quality impacts.

It is not known what amount of borrow material remains available at each of the proposed borrow areas, which borrow area the requester would select to meet the proposed borrow requirements, or whether the requester would obtain borrow material from one or more borrow areas. Additionally, seasonal rainfall could impact quality or availability of borrow material at one or more of the borrow areas which could impact borrow area selection. Project area proximity to the proposed borrow areas could impact environmental resources related to the transport of borrow to the project site.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Environmental Setting

The project area is located on the south shore of Lake Pontchartrain in the northeastern portion of the Mississippi River deltaic plain. The existing levees proposed for amendment under this EA, LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1, are part of the larger LPV HSDRRS.

Borrow material for this project could come from a number of existing borrow pits within the vicinity of LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1. The 3C Riverside Borrow sites are located in a rural area of St. Charles Parish. The Willow Bend Borrow areas are located in a rural area on the west bank of the Mississippi River in St. John the Baptist Parish. The River Birch Borrow Sites Phase 1, Phase 2, South Kenner Road and Landfill Expansion are expansions of an existing landfill in Jefferson Parish.

3.2 Climate

The project areas of both the levee reaches and the possible borrow sources are located within a subtropical latitude. The climate is influenced by the many water surfaces of the nearby wetlands, rivers, lakes, streams, and the Gulf of Mexico. Throughout the year, these water areas modify the relative humidity and temperature conditions, decreasing the range between

the extremes. Summers are long and hot, with an average daily temperature of 82° Fahrenheit (°F), average daily maximum of 91°F, and high average humidity. Winters are influenced by cold, dry polar air masses moving southward from Canada, with an average daily temperature of 54°F and an average daily minimum of 44°F. Annual precipitation averages 54 inches.

3.3 Geology/Soils

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Dominant physiographic features in the project area include Lake Pontchartrain and the Jefferson Lakefront Levee, of which LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 are a part. The natural surface environment of marsh and swamp in this area has been altered by filling and drainage for development.

The shallow subsurface beneath, and immediately adjacent to, the Jefferson Lakefront Levee is composed of up to 15 ft of fill material. Fill deposits are predominantly clay and silty clay. Fill deposits overlie swamp/marsh deposits, which are approximately 5 ft to 10 ft thick. Swamp/marsh deposits are composed of very soft to medium organic clay, clay, silty clay, and silt, with peat and wood. Interdistributary deposits underlie swamp/marsh deposits and are characterized by soft to medium clays with some silt and sand layers, and shells.

Interdistributary deposits are approximately 25 ft thick. Bay-sound deposits are located beneath interdistributary deposits. Bay-sound deposits are mainly soft to medium clays and silty clays with some silt, silty sand, and shells. These deposits are approximately 10 ft to 15 ft thick. Pleistocene deposits composed of oxidized, stiff to very stiff clays and silty clays with silty sand and sand underlie bay-sound deposits. The top of the Pleistocene deposits is approximately -50 ft NAVD88 in elevation.

The study site contains Kenner drained soils, which are level, poorly drained soils that have a thick or moderately thick mucky surface layer and mucky and clayey underlying material, in former freshwater marshes (US Soil Conservation Service, 1983).

Groundwater is artificially lowered south of the LPV Jefferson Lakefront levee by forced drainage and is at or near the surface north of the levee.

Long-term relative subsidence resulting mainly from compaction of Holocene sediments, and possibly from movement on the downthrown side of growth faults, is estimated at 0.5 ft per century. Eustatic sea level is predicted to rise an additional 1.3 ft over the next century (Intergovernmental Panel on Climate Change, 2001). Therefore, the natural, long-term, relative subsidence rate at the project site is estimated to be 1.8 ft per century. Ground subsidence related to artificial lowering of the water table far exceeds the natural rate of subsidence and could reach several feet in areas south of the project site. Calculations based on EC 1165-2-212 determined that the initial Water Surface Elevation at the low, intermediate and high rates of RSLR at 2070 are 1.81 feet, 2.32 feet, and 3.95 feet, respectively.

Borrow Locations

The term "suitable" as it relates to borrow material discussed in this document is defined as meeting the following current soil criteria prior to placement as levee fill:

- Soils classified as clays (CH or CL) are allowed as per the Unified Soils Classification System;

- Soils with organic contents greater than 9% are not allowed;
- Soils with plasticity indices (PI) less than 10 are not allowed;
- Soils classified as Silts (ML) are not allowed;
- Clays will not have more than 35% sand content.

The USACE HSDRRS Design Guidelines, of which the soil standards previously discussed are a part, are reviewed and updated as necessary to ensure that the Corps is constructing the safest levees possible. Changes to the guidelines are reviewed and approved by USACE experts at the local, regional and headquarters level; additional reviews are completed by academia and private individuals who are recognized experts in their fields. Additionally, the guidelines being utilized by CEMVN have been reviewed by members of the Interagency Performance Evaluation Team (IPET). The design guidelines may be updated from time to time to respond to new engineering analysis of improved technology, innovative processes, or new data.

Geotechnical borings were collected at each borrow area to determine the suitability of the material for levee construction use. The borings were spaced to adequately define the material in the pit, but in no case spaced greater than 500 feet on center. Borings along the proposed borrow area boundary were located no further than one-half of the boring spacing in the area or 250 feet, whichever was less.

The soils were classified, logged, and recorded within seven days of obtaining the samples in the field. The Unified Soil Classification System was used in classifying the soils. A water content determination was made and recorded on all samples classified as fat clay (CH), lean clay (CL), and silt (ML) at one foot intervals (recommended) or two foot intervals (required). For (CH), (CL), and (ML) soils, Atterberg Limits and Organic Content Testing (American Society of Testing and Materials [ASTM] D 2974, Method C), was required every five feet (minimum). Samples with moisture contents at 70% or higher or having a Liquid Limit of 70 or higher were tested for organic content, as well as for a sample two feet above and two feet below that sample (2.5 feet also acceptable). Grain size distribution determinations including both sieve (#200 sieve required) and hydrometer testing was required for samples that classify as CL with a plasticity index (PI) greater than 10 for 2 or more consecutive feet, but not more than one test every 5 feet of sampling.

The resulting classification, plasticity, water content, and organic content determinations and borrow area boring logs with GPS readings at the boring locations were analyzed for potential borrow use by CEMVN to determine the suitability of the soil.

4.0 RELEVANT RESOURCES

This section contains a description of the relevant resources that could be impacted by the proposed projects (Table 1). The resources discussed are those recognized by laws, executive orders, regulations, and other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. Table 2 provides summary information of the institutional, technical, and public importance of some of these resources. The relevant resources discussed in detail in this EA include: upland resources, wetlands, wildlife, threatened and endangered species, cultural resources, recreational resources, transportation, air quality, noise, water quality and aesthetics.

Resources initially considered but determined to not exist in the project area or determined to

not be affected by the proposed action include: fisheries, essential fish habitat, environmental justice, socioeconomics, soils and hydrology. These resources will not be carried forward for further discussion. Although wetlands, threatened and endangered species, water quality and cultural resources are not impacted by the proposed action, they are nonetheless discussed in the following sections to demonstrate compliance with applicable law.

Table 1. Relevant Resources in Project Area

Significant Resource	Impacted	Not Impacted
Upland Resources	X	
Wetlands		X
Wildlife	X	
Fisheries		X
Essential Fish Habitat		X
Threatened and Endangered Species		X
Cultural Resources		X
Recreational Resources	X	
Transportation	X	
Air Quality		X
Noise Quality	X	
Water Quality		X
Aesthetic (Visual) Resources		X

Table 2: Institutional, Technical, and Public Importance of Resources			
Resource	Institutionally Important	Technically Important	Publicly Important
Wetlands	Coastal Barrier Resources Act of 1982; Coastal Zone Management Act of 1972; Emergency Wetlands Resources Act of 1986; Estuary Protection Act of 1968; Fish and Wildlife Conservation Act of 1980; Fish and Wildlife Coordination Act of 1958; NEPA of 1969; North American Wetlands Conservation Act of 1989; the Water Resources Development Acts of 1976, 1986, 1990, and 1992; Executive Order 13186 - Migratory Bird Habitat Protection.	Technically significant because they are a critical element of the barrier shoreline habitats. Vegetation resources serve as the basis of productivity, contribute to ecosystem diversity, provide various habitat types for fish and wildlife, and are an indicator of the health of coastal habitats.	Publicly significant because of the high priority that the public places on their aesthetic, recreational, and commercial value.
Wildlife Resources	NEPA of 1969; Coastal Zone Management Act of 1972; Estuary Protection Act of 1968; Fish and Wildlife Coordination Act of 1958; Migratory Bird Conservation Act of 1929; Migratory Bird Treaty Act of 1918; Endangered Species Act of 1973; Fish and Wildlife Conservation Act of 1980; North American Wetlands Conservation Act of 1989; Executive Order 13186 - Migratory Bird Habitat Protection; Marine Mammal Protection Act of 1972.	They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Threatened and Endangered Species	The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940.	USACE, USFWS, NMFS, NRCS, USEPA, LDWF, and LADNR cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem.	The public supports the preservation of rare or declining species and their habitats.
Cultural and Historic Resources	National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979; as well as federal implementing regulations; additional statutory and regulatory requirements; other applicable cultural resource-related laws; and USACE policies and procedures.	Cultural resources are finite and non-renewable resources that include, but are not limited to both prehistoric and historic archaeological sites, historic standing structures, landscapes, and other culturally valued aspects of the environment, as well as sociocultural attributes, such as social cohesion, social institutions, lifeways, religious practices, and other cultural institutions. Historic properties include districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places, and federal agencies are required to consider the effects of their actions on such properties.	Humans relate to their environment through their culture, and historic and cultural resources provide insights into ways of life, both past and present. The protection and enhancement of historic and cultural resources is in the best interest of the public, and federal agencies also have trust and treaty responsibilities to Tribes, which are partially fulfilled through the preservation and protection of trust resources and the consideration of potential effects on natural and cultural resources.
Recreation Resources	Federal Water Project Recreation Act of 1965 as amended and Land and Water Conservation Fund Act of 1965 as amended.	Provide high economic value of to local, state, and national economies.	Public makes high demands on recreational areas. There is a high value that the public places on fishing, hunting, and boating, as measured by the large number of fishing and hunting licenses sold in Louisiana; and the large per-capita number of recreational boat registrations in Louisiana.
Socio-Economic Resources - Transportation	National Environmental Policy Act of 1969; Estuary Protection Act of 1968; Clean Water Act of 1972; Rivers and Harbors Act of 1899; Watershed Protection and Storm damage Protection Act of 1954.	Technically significant because the social and economic welfare of the Nation may be positively or adversely impacted by the proposed action; the social and economic welfare of minority and low-income populations may be positively or disproportionately impacted by proposed actions.	Public's concern for health, welfare, and economic and social well-being from water resources projects; also public concerns about the fair and equitable treatment of all people

Table 2: Institutional, Technical, and Public Importance of Resources			
Resource	Institutionally Important	Technically Important	Publicly Important
Air Quality	Clean Air Act of 1963, Louisiana Environmental Quality Act of 1983.	State and Federal agencies recognize the status of ambient air quality in relation to the NAAQS.	Virtually all citizens express a desire for clean air.
Water Quality	Clean Water Act of 1977, Fish and Wildlife Coordination Act, Coastal Zone Mgt Act of 1972, and La State & Local Coastal Resources Act of 1978.	USACE, USFWS, NMFS, NRCS, USEPA, and State DNR and wildlife/fishery offices recognize value of fisheries and good water quality. the national and state standards established to assess water quality	Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water.
Upland Resources	Food Security Act of 1985, as amended; the Farmland Protection Policy Act of 1981; the Fish and Wildlife Coordination act of 1958, as amended.	The habitat provided for both open and forest-dwelling wildlife, and the provision or potential provision of forest products and human and livestock food products.	The present economic value or potential for future economic value.
Soils, Water bottoms, Prime and Unique Farmlands	Council on Environmental Quality (CEQ) memorandum dated August 11, 1980, entitled "Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act (NEPA)"; Executive Order 11990 - Protection of Wetlands; Agriculture and Food Act of 1981 (Public Law 97-98) containing the Farmland Protection Policy Act (PL 97-98; 7 U.S.C. 4201 <i>et seq.</i>).	Technically significant in determining soils engineering and environmental suitability, based on their physical and chemical properties, for proposed activities. Water bottoms are technically significant because the estuarine bottom sediment characteristics (water bottoms) benthic organisms distribution and is an integral component of the benthic boundary layer.	Significant to the public for determining suitability of construction capabilities, agriculture suitability, and suitability for septic tank type disposal of sanitary waste.

4.1 Upland Resources

4.1.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The habitat within the levee footprint of LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 is grass turf. This project area has been highly disturbed as a result of the HSDRRS construction. The levee reach was replanted to grass turf following completion of HSDRRS levee construction and is maintained by periodic mowing. Herbaceous woody vegetation is not allowed to take root within the levee footprint.

Borrow Locations

The proposed borrow locations are excavated borrow pits that are heavily impacted by borrow activities. The USACE has regulatory authority over jurisdictional Waters of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act, as discussed in section 4.2.1. Non-jurisdictional BLH are those upland habitats that do not meet all three wetland criteria (hydrophytic vegetation, hydric soils, and wetland hydrology), and thus are out of the USACE's regulatory jurisdiction (USACE, 1987). However, Section 906(b) of WRDA 1986 requires mitigation for impacts to BLH caused by an USACE civil works project. The Willow Bend Phase II borrow site has approximately 76.2 acres of the 496-acre borrow site designated as non-jurisdictional BLH, mostly as tree lines dividing the parcels of unmaintained farmland and pastureland. The 3C Riverside Phase 3 includes approximately 174.6 acres of non-jurisdictional bottomland hardwoods.

4.1.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

There would be no direct or indirect impacts to uplands within the project area if the levee lift was not constructed. The levee reach would be maintained to keep turf grass growing and woody species from establishing. The levee would be mowed routinely as necessary.

Borrow Locations

The sites are actively utilized by private, non-Federal and Federal entities seeking borrow material. This activity would be expected to continue under the no action alternative. These resources may be impacted by actions of the landowner in the future.

While removal of non-jurisdictional BLH for the purpose of the proposed action is not permitted, borrow activities for non-Federal and private entities which do not require a Federal permit may be permitted to remove the non-jurisdictional BLH on these borrow sites. This loss of BLH would be a cumulative impact in addition to other upland habitat conversion throughout the greater New Orleans metropolitan area. Residential, commercial and industrial development in the New Orleans Metropolitan area has changed and would be expected to continue to change land use patterns, contributing to the cumulative loss of upland habitat and non-jurisdictional BLH habitat in the project area. Non-jurisdictional BLH in rural areas such as St. John the Baptist parish may continue to be lost due to development of rural lands into developed uses.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Direct impacts would result from the clearing of approximately 82 acres of the existing levee turf grass and associated organic material. The waste material would be disposed of at a facility that is licensed to accept the material in compliance with all applicable federal, state and local laws. Following the completion of construction, the levee slopes would be revegetated and turf grasses maintained similar to pre-construction conditions.

Borrow Locations

The proposed borrow sites are excavated borrow pits whose upland habitat has been heavily impacted by borrow activities. No bottomland hardwood habitat would be impacted for borrow from this proposed action, as removal of the non-jurisdictional BLH for this project would not be permitted.

4.2 Wetlands

4.2.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The shoreline habitat in the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas occurs in a narrow zone between the mowed grass areas and the water of Lake Pontchartrain. The shoreline is covered almost continuously by riprap, consisting of large rocks and broken pieces of concrete piled to approximately 5 ft high along the waterline. The vegetation community within the shoreline habitat consists principally of a narrow zone of marsh grasses, such as salt grass (*Distichlis spicata*) and bulrush (*Scirpus* spp.), that grow along or among the riprap in some segments of the shoreline. Although wetland vegetation grows in places along the shoreline, the shoreline is not considered wetland because it is armored and, therefore, does not meet the criteria for hydric soils, and it does not have the hydrological properties necessary for it to be classified as wetland habitat.

Isolated, larger areas of marsh habitat that do meet the definition of a wetland occur in two areas along Jefferson Parish Lakefront Levee shoreline. One wetland is immediately west of the peninsula where the Bucktown Marina and Coast Guard Station are located, near the LPV 20.1 project area. These wetlands are under the jurisdiction of the USACE (i.e. are jurisdictional wetlands) because of their connection to Lake Pontchartrain.

The wetland near the LPV 19.2 project area is immediately east of the northern terminus of the Suburban Canal and appears to have been formed by the deposition of dredged spoils at the canal entrance, resulting in a triangular area of fill surrounding a small pond occupying approximately 3 acres. The pond is shallow and bordered by marsh grasses, such as salt meadow cordgrass (*Spartina patens*) and common reed (*Phragmites australis*), and small trees and shrubs, such as willow (*Salix* sp.) and rattlebush (*Sesbania drummondii*). The somewhat pie-shaped wetland within LPV 20.1 is a brackish marsh community of approximately 4 acres along the shoreline of the lake that was developed as a mitigation area. It is dominated by marsh grasses, such as cordgrass and salt grass, and bordered along its upper margin by shrubs, such as rattlebush and wax myrtle (*Myrica cerifera*).

These two wetland areas are outside the footprint of the proposed levee lift.

Borrow Locations

The jurisdictional wetland habitat types in the land surrounding proposed borrow areas may include pasture wetlands and jurisdictional bottomland hardwood forest (BLH). The jurisdictional wetlands contain hydrophytic vegetation, hydric soils, and hydrology indicators. Pasture wetlands are comprised of soft rushes, flat sedges, smartweed, alligator weed, and other wetland grasses. Jurisdictional bottomland hardwood forest include hackberry, Chinese tallow tree, pecan, American elm, live oak, water oak, green ash, bald cypress, black willow, box elder, and red maple. Some understory species include dewberry, lizard's tail, and poison ivy.

During initial investigations for borrow material during construction of the HSDRRS, a jurisdictional wetland determination from the CEMVN Regulatory Functions Branch was completed for each site. No jurisdictional wetlands requiring mitigation occur within the Riverside or Willow Bend borrow locations. Wetlands located on the River Birch sites were mitigated for under permits issued for landfill construction on these sites.

- 3C Riverside 1 - The CEMVN jurisdictional wetland determination MVN-2013-00083-SY dated 17 Jan 2013 indicated no jurisdictional wetlands are located on the 118 acre site. A canal located on the southeastern property is designated as a Section 404 water of the U.S. Best management practices are utilized to ensure no indirect impacts to the canal.
- 3C Riverside, Area 2 - The CEMVN jurisdictional wetland determination MVN-2007-1839-SY dated 26 June 2007, indicated no jurisdictional wetlands are located on the 146 acre site.
- 3C Riverside, Phase 3 - The CEMVN jurisdictional wetland determination MVN-2008-00414-SU dated 9 June 2008 indicates that approximately 97 acres jurisdictional wetlands are located on the site. The size of the approved borrow area was minimized to avoid direct impacts and potential indirect impacts to jurisdictional wetland areas.
- Willow Bend Phase I - The CEMVN jurisdictional wetland determination MVN-2007-0232-SU dated 14 March 2007 indicated no jurisdictional wetlands located on the site.
- Willow Bend Phase II - The CEMVN jurisdictional wetland determination MVN-2008-00574-SU dated 29 May 2008 found no jurisdictional wetlands located on the site.
- South Kenner Road – The CEMVN jurisdictional wetland determinations MVN-2006-1442-SU dated 15 June 2006 and MVN-2006-3862-SU dated 20 November 2006 indicated no jurisdictional wetlands are located on the site.
- River Birch Phase 1 - The CEMVN jurisdictional wetland determination at River Birch Phase 1 indicated 0.30 acres of jurisdictional wetlands and 0.10 acres of jurisdictional other waters are located on the site. A Section 404 (NOD-22) permit was issued (MVN-2004-2721, 28 June, 2004) for the purpose of constructing a landfill. Impacts to wetlands are related solely to landfill construction; the availability of levee material from this site is considered to be a secondary use of the site. Wetland impacts resulting from the landowners actions were mitigated by the landowner.
- River Birch Phase 2 – The site had 6.4 acres of BLH subject to Clean Water Act jurisdiction. A Section 404 permit was issued (MVN-2004-2721, 9 August, 2007) for the construction of a landfill. Impacts to wetlands are related to landfill construction. The permit indicates wetland impacts were mitigated for by the landowner.

- River Birch Landfill Expansion – The site was dominated by wetlands prior to being cleared for landfill development, and is currently being used as a borrow pit for non-CEMNV work. Compensatory mitigation for impacts to wetlands was completed via the CEMNV Section 404 regulatory program.

4.2.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Without implementation of the proposed action, there would be no actions taken to lift LPV 1.1, LPV 2.2, LPV 19.2 or LPV 20.1. However, maintenance activities would continue to occur. As no vegetated wetlands exist in the LPV 1.1, LPV 2.2, LPV 19.2 or LPV 20.1 project footprints, no wetlands would be impacted by such continued maintenance.

Cumulative impacts to jurisdictional wetlands throughout the Greater New Orleans Metro area would continue under the no action alternative. Historical and present wetland loss and gain in southeastern Louisiana has been caused by a multitude of natural and anthropogenic actions (Barras et al., 2004). Coastal wetland loss has occurred for thousands of years in Louisiana, and has until the 20th century been balanced by various natural wetland building processes (LACOAST, 1997). Multiple factors have been associated with coastal land loss, including the inhibition of sediment movement into coastal systems due to levee systems along the Mississippi River; man-made canals and their associated hydrologic changes (i.e., saltwater intrusion); a decline of suspended sediments coming from the Mississippi River due to upriver dams and other projects; erosion caused by wave action and boating activity; geologic compaction and faulting; storm events, including hurricanes; and relative sea level rise (Boesch et al., 1994). Public and private wetland creation and restoration projects have contributed to wetland gain in southeastern Louisiana. Major programs and initiatives include the Coastal Wetlands Planning, Protection and Restoration Act program; the Beneficial Use of Dredged Material program; WRDA restoration projects (e.g., Davis Pond Freshwater Diversion, Caernarvon Freshwater Diversion); vegetation restoration projects (e.g., National Resources Conservation Service Plant Materials Center); Louisiana state restoration projects; the Louisiana Parish Coastal Wetland Restoration Program; Federal Emergency Management Agency restoration projects; public and private parties' initiatives, including those of nongovernmental organizations and corporations; and private mitigation banks. It is expected that the trend of wetland loss would continue, the rate of which could be slowed by the previously mentioned wetland creation and restoration initiatives.

Borrow Locations

Under the no action alternative, the LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 levee lifts would not occur and therefore no borrow areas would be utilized for this purpose. However, because the borrow pits described in this EA are already active borrow excavation sites, the sites will likely continue to be actively utilized by private individuals, non-Federal and Federal entities seeking borrow. Nonetheless, there are no jurisdictional wetlands within the borrow sites, so no impacts to wetlands would be realized. Once the areas are no longer being excavated they would likely be converted to ponds and small lakes if water is retained, or to a vegetated area if water is not retained. Best management practices would be utilized to ensure no direct impacts to the 404 Water of the U.S. on the 3C Riverside 1 site.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The proposed action would not encroach on any wetland areas because there are no jurisdictional wetlands within the footprint of LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1 and the proposed action would increase the height of the levees within existing, pre-disturbed right-of-way. Best management practices would be implemented to ensure adjacent wetlands and waters of the United States are not impacted by runoff during construction. Therefore, the LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 levee lifts would not have any direct, indirect or cumulative impact on wetlands.

Borrow Locations

There would be no jurisdictional wetlands or BLH impacted by this proposed action, as no direct, indirect or cumulative impact to these resources were authorized in previous environmental compliance documentation (IERs) prepared by USACE for these borrow pits. Any jurisdictional wetland impacted under a USACE permit for other activities on these sites have been fully mitigated.

4.3 Wildlife

4.3.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The diversity and abundance of wildlife inhabiting the project area are dependent on the quality and extent of suitable habitat present. The terrestrial wildlife habitats potentially affected would occur principally along the shoreline of the lake and on the levee and its associated right-of-way on both the protected-side and flood-side.

Terrestrial wildlife habitat in the project corridor along Lake Pontchartrain consists principally of open expanses of turf grass lawn that extend from the lakeshore to the levee, over the levee, and south to the developed residential areas that adjoin the levee ROW on the protected side. The grass in these areas is kept short by regular mowing in conjunction with the maintenance of the levees and ROW. The wildlife most likely to occur here are birds that commonly forage on lawns and other open grassy areas, including the northern mockingbird (*Mimus polyglottos*), American robin (*Turdus migratorius*), common grackle (*Quiscalus quiscula*), boat-tailed grackle (*Quiscalus major*), and American crow (*Corvus brachyrhynchos*). Some of these birds could potentially nest in the few trees and shrubs present adjacent to the levee right-of-way on the protected side. Nesting habitat is limited given the residential property adjacent to the levee.

The shoreline habitat in the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas occurs in a narrow zone between the mowed grass areas and the water. The shoreline is covered almost continuously by riprap, consisting of large rocks and broken pieces of concrete piled to approximately 5 ft high along the waterline. The riprap provides minimal habitat for wildlife and is likely to be utilized mainly as a resting and foraging area for wading birds. The vegetation community within the shoreline habitat consists principally of a narrow zone of marsh grasses, such as salt grass (*Distichlis spicata*) and bulrush (*Scirpus* spp.), that grow along or among the riprap in some segments of the shoreline. The wildlife utilizing the narrow zone of shoreline vegetation in the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas as habitat include birds, small mammals, reptiles and amphibians.

Birds that could occur in the shoreline habitat of the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas include both nonmigratory residents of the region and migratory species that are present only part of the year. Nonmigratory species that could use these habitats include the anhinga (*Anhinga anhinga*), double-crested cormorant (*Phalacrocorax auritus*), laughing gull (*Larus atricilla*), Forster's tern (*Sterna forsteri*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), black-crowned night heron (*Nycticorax nycticorax*), green heron (*Butorides virescens*), white ibis (*Eudocimus albus*), fish crow (*Corvus ossifragus*), killdeer (*Charadrius vociferus*), mallard (*Anas platyrhynchos*), and red-winged blackbird (*Agelaius phoeniceus*).

Migrant birds that occur in the area only during the spring/summer breeding season include the purple martin (*Progne subis*) and barn swallow (*Hirundo rustica*). Migrant birds that could occur in the area only during winter include the ring-billed gull (*Larus delawarensis*), American white pelican (*Pelecanus erythrorhynchos*), canvasback (*Aythya valisineria*), ruddy duck (*Oxyura jamaicensis*), lesser scaup (*Aythya affinis*), blue-winged teal (*Anas discors*), redhead (*Aythya americana*), and song sparrow (*Melospiza melodia*) (Dunn and Alderfer 2006). Wildlife that forage in the inshore habitat within the lake include the pelicans, gulls, ducks, and other waterbirds described above.

Borrow Locations

The lands surrounding the borrow areas could contain a variety of mammals, birds, reptiles, and amphibians; however, wildlife habitat within the borrow pits themselves are quite limited.

Species likely inhabiting the area surrounding the borrow pits include nutria, muskrat, mink, otter, raccoon, white-tailed deer, skunks, rabbits, squirrels, armadillos, and a variety of smaller mammals. Wood ducks and some migratory waterfowl may be present during winter.

Non-game wading birds, shore birds, and sea birds including egrets, ibis, herons, sandpipers, willets, black-necked stilts, gulls, terns, skimmers, grebes, loons, cormorants, and white and brown pelicans could be found in the vicinity of the possible borrow pits. Various raptors such as barred owls, red-shouldered hawks, northern harriers (marsh hawks), American kestrel, and red-tailed hawks may be present. Passerine birds in the areas include sparrows, vireos, warblers, mockingbirds, grackles, red-winged blackbirds, wrens, blue jays, cardinals, and crows. Many of these birds are present primarily during periods of spring and fall migrations. The areas may also provide habitat for salamanders, toads, frogs, turtles, and several species of poisonous and nonpoisonous snakes.

4.3.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Without implementation of the proposed action, there would be no actions taken to lift LPV 1.1, LPV 2.2, LPV 19.2 or LPV 20.1. However, maintenance activities would continue to occur. Wildlife that currently utilize the levees would continue to do so with negligible temporary disturbance from maintenance activities and therefore there would be no direct, indirect or cumulative impacts from taking no action.

Borrow Locations

Under the no action alternative, no borrow areas would be utilized for the improvement of LPV 1.1, LPV 2.2, LPV 19.2 or LPV 20.1. However, because all of the proposed borrow sites are existing operating businesses in business to sell dirt, these borrow sites may continue to be used for other activities. As the sites are excavated, wildlife would be temporarily displaced. Once the sites have been fully excavated, they may be converted to ponds and small lakes. At that time, some aquatic vegetation may colonize the shallow littoral edge of the pits, and wildlife (otters, alligators, raccoons, wading birds, and ducks) adapted to an aquatic environment would be expected to expand their range into the new water bodies. A variety of plant types may develop adjacent to the water that could provide important wildlife habitat utilized for nesting, feeding, and cover. Any excavated pits that remain dry would be expected to be colonized by vegetation and woody plants, which could offset some habitat loss. The dense vegetation could attract a variety of wildlife including birds, reptiles, amphibians, and small mammals if converted to open water. While the proposed borrow areas have the potential to become mosquito breeding areas as uplands may be converted to open water ponds, the amount of surface acres of water is considered to be small compared to surrounding wetlands. However, local parish mosquito control programs are responsible for mosquito control.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Wildlife in the vicinity of the project area may be temporarily stressed as a result of construction from increases in noise and traffic. Mobile wildlife species, such as small rodents would be expected to leave the area during construction activities. Smaller, less mobile wildlife species, such as amphibians and reptiles, may experience direct mortality during turf removal and grading activities. Wildlife species, predominantly birds or small mammals, utilizing the area would be expected to move into adjacent nearby habitat and would not be expected to over crowd the adjacent areas or result in scarcity of food sources.

Potential cumulative impacts on wildlife from the proposed action would mainly involve the combined effects on wildlife of habitat loss and displacement of wildlife populations from similarly planned levee lifts along Lake Pontchartrain. There are 2 additional miles of levee which the requester proposes to lift in a similar manner within Jefferson Parish. These 2 miles of levee, consisting of LPV 00.2, are adjacent to the western terminus of LPV 1.1, and continue westward along the south shore of Lake Pontchartrain, terminating at the West Return Floodwall in Jefferson Parish. The work on this additional reach could impact similar species and local populations as those impacted by LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1. However, the displacement of wildlife would be temporary during the construction period, and the displaced individuals likely would return following project completion. The terrestrial habitat that would be affected is not a high-quality or unique habitat, but a frequently mowed turf grass habitat similar to that which covers extensive areas in the New Orleans region, such as ROWs along levees and floodwalls, residential lawns, parks, and pastures.

Revegetating the area with turf grass would replace temporarily lost terrestrial habitat for wildlife and wildlife species common to the area would be expected to return once construction activities are complete. Following completion of construction, temporary direct and indirect impacts may occur during routine maintenance such as mowing.

Movement of the limited numbers of wildlife, principally birds and small mammals, which currently inhabit these terrestrial areas into surrounding, unimpacted habitats would not be expected to result in exceedances of the carrying capacity of the extensive, adjacent habitats.

While other levee lifts may also occur in Orleans Parish, St. Charles Parish as well as on reaches of the West Bank and Vicinity HSDRRS, these reaches are not in close enough proximity to likely impact the same local populations of wildlife. The potential cumulative impacts on wildlife from the proposed action in conjunction with other levee lift projects in the area would be limited given the relatively small populations and habitat areas affected and the capacity of the extensive habitats remaining in the region.

Borrow Locations

These sites are actively utilized by private, non-Federal and Federal entities seeking borrow. As any of the sites are excavated, wildlife would be displaced. Impacts are expected to be similar to the no action alternative.

4.6 Threatened and Endangered Species

4.6.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The Florida manatee and Gulf sturgeon are species which could potentially exist in the vicinity of the project. However, because these species are aquatic and no activities along the shoreline or within Lake Pontchartrain are proposed, these species are not further evaluated in this EA.

Similarly, although present in Jefferson Parish, the threatened piping plover (*Charadrius melodus*) would not be expected to occur in the project area. Habitats used by the piping plover in Jefferson Parish, including designated critical habitat, are on islands and shoreline in the Gulf of Mexico at the south end of the parish, approximately 60 miles south of the project area. Such habitats are not present in the project area or its vicinity on Lake Pontchartrain. Accordingly, the plover is not evaluated further.

Borrow Locations

There are no known threatened and endangered (T&E) species, or critical habitats, within the proposed borrow areas.

4.6.2 Discussion of Impacts

Future Conditions with No Action

LPV 01.1, LPV 2.2, LPV 19.2, LPV 20.1

Without implementation of the proposed action, there would be no modification of LPV 01.1, LPV 2.2, LPV 19.2 or LPV 20.1 and therefore, no direct, indirect or cumulative impact would occur under the future without project condition.

Borrow Locations

There are no known T&E species or critical habitats in the borrow sites and therefore no direct, indirect or cumulative impacts would occur under the no action alternative, regardless of whether these borrow pits are utilized for projects other than LPV 1.1, LPV 2.2, LPV 19.2 or LPV 20.1. USFWS concurred that the excavation of borrow would not likely adversely affect T&E species or their critical habitat (Table 3 and Appendix B).

Table 3. USFWS T&E Concurrence

Proposed Borrow Area	USFWS Concurrence
3C Riverside 1, 2 and 3	24 February 2016
Willow Bend I and II	29 September 2015
River Birch Phase 1, 2, South Kenner Road and Landfill Expansion	28 March 2016

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

In correspondence dated January 9, 2016, The US Fish and Wildlife Service stated that the proposed project is not an activity that would affect a federally listed threatened or endangered species; nor is there proposed or designated critical habitat present within Jefferson Parish. Therefore, a "no effect" conclusion is appropriate (Appendix B).

Borrow Locations

The excavation of borrow from the proposed borrow sites would have no effect on T&E species or their critical habitats (as per USFWS concurrence dated as noted in Table 2, Appendix B). The borrow areas are currently active and heavily disturbed.

4.7 Cultural Resources

4.7.1 Existing Conditions

The proposed action would have no impacts on historic or cultural resources. The Section 106 process for the proposed undertakings has been completed, as detailed below. However, if any previously unidentified cultural resources are determined to exist within the proposed project boundaries, either prior to or during construction, then no work shall proceed in the area containing these cultural resources until a CEMVN archaeologist has been notified and consultation with the SHPO and Indian Tribes has been completed.

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The proposed action would be restricted to the existing project right of way, which was subjected to severe ground disturbing activities associated with the construction of LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1, and would have no impacts on historic or cultural resources. The LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 earthen levees are located within the area of potential effects (APE) for IER #3, and the Section 106 process for the proposed undertaking was completed in 2007.

Please refer to Final IER #3 for a detailed discussion of historic and cultural resources. Reconnaissance and Phase I cultural resources investigations in the project area completed in 2007 did not identify any significant terrestrial cultural resources within the APE. Three previously recorded archaeological sites (16JE04, 16JE05, and 16JE40) and one locus (IER-3-01) were assessed by either New World Research (1983) or R. Christopher Goodwin and Associates (Heller et al. 2012) and determined to be destroyed, outside of the APE for IER #3, or recommended ineligible for inclusion on the National Register of Historic Places (NRHP).

On December 3, 2006, CEMVN coordinated a “no adverse effect” finding with the State Historic Preservation Officer (SHPO), Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and the Tunica-Biloxi Tribe of Louisiana. In a letter dated January 7, 2008, the SHPO agreed with the cultural resources recommendations presented in the management summary (Heller et al. 2007). The Choctaw Nation of Oklahoma concurred with the effect finding in a letter dated December 26, 2007, and the Chitimacha Tribe of Louisiana did not object to the implementation of the proposed activity in a letter dated December 27, 2007. No additional responses were received.

Borrow Locations

The 3C Riverside Borrow Area

The proposed action would be restricted to previously approved and/or utilized borrow areas and would have no impacts on historic or cultural resources. 3C Riverside Phase 1 and 3C Riverside Phase 2 are located within the APE for IER #23, and 3C Riverside Phase 3 is located within the APE for IER #32. The Section 106 process for the proposed undertaking was completed in 2008.

Please refer to Final IERs #23 and #32 for a detailed discussion of historic and cultural resources. Phase 1 cultural resources investigations of 3C Riverside Phase 1 and Phase 2 did not identify any cultural resources (Lackowicz 2007). Phase I cultural resources investigations of 3C Riverside Phase 3 (Handley et al. 2008) did not identify any significant cultural resources. One historic archaeological site (16SC85, Locus A-01 and C-01) and one historic structure (3C-HSS-01) were recommended ineligible for inclusion on the NRHP.

A “no historic properties affected” finding was coordinated on October 24, 2007, for 3C Riverside Phase 1 and Phase 2, and a “no adverse effect” finding was coordinated on August 18, 2008, for 3C Riverside Phase 3, with the SHPO, Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and the Tunica-Biloxi Tribe of Louisiana. The SHPO and the Choctaw Nation of Oklahoma concurred with the effect finding for 3C Riverside Phase 1 and Phase 2 in letters dated December 6, 2007, and November 30, 2007, respectively. In a letter dated September 8, 2008, the SHPO agreed with the recommendations presented in the management summary (Handley et al. 2008). In a letter dated August 27, 2008, the Seminole Tribe of Florida requested a copy of the management summary, which was provided on September 16, 2008. The Alabama-Coushatta Tribe of Texas, Seminole Tribe of Florida and the Choctaw Nation of Oklahoma concurred with the effect finding in letters dated September 10, 2008, October 20, 2009, and December 16, 2009, respectively. No additional responses were received.

Willow Bend Borrow Area

The proposed action would be restricted to previously approved and/or utilized borrow areas and would have no impacts on historic or cultural resources with the implementation of a 290-foot buffer zone around site 16SJB15. Willow Bend Phase I is located within the APE for IER #26, and Willow Bend Phase II is located within the APE for IER #29. The Section 106 process for the proposed undertaking was completed in 2008.

Please refer to Final IERs #26 and #29 for a detailed discussion of historic and cultural resources. A reconnaissance investigation of the Willow Bend Phase I borrow area completed in 2008 (Rawls and Smith 2008) updated an earlier Phase I cultural resources investigation (McIntire 1979). Three historic archaeological sites (16SJB14, 16SJB15, and 16SJB65) and an isolated find were identified within the boundaries of the Willow Bend property. Site 16SJB14 was considered “potentially” eligible for listing in the NRHP, but Phase II investigations of the sugar mill (Martin et al. 2008) exhausted the property’s archaeological data potential, and it is not considered to be eligible for listing in the NRHP. Site 16SJB15 is of undetermined NRHP eligibility, and the implementation of a 290-foot buffer zone that incorporates a 3:1 slope will avoid impacts to the site (Thorne 2008). Site 16SJB65 is located outside of the APE. The isolated historic find is not eligible for listing in the NRHP.

A “no historic properties affected” finding was coordinated on February 22, 2008, for Willow Bend Phase I, and on September 26, 2008, for Willow Bend Phase II with the SHPO, Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and the Tunica-Biloxi Tribe of Louisiana. In a letter dated March 6, 2008, the SHPO concurred with the finding of “no historic properties affected” for Willow Bend Phase I. The Choctaw Nation of Oklahoma concurred with the effect finding in a letter dated March 5, 2008. In a letter dated September 25, 2008, the Alabama-Coushatta Tribe of Texas concurred that there would be “no significant effect on cultural resources.” In a letter dated October 22, 2008, the SHPO concurred with the finding of “no historic properties affected” for Willow Bend Phase II provided that a buffer zone be placed around site 16SJB15. Existence of the 290 foot buffer was verified in a site visit by a MVN archaeologist during May of 2010. The Caddo Nation of Oklahoma concurred with the effect finding in an email dated October 1, 2008. In a letter dated October 8, 2008, the Seminole Nation of Oklahoma notified the Corps that the Tribe had no interest in the borrow area, but that the Tribe would like to reserve the right to participate in future consultation should resources of significance to the Tribe be identified. No additional responses were received.

River Birch Phase I, Phase II

The proposed action would be restricted to previously approved and/or utilized borrow areas and would have no impacts on historic or cultural resources. River Birch Phase I and Phase II are located within the APE for IER #19. The Section 106 process for the proposed undertaking was completed in 2006.

Please refer to Final IER #19 for a discussion of historic and cultural resources. A literature review completed in 2002 did not identify any significant cultural resources within the APE.

SHPO determinations of “no historic properties affected” are dated March 21, 2002, and December 11, 2006, in response to letters from the contractor dated February 21, 2002, and November 16, 2006, respectively. A SHPO determination of “no historic properties affected” is dated September 6, 2006, in response to a letter from CEMVN dated August 1, 2006. On December 14, 2006, CEMVN confirmed with the SHPO that River Birch Phase I and Phase II were previously disturbed borrow sources and that no historic properties would be affected.

South Kenner Road

The proposed action would be restricted to previously approved and/or utilized borrow areas and would have no impacts on historic or cultural resources. South Kenner Road is located

within the APE for IER #26. The Section 106 process for the proposed undertaking was completed in 2008.

Please refer to Final IER #26 for a discussion of historic and cultural resources. Phase I cultural resources investigations of South Kenner Road did not identify any cultural resources (Eberwine 2008).

A “no historic properties affected” finding was coordinated on April 11, 2008, with the SHPO, Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and the Tunica-Biloxi Tribe of Louisiana. In a letter dated May 5, 2008, the SHPO concurred with the findings of the management summary (Eberwine 2008). In a letter dated April 28, 2008, the Choctaw Nation of Oklahoma determined that there would be no adverse effect on any historic properties in the APE. In an email dated April 21, 2008, the Mississippi Band of Choctaw Indians indicated that the Tribe had no concerns. No additional responses were received. In a letter dated September 25, 2008, the Alabama-Coushatta Tribe of Texas concurred that there would be “no significant effect on cultural resources.”

In addition to the above coordination efforts, the draft and final CED Phase I was coordinated with the Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chickasaw Nation, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Tunica-Biloxi Tribe of Louisiana, LA Governor’s Office of Indian Affairs, and the United South and Eastern Tribes, Inc., in letters and emails dated February 5, 2013, and February 13, 2013, and May 22, 2013, and May 23, 2013.

River Birch Landfill Expansion

Please refer to Final IER #31 for a discussion of historic and cultural resources. A Phase 1 cultural resources study was completed of the borrow area, and no cultural resources were located. SHPO coordination of “no historic properties affected” was received on June 25, 2010. Coordination from the Alabama Coushatta Tribe of Texas for “no historic properties affected” was received on May 28, 2010.

4.7.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Without implementation of the proposed action, LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 would not be modified. Routine maintenance of the existing levee would have no effect on cultural resources. There would be no direct, indirect or cumulative impacts from taking no action.

Borrow Locations

Without implementation of the proposed action, no further excavation from the borrow source would occur as a result of the proposed action. No undiscovered cultural resources could

potentially be impacted by excavations for the proposed action. It is anticipated that there would be no direct, indirect or cumulative impacts from taking no action

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

With implementation of the proposed action, no additional footprint of the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 reaches would be modified. No historic resources are known to exist or suspected within the work area, and no historic properties would be affected by the proposed action.

Borrow Locations

With implementation of the proposed action, borrow material would be removed from the borrow locations. Any undiscovered cultural resources could be impacted by borrow activities. Cultural resources surveys have been conducted within the borrow locations and any identified potentially significant cultural resources have been avoided or mitigated. No impacts to cultural resources are anticipated as a result of the proposed action.

4.8 Recreational Resources

4.8.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The Jefferson Parish lakefront area receives a high level of recreational usage. Recreational features within the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 areas include a bike/multi-purpose path, wildlife viewing and fishing opportunities.

Borrow Locations

The potential borrow areas may have some recreational potential such as wildlife viewing, but contain no existing recreational infrastructure or specific features, and are privately owned and not open to public access.

4.8.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Without implementation of the proposed action, LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 would not be modified. Routine maintenance of the existing levee would have no effect on recreation, aside from possible short-term disturbance of recreation opportunities during grass mowing.

Borrow Locations

These sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow and heavily impacted. In some cases, depending on how the end site is left, the habitat

may be suitable to support some recreational activities (e.g. wildlife viewing and fishing). These benefits are expected to be minimal and sites would remain private, restricting their recreational value to the public. Therefore, there would be no direct, indirect or cumulative impacts to recreational resources in the region.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Construction of the proposed levee lift would have little effect on recreation facilities. Wildlife species sensitive to disturbance would likely not utilize nearby areas during construction, but would return upon construction completion, temporarily impacting wildlife viewing during construction. The recreational path would not be impacted by modification of the levee; however, the path may not be suitable for recreation during construction due to noise from the adjacent construction activity, as well as the proposed LPV 00.2 levee lift which is also along the lakefront in Jefferson Parish. Any impacts to recreational resources would be temporary.

Borrow Locations

Impacts to recreational resources are expected to be similar to the no action alternative.

4.9 Transportation

4.9.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The projects lie on the southern shore of Lake Pontchartrain. The shoreline in Jefferson Parish is fully developed with residential, recreational, and commercial land uses. Adjacent to the west side of the project is St. Charles Parish. This area of St. Charles Parish is mostly marshlands that have few roads and developed lands.

I-10 is the closest major east-west highway in the vicinity of the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas. I-10 is a multi-lane divided freeway. It connects the New Orleans metropolitan area with Baton Rouge. Along with I-610 to the east, I-10 is a major east-west route along the northern Gulf Coast. U.S. 61 is a multi-lane highway that has either limited or no control of access. It is functionally classified as a "principal arterial" in Jefferson Parish. U.S. 61 runs parallel to I-10; it primarily serves local travel, while I-10 serves regional travel. I-310 provides regional access to the west side of the Mississippi River. Other principal arterials in the project vicinity are U.S. 90 to the south along the Mississippi River, Causeway Blvd (4-lane to 6-lane median-divided urban expressway), Veterans Memorial Blvd, Clearview Parkway, and Williams Blvd (6-lane median-divided urban street). Minor arterials in the project vicinity are Esplanade Avenue, Loyola Drive (6-lane median-divided urban street), Vintage Drive (4-lane median-divided urban street), Power Blvd, and Bonnabel Blvd (4-lane median-divided urban street). There are local streets throughout the project area (Louisiana Department of Transportation and Development [LADOTD] 2006).

The most recent traffic volumes available from the LADOTD are from 2013 and 2014 (LADOTD 2014). At most traffic count stations in Jefferson Parish east of the Mississippi River and west of Power Blvd, 2014 traffic counts have remained within ranges seen during traffic counts over the prior six years. The 2014 average daily traffic (ADT) on I-10 west of Power Blvd ranged between 122,000 and 140,000 vehicles per day (vpd). Traffic on I-10 east of Power Blvd in Jefferson Parish has increased over the last six years, with 2014 traffic counts ranging from 100,000 to

208,000 vpd. The 2014 ADT on Williams Blvd between I-10 and the LPV 1.1 site was approximately 45,000 vpd. The 2014 ADT on N. Causeway Blvd between I-10 and the LPV 19.2 and LPV 20.1 project sites was approximately 75,708 vpd.

Borrow Locations

The 3C Riverside Borrow Sites are located in Killona, Louisiana on Highway 3127 and Highway 18. The Phase 1 site is located across from the intersection of Highway 3127 and Highway 3141 on the south side. The 3C Riverside Phase 2 Borrow Site is located north of the intersection at Highway 3127 and Highway 3141. The 3C Riverside Phase 3 Borrow Site is located southwest of the intersection at Highway 18 and Highway 3141. 2013 traffic counts in this area of St. Charles Parish range from 7,000 vpd on Hwy 3127 to approximately 1,500 vpd on Hwy 3141.

The Willow Bend Borrow Sites are located on the south side of River Road in St. John the Baptist Parish. The borrow sites have been operating since 2008 so there is routine haul truck traffic on river road and main highways leading to/from the borrow site. Traffic on Highway 3127 in the vicinity of Willow Bend has seen an increase in traffic since 2005, increasing to a level of nearly 6,000 vpd in 2014.

The River Birch Borrow sites, adjacent to US Highway 90, currently experience truck traffic associated with operations to and from the existing River Birch landfill. The South Kenner Road Borrow Site is located on South Kenner Road in Jefferson Parish, just north of Highway 90 and west of the River Birch Borrow sites. Highway 90 in the vicinity of these borrow sites has seen a reduction in ADT since 2005, remaining between 20,000 and 22,000 vpd between 2008 and 2014, down from the approximately 25,000 vpd experienced in 2005.

The transportation analysis conducted by CEMVN for the Comprehensive Environmental Document, Phase II (yet to be published) to address the overall cumulative impacts of construction and future operations and maintenance for the HSDRRS describes and characterizes the environmental impacts of transporting the materials necessary to construct the 100-year HSDRRS for New Orleans, Louisiana. The analysis addressed the effects of using the public highways and waterways to supply earthen borrow, structural steel (e.g., sheetpile, pipe pile, H-pile), ready-mix concrete, concrete pile, aggregate, and rock to over 150 different construction projects for the Lake Pontchartrain and Vicinity (LPV) and WBV Projects.

The database of projects used to analyze quantities, trips, and timing of trips contains 150 projects, which were analyzed in 19 previous IERs. In total, 150 projects used the following material quantities:

Table 4. Truck Trips by Quantities of Material

Material	Quantity	Units
Earthen Fill	17,319,700	cubic yards
Concrete	1,559,500	cubic yards
Aggregate	2,979,300	tons
Sheet Pile	11,479,800	square feet
H-Pile	10,368,800	linear feet
Pipe Pile	845,500	linear feet

Concrete Pile	1,592,200	linear feet
Rock	3,043,500	tons

According to the transportation analysis, an estimated 1.5 million truck trips are estimated to have been needed to deliver the quantity of material presented in the above table to construct the HSDRRS. In addition, 814 barge trips delivered some of the material, mainly rock.

Two methods of analysis are under development to get a better understanding of how the number of trips taken to deliver the materials necessary to build the HSDDRS impacted the roadways. A Congestion Management Index is under development that provides a relative assessment of the changes in traffic due to the addition of trucks related to HSDDRS. The Truck Trip Threshold method is also used to increase the understanding and improve the communication of truck congestion resulting from materials delivery. This method identifies individual, highly utilized roads that exceeded a certain use standard, depending on the class of the road. The thresholds are used as a proxy to suggest the level of truck traffic at which the roadway users and adjacent property owners would likely perceive an increase in traffic and identifies which specific roads exceeded those thresholds. This type of information can assist in community-level planning and public awareness, and will be used to analyze the perceived impact of increased traffic during construction of the HSDRRS.

4.9.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Under the no action alternative, the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 levee lifts would not occur. The routine maintenance of the project area would continue. It is anticipated that there would be no direct, indirect or cumulative impacts to transportation as the result of taking no action.

Borrow Locations

These sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow. The use of these borrow areas is anticipated to continue until they have exhausted their borrow supply, and the current impact of borrow pit use on area roads would continue until the pit is exhausted. It is anticipated that there would be no new direct, indirect or cumulative impacts to transportation as the result of taking no action.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Use of the area's roads would increase during construction due to the presence of construction related vehicles and activities. Approximately 4,742 truck trips would be required to haul 68,763 cubic yards of borrow material to the project sites. This could equate to approximately 128,034 truck miles if the haul truck traveled to/from the furthest borrow site (Willow Bend). The increase in truck traffic would have a short term temporary impact on the direct travel routes to/from the borrow sites and would result in localized congestion at the construction site.

The cumulative impact of LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 on transportation, in addition to other potential levee lifts in Jefferson, Orleans and St. Charles Parishes, would

depend in part on the borrow pits utilized for each project, which is yet to be determined. However, the greatest potential cumulative impact on transportation of these combined projects, regardless of borrow source, would be seen on the roads in close proximity to LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1, LPV 00.2 and St. Charles Parish projects as these major roads would be utilized by several of the projects. These major roads could include, but are not limited to, Interstate 10, Highway 61, Williams Boulevard, Transcontinental Drive, Clearview Parkway, Esplanade Avenue, Loyola Drive, and Power Boulevard. In addition to the projected 2,542 truck trips required to haul borrow material to the proposed LPV 00.2 project, the LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 projects would add an additional 4,742 truck trips for a total of approximately 7,284 truck trips. This total would equate to approximately 50 truck trips a day for all of these projects combined if all of the projects ran concurrently. However, the major roads on which these trucks would travel range in daily volume from 45,000 vpd to 208,000 vpd. Thus, the cumulative addition of 50 truck trips per day would not cause a significant increase in traffic volume on these major area roads. Secondly, the projects may not all be constructed concurrently, potentially further lessening the cumulative impact on transportation on major area roads. With the exception of the possible use of I-10 for a portion of material hauling, LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 would not be expected to contribute to cumulative transportation impacts of levee lifts proposed in Orleans Parish and the West Bank and Vicinity HSDRRS, as different major roads would be used to access these other levee lifts.

Construction equipment such as bulldozers and graders would need to be delivered to the site. Haul trucks would be entering and exiting the areas on a daily basis during the period of construction. The truck hauling would temporarily impede vehicle traffic and result in minimal reduction of the level of service on some local road segments. Because the local roads to be used to access LPV 1.1, LPV 2.2, LV 19.2 and LPV 20.1, such as Severn Avenue and Ridgelake Drive, would not be used to also access the LPV 00.2 project, no cumulative impact is anticipated for the local roads adjacent to these levee reaches. Flagmen, signage, cones, barricades, and detours would be used where required to facilitate the movement of heavy equipment and local traffic on affected road segments. Appropriate measures to ensure safety and facilitate the movement of traffic would be implemented at all approved borrow areas. Any increase in traffic should be small and temporary. After construction is complete, transportation would return to near pre-construction levels.

Borrow Locations

With implementation of the proposed action, construction equipment such as bulldozers and excavators would need to be delivered and haul trucks would be entering and exiting the areas on a daily basis during the period of construction. The truck hauling would temporarily impede vehicle traffic and result in a minimal reduction of the level of service on some local road segments. If one or more of the foreseeable projects in Jefferson, Orleans or St. Charles Parishes used the same borrow pit at the same time as LPV 1.1, LPV 2.2, LPV 19.2 or LPV 20.1, local roads in the immediate vicinity of the borrow pit would see a cumulative impact of a further reduction in level of service or traffic congestion. This cumulative impact would be temporary and would return to pre-project conditions once the hauling of material for the levee lifts is complete.

4.10 Air Quality

4.10.1 Existing Conditions

As of June 15, 2005, the 1-hour ozone standard for the Metropolitan New Orleans area (Orleans, Jefferson, St. Bernard, Plaquemines, St. Charles and St. John the Baptist parishes) was revoked and replaced by an 8-hour standard. The New Orleans area is currently not subject to any conformity requirements of the Clean Air Act, or in other words, these parishes are now in attainment of the 8-hour ozone standard and all other criteria pollutant National Ambient Air Quality Standards (NAAQS). The parishes listed above with the exception of St. Bernard parish, are currently in attainment of all NAAQS. This classification is the result of area-wide air quality modeling studies.

4.10.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Under the no action alternative, there would be no potential for direct, indirect or cumulative effects to air quality because construction of the proposed action would not occur, and the status of attainment of air quality for Jefferson Parish is not anticipated to change from current conditions.

Borrow Locations

These sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow and are heavily impacted. On-going impacts from these borrow sites affecting air quality would include temporary diesel and gasoline emissions from the operation of construction equipment and creation of fugitive dust during excavation and clearing activities. Particulate emissions (fugitive dust) are generated by activities that disturb and suspend soils such as equipment operating on disturbed soils. However, the status of attainment of air quality for Jefferson, Orleans, St. Tammany, St. John the Baptist, and St. Charles parishes is not anticipated to change from current conditions due to the new or continued use of these borrow pits.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

During the construction of the proposed action, an increase in air emissions along the levee alignment areas would be expected during construction. These emissions could include 1) exhaust emissions from operations of dump trucks and various types of non-road construction equipment such as graders, and 2) fugitive dust due to earth disturbance. Operation of construction equipment and support vehicles for LPV 00.2, LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 would generate VOCs, PM 10, PM 2.5, NO_x, CO, O₃, and SO_x emissions from diesel engine combustion. These emissions are from mobile sources for which emissions performance standards are applicable to source manufacturers and are not regulated under the Clean Air Act air permit regulations. Therefore, it is not necessary to quantify these emissions given the lack

of ambient emissions thresholds that could be used to make the determination of air quality impact significance from these mobile sources.

Indirectly, the on-road trucks and private autos used to access the work area could also contribute to construction phase air pollution in the project neighborhood when traveling along local roads.

Site-specific construction effects would be temporary and dust emissions would be controlled using standard best management practices. For instance, application of water to control dust and periodic street sweeping and/or wetting down of paved surfaces could aid in preventing fugitive dust from becoming airborne. The limited temporal and quantitative contribution of emissions from the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 levee lift projects to cumulative air emissions from other area sources such as vehicles and the LPV 00.2 levee lift would not be expected to alter the attainment status of Jefferson Parish. Similarly, the contribution of emissions from LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 in addition to potential levee lifts in St. Charles and Orleans Parishes are not significant enough to contribute to an alteration of the attainment status in these adjacent parishes.

Borrow Locations

Impacts resulting from implementation of the proposed action would be expected to be similar to the no action alternative conditions. There would be short-term impacts to air quality that would result from the operation of borrow areas in Jefferson, Orleans, St. Tammany, St. John the Baptist, and St. Charles parishes. Air emissions would be controlled by implementation of best management practices (BMP). Air quality impacts would be limited to those produced by heavy equipment, and suspended dust particles generated by bulldozing, dumping, and grading.

Dust suppression methods would be implemented to minimize dust emissions. Air emissions from the proposed action would be temporary and should not significantly impair air quality in the region. Due to the short duration of the construction project, any increases or impacts on ambient air quality from borrow excavated for LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1, or the combination of these reaches with other potential levee lifts, are expected to be short-term and minor and are not expected to cause or contribute to a violation of Federal or State ambient air quality standards. The status of attainment of air quality for Jefferson, St. John the Baptist, and St. Charles parishes is not anticipated to change from current conditions due to the new or continued use of these borrow pits due to direct, indirect or cumulative impacts.

4.11 Noise Quality

4.11.1 Existing Conditions

Noise is generally described as unwanted sound, which can be based either on objective effects (hearing loss, damage to structures, etc.) or subjective judgments (such as community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the USEPA and has been adopted by most Federal agencies (USEPA 1974). A DNL of 65 weighted decibels (dBA) is the level most commonly used for noise planning

purposes and represents a compromise between community impact and the need for activities like construction. Areas exposed to a DNL above 65 dBA are generally not considered suitable for residential use. A DNL of 55 dBA was identified by the USEPA as a level below which there is no adverse impact (USEPA 1974).

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of noise during the day. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Noise levels surrounding the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas are variable depending on the time of day and climatic conditions. Land use in this part of the Jefferson Parish East Bank is predominantly single-family residential, with some multi-family, commercial, and institutional/government development further from the proposed project sites. Non-residential land uses are concentrated near Williams Blvd east of Pumping Station # 4 (Duncan). The primary sources of noise within the project area include everyday vehicular traffic along nearby roadways (typically between 50 and 60 dBA at 100 feet).

The U.S. Federal Transit Administration (FTA) has established noise impact criteria founded on well-documented research on community reaction to noise based on change in noise exposure using a sliding scale (USFTA, 1995). The FTA Noise Impact Criteria groups noise sensitive land uses into the following three categories:

- Category 1: Buildings or parks where quiet is an essential element of their purpose,
- Category 2: Residences and buildings where people normally sleep (e.g., residences, hospitals, and hotels with high nighttime sensitivity), and
- Category 3: Institutional buildings with primarily daytime and evening use (e.g., schools, libraries, and churches).

Lands adjacent to LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1, and the borrow pits include primarily Category 2 properties, as the adjacent land use is primarily residential. The presence of Category 2 properties is more scarce in the borrow areas than in the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas, where residences are essentially adjacent to the levee right-of-way.

4.11.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Noise impacts would be similar to those under existing conditions because there would be no direct or indirect impacts from construction equipment. Future maintenance activities could result in a slight increase in noise levels from equipment and activities associated with maintenance activities but any increase in noise levels is anticipated to be temporary.

Borrow Locations

These sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow. Noise levels would be expected to be similar to existing conditions.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Noise along the levee right-of-way would increase due to the temporary operation of equipment and vehicles used in the construction the LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 levee lifts. While noise impacts may cause a temporary inconvenience to residents and facilities in the immediate area, noise levels associated with construction activities would be temporary and monitored to ensure acceptable standards are maintained.

Table 5 describes noise emission levels for construction equipment that would be expected to be used during the proposed construction activities. As can be seen from this table, the anticipated noise levels at 50 ft range from 76 dBA to 83 dBA based on data from the Federal Highway Administration ([FHWA] (2006). All construction is anticipated during daytime hours.

Table 5. Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances*

Noise Source	50 ft	100 ft	200 ft	500 ft	1,000 ft
Dump Truck	76	70	64	56	50
Compactor/Roller	83	77	71	63	57
Excavator	81	75	69	61	55
*dBA at 50 ft is a measured noise emission. The 100 ft to 1,000 ft results are modeled estimates. Source: FHWA (2006), Highway Construction Noise Handbook.					

After completion of the proposed action, noise levels would be expected to return to pre-action levels. Future maintenance activities could result in a slight temporary increase in noise levels from maintenance equipment such as mowers, but would be the same as the currently existing conditions.

In order to assess the possible cumulative noise effect of LPV 1.1, LPV 2.2, LPV19.2 and LPV 20.1, the combined weighted (dBA) sound levels of these reaches and LPV 00.2 was considered. As a single receptor would likely not experience noise impacts from more than two of the levee lifts due to the distance between lifts, the cumulative noise impact considers the combination of only two reaches at a time. According to OSHA (2013), the combined decibels of multiple noise sources can be estimated using the following methodology laid out in table.

Table 6. Methodology for Assessing Cumulative Noise Level

Difference between Two Sound Levels to be Added	Amount to Add to Higher Level to Find the Sum
0-1 dB	3 dB
2-4 dB	2 dB
5-9 dB	1 dB
10 dB	0 dB

Source: OSHA (2013), *Technical Manual - Noise*

Because LPV 00.2 and LPV 1.1 are more than 1,000 feet apart, based on Table 5, it is assumed that the highest combined decibel producers for a single receptor on either of these reaches would be two compactor/rollers, with one at 50 ft (83 dB) and the second at 1,000 ft (57 db).

Using the methodology outlined in Table 6, because the difference between these two sound levels is more than 10 dB, the combination of these two noise sources would not cause a cumulative increase in perceived noise. Thus, there is no anticipated cumulative impact on noise from LPV 00.2 and LPV 1.1. Likewise, LPV 1.1 and LPV 2.2, and LPV 2.2 and LPV 19.2, are also approximately 1,000 feet apart, and LPV 19.2 and LPV 20.1 are approximately 600 feet apart, so there would be no anticipated cumulative impact from these reaches.

Borrow Locations

Noise levels would be expected to be at the same levels as they are during the no action alternative as these proposed borrow sites are existing, operating borrow pits.

4.12 Water Quality

4.12.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Lake Pontchartrain borders the LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1 project areas to the north. The water quality in the project areas is impacted by storm water runoff from Jefferson and Orleans Parishes. Storm water could contain elevated levels of pathogens, heavy metals, and soil-derived suspended sediments which drain from the city into canals such as Duncan Canal, which pump storm water out of the city into the lake. Additionally, communities discharging treated and untreated wastewater into the Lake Pontchartrain Basin and tens of thousands of individual septic systems as well as past oil and gas production have contributed to water quality problems in the lake. Nonetheless, according to the 2014 Louisiana Water Quality Inventory: Integrated Report (305(b)/303(d)), water quality in Lake Pontchartrain fully supports its designated uses.

Borrow Locations

Many of the proposed borrow areas are uplands with associated drainage features, but such drainage features are not immediately adjacent to any known impaired waterways.

4.12.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

There would be no direct, indirect or cumulative impacts to water quality as a result of not constructing the levee lift.

Borrow Locations

These sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow and are heavily impacted. At all of the possible borrow areas, best management practices are utilized during the excavation of borrow materials. Silt fencing and hay bales are utilized around the perimeter of the borrow areas to control runoff. To make optimal use of available material, excavation occurs at one end of the borrow area and is continuous across the width of the areas to the required borrow depths, to provide surface drainage to the low side

of the borrow pit as excavation proceeds. Excavation for semi-compacted fill is not permitted in water nor is excavated material scraped, dragged, or otherwise moved through water. Occasionally, borrow areas may need to be drained with the use of a sump pump.

Future Conditions with Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Earth-moving activities during construction disturb soils and can create indirect water quality effects in the event of uncontrolled runoff or simply poor sediment control practices during construction. However, best management practices would be implemented during the levee lifts, such as silt fencing, to control runoff. Therefore, the construction would be expected to have little to no effect on water quality. Any effects to Lake Pontchartrain, such as increased turbidity, are not likely. If such conditions occur, they would be temporary in nature.

Borrow Locations

Impacts to water quality would be the same as those indicated in the no action alternative. Disturbance of water quality would be temporary and confined to the borrow pit.

4.13 Aesthetic (Visual) Resources

4.13.1 Existing Conditions

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The project corridor includes a portion of the Lakefront Levee on the shoreline along Lake Pontchartrain. It is an armored shoreline that has been modified from its natural state by the construction of levees, floodwalls and gates, pumping stations, and breakwaters and the installation of riprap as foreshore protection.

The visual resources of the area include open vistas of the lake and shoreline. A linear park, composed of an extensive lakefront pedestrian/bicycle path system between the levees and the shoreline, takes advantage of these vistas. The landward view from the shoreline is dominated by the earthen levees and stone and concrete riprap at the water's edge. The levee system is relatively unobtrusive in that it has low relief with gradual slopes on both sides, and the surfaces of the levees are planted with grass that blends with the landscaping of adjacent developed areas and is mowed regularly.

Inland from the levees, the land area is developed. Adjacent areas are primarily dominated by single-family residential buildings. The lakefront levee system partially obscures views of the lake from the low-lying protected areas, in particular from buildings that are not multi-story.

Borrow Locations

The Willow Bend, 3C Riverside, and River Birch Borrow areas are existing borrow pits with limited aesthetic value as compared to the rural and undeveloped landscapes surrounding them. The visual resources within the Willow Bend area include relatively uninterrupted, rural, open landscape consisting of managed agricultural lands, interspersed with rows of trees serving as windbreaks between agricultural fields. This agricultural landscape is visually interrupted by the existing borrow pit operations. However, this visual disturbance is more than 1,500 feet from the closest public road (River Road), minimizing the visual impact of the operation from the public viewshed.

Visual resources within the 3C Riverside Borrow areas are similar to the Willow Bend area, as some of the surrounding viewshed includes agricultural fields. However, in addition to the visual disruption of the borrow pits, the 3C Riverside viewshed also includes more residential and industrial development, further interrupting the rural open landscape features.

Visual resources within the River Birch Borrow areas contain similar land use patterns (i.e., former- or presently-cultivated land or existing borrow areas) in the immediate and adjacent areas and are visually remote and inaccessible. Generally, the sites lack distinct qualities to make them visually significant.

4.13.2 Discussion of Impacts

Future Conditions with No Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

Under the no action alternative, the proposed action would not be constructed. Visual resources would not change from existing conditions.

Borrow Locations

All of the proposed borrow sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow and heavily impacted. Therefore, there would be no change under the no action alternative.

Future Conditions with the Proposed Action

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1

The visual attributes of the project corridor would be temporarily impacted by construction activities at the project site and by transportation activities needed to move equipment and materials to and from the site. The levees would be similar in design and scale to the existing conditions and therefore permanent impacts would be negligible. Turf grass would be re-established on the levees after construction, and the appearance of the levees would remain similar to the existing conditions.

Borrow Locations

These sites are actively utilized by private individuals, non-Federal and Federal entities seeking borrow and heavily impacted. Therefore, the impacts would not differ from those described for the no action alternative.

5.0 CUMULATIVE IMPACTS

The Council on Environmental Quality's ("CEQ") regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act ("NEPA") of 1969, as amended (42 U.S.C. 4321 et seq.), define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. (40 CFR 1508.7) Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."

Maintaining the LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 reaches at the 100-year level of risk reduction would contribute to the reduction of risk to life and physical and environmental damage. Significant flooding often results in contamination of drinking water supplies, dispersion of HTRW, and dispersion of large quantities of solid waste that require clean up and disposal. Experience has shown that vast quantities of debris (e.g., homes, vehicles, mobile homes, etc.) and sediment must be collected and hauled away after a flooding event. Hauling the collected debris to a local municipal landfill requires significant transportation and involves large quantities of solid waste that fill available landfill space. Providing the 100-year level of risk reduction significantly reduces the probability that these environmental consequences of flooding would be incurred.

As described in earlier discussions, the requester intends to propose an additional levee lift in Jefferson Parish: LPV 00.2, which comprises 2 miles of levee along the south shore of Lake Pontchartrain, adjacent to the western terminus of LPV 1.1. Additional levee lifts are also foreseeable in Orleans and St. Charles Parishes, as well as on the West Bank and Vicinity HSDRRS in Jefferson Parish.

The work on LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1, combined with work on LPV 00.2, could impact similar wildlife species and local populations. However, the displacement of wildlife from this turf grass habitat would be temporary during the construction period, and the displaced individuals likely would return following project completion. Secondly, this habitat is similar to that which covers extensive areas in the New Orleans region, such as residential lawns and parks and is not expected to exceed the carrying capacity of this adjacent habitat, so cumulative impacts to wildlife are expected to be minimal.

While other levee lifts may also occur in Orleans Parish, St. Charles Parish and the West Bank and Vicinity HSDRRS, no cumulative impact from LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 on wildlife in these other reaches is expected, as these reaches are not in close enough proximity to likely impact the same local populations of wildlife utilizing the levees.

LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1, when considered along with the additional levee lifts, could contribute to cumulative impacts on transportation on major roads such as Interstate 10, Williams Boulevard and Power Boulevard in the vicinity of these multiple projects. However, this cumulative impact would be short term and is not considered significant given the existing high traffic volumes present on these major roads. Additionally, because the local roads to be used to access LPV 1.1, LPV 2.2, LV 19.2 and LPV 20.1, such as Severn Avenue and Ridgelake Drive, would not be used to also access the LPV 00.2 project, no cumulative impact is anticipated for the local roads adjacent to these levee reaches.

If one or more of the levee lift projects in Jefferson, Orleans or St. Charles Parishes used the same borrow pit at the same time as LPV 1.1, LPV 2.2, LPV 19.2 and/or LPV 20.1, local roads in the immediate vicinity of the borrow pit would see a cumulative impact of a further reduction in level of service or traffic congestion. This cumulative impact would be temporary and would return to pre-project conditions once the hauling of material for the levee lifts is complete.

The limited temporal and quantitative contribution of emissions from the LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 levee lift to cumulative air emissions from other area sources such as vehicles and the LPV 00.2 project in Jefferson Parish would not be expected to alter the attainment status of the parish. Similarly, the contribution of emissions from these projects in addition to potential levee lifts in St. Charles and Orleans Parishes are not significant enough to

contribute to an alteration of the attainment status in these adjacent parishes, or the parishes in which potential borrow sources are located.

LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 could cause cumulative impacts to recreation, given the shared bike path adjacent to these reaches and LPV 00.2 levee would be less desirable given construction noise. However, this cumulative impact would be temporary and would return to pre-construction conditions after the levee lifts are complete.

Based on calculations considering the distance between the Jefferson Parish levee lifts and other potential levee lifts, a cumulative impact on noise is not anticipated.

Borrow material has been utilized by the CEMVN for the construction of the HSDRRS and other projects in southeastern Louisiana. Over 17,319,700 cubic yards of borrow material is estimated to have been obtained for the HSDRRS construction effort. Approximately 1.5 million truck trips are estimated to have been necessary to deliver the quantity of material presented in Table 5. In addition, an estimated 814 barge trips delivered some of the material, mainly rock. These borrow sites previously approved by numerous IER's will likely be the source of borrow material needed to perform levee lifts and maintenance for at least 50 years into the future. Levee improvements throughout the LPV and WBV projects would require substantial amounts of borrow material.

Other reasonably foreseeable HSDRSS-related projects of the CEMVN, including Larose to Golden Meadows, Plaquemines NOV/NFL, and maintenance of the Mississippi River levees and other civil works investigations will require suitable borrow material. State and local levee and floodwall construction efforts will require borrow material as well. The Mississippi River and Tributaries Projects will utilize borrow material for levee repairs, replacements, lifts, and berms. The construction and operation of the borrow areas has resulted in and will continue to add to the short-term cumulative effects on transportation.

6.0 COORDINATION AND PUBLIC INVOLVEMENT

A Public Notice for this action was published in the Baton Rouge and New Orleans Advocate for 15 days beginning May 24, 2016. If substantive comments are received, these comments will be addressed prior to signature of the FONSI. The public notice is located in Appendix B.

7.0 MITIGATION

No activities have been identified during the preparation of this EA that would require mitigation.

8.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

There are many Federal and state laws pertaining to the enhancement, management and protection of the environment. Federal projects must comply with environmental laws, regulations, policies, rules and guidance. A 15-day public notice of the requester's proposed action will close on June 8, 2016. If substantive comments are received, these comments will be addressed prior to signature of the FONSI. Environmental compliance is achieved upon

conclusion of the 15-day public notice and approval of the associated Finding of No Significant Impact.

Executive Order (E.O.) 11988 Floodplain Management

This EO deals with minimizing or avoiding adverse impacts associated with the base floodplain unless there are no practicable alternatives. It also involves giving public notice of proposed actions that may affect the base floodplain. The proposed action would not accelerate development of the floodplain as conditions conducive for development were established when the area was initially levied and forced drainage was initiated in the middle 1960's.

Clean Air Act of 1972

The Clean Air Act ("CAA") sets goals and standards for the quality and purity of air. It requires the Environmental Protection Agency to set National Ambient Air Quality Standards ("NAAQS") for pollutants considered harmful to public health and the environment. The Project area is within parish that are currently in attainment of NAAQS. The proposed borrow sites are located in parishes which are currently in attainment of NAAQS. The Louisiana Department of Environmental Quality is not required by the CAA and Louisiana Administrative Code, Title 33 to grant a general conformity determination.

Clean Water Act of 1972 – Section 401

The Clean Water Act ("CWA") sets and maintains goals and standards for water quality and purity. Section 401 requires a Water Quality Certification from the Louisiana Department of Environmental Quality (LDEQ) that states the approved project does not violate established effluent limitations and water quality standards. State Water Quality Certification JP 080512-01 was issued on May 27, 2008 for IER #3. This proposed action on LPV 1.1, LPV 2.2, LPV 19.2 and LPV 20.1 would not impact waters of the U.S. and therefore no further coordination is necessary. The proposed borrow sites would not impact waters of the U.S. and therefore no further coordination is necessary.

Coastal Zone Management Act of 1972

The Coastal Zone Management Act ("CZMA") requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." In connection with IER #3, CEMVN received a consistency determination (C20080289) on September 11, 2008. In connection with the requester's preferred alternative, a Coastal use permit for LPV 1.1 and 2.2 (P20160266) was issued on May 24, 2016, and for LPV 19.2 and 20.1 (P20160047) on March 8, 2016.

Each proposed borrow site was issued a CUP from the Louisiana Department of Natural Resources (Appendix B). Since the latest CUP issuance, the borrow sites have been active with no change to scope or described activity and therefore no further coordination is required.

Table 7. Coastal Use Permits Issued for Borrow Pits

Proposed Borrow Site	LDNR LCRP Consistency Permit Number
3C Riverside 1	P20111113
3C Riverside 2	P20111113
3C Riverside 3	P20090069
Willow Bend 1	P20141432
Willow Bend 2	P20141432
South Kenner Road	P20071264
River Birch Phase I	P2003454 (Exempt)
River Birch Phase II	P2003454 (Exempt)
River Birch Landfill Expansion	P20090224 (Exempt)

Endangered Species Act of 1973

The Endangered Species Act (“ESA”) is designed to protect and recover threatened and endangered (“T&E”) species of fish, wildlife and plants. On February 22, 2008 CEMVN received concurrence from US Fish and Wildlife Service (USFWS) that no threatened or endangered (T&E) species or their critical habitat would be impacted by the action identified in IER #3, which includes reaches LPV 1.1, LPV 2.2, LPV 19.2, and LPV 20.1. CEMVN has re-initiated coordination with USFWS and by letter dated January 9, 2016, USFWS stated no threatened or endangered (T&E) species or their critical habitat would be impacted by the proposed action (Appendix B). USFWS also concurred that the excavation of borrow would not likely adversely affect T&E species or their critical habitat (dates provided in Table 3 and Appendix B).

Hazardous, Toxic And Radioactive Waste (HTRW)

The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all hazardous, toxic, and radioactive waste (“HTRW”) contamination within the vicinity of proposed actions. ER 1165-2-132 identifies that HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities.

LPV 1.1, LPV 2.2, LPV 19.2, LPV 20.1 - An ASTM E 1527-05 Phase 1 Environmental Site Assessment (ESA) update, HTRW 15-01 dated December 8, 2015, has been completed for the project area. A copy of the Phase 1 ESA can be found in Appendix C and will be maintained on file at the U.S. Army Corps of Engineers, New Orleans District Headquarters. The probability of encountering HTRW for the proposed actions is low based on the updated site assessment. If a recognized environmental condition is identified in relation to the project site, the CEMVN would take the necessary measures to avoid the recognized environmental condition so that the probability of encountering or disturbing HTRW would continue to be low.

3C Riverside Phase 1, 2, 3 - A Phase I ESA for the 3C Riverside property was completed 26 January 1999. This investigation concluded that previous Recognized Environmental Conditions (RECs) on the property have been cleaned and removed. No current RECs were found. A second ESA was completed for 3C Riverside Phase 2 on 23 July 2007. No RECs were found. A third Phase I ESA was completed for 3C Riverside Phase 3 on 24 July 2008. No RECs were found. The site has been actively used since its approval in 2008 and therefore an update to the ESA is not required.

Willow Bend Phase I and II – The Phase I ESA for Willow Bend Phase I was completed in January 2008. The Phase I ESA for Willow Bend Phase II was completed 12 February 2009. No

RECs were identified on either site. The site has been actively used since its approval in 2009 and therefore an update to the ESA is not required.

South Kenner Road – The Phase I ESA for South Kenner Road was completed on 09 August 2007. No RECs were identified. The site has been actively used since its approval in 2008 and therefore an update to the ESA is not required.

River Birch Phase 1, 2, Landfill Expansion – The Phase I ESA was completed on 10 August 2006. The site was revisited on 13 September 2007. CEMVN determined no significant changes in the area since the Phase I ESA was completed. A Phase I ESA for River Birch Phase 2 was completed on 10 August 2006. The site was revisited on 13 September 2007. A Phase I ESA for the Landfill Expansion was completed on 27 October 2010. No RECs were identified on any of these site. All 550 of these borrow sites have been actively used since its approval in 2008 and therefore an update to the ESA is not required.

National Historic Preservation Act of 1966

The proposed action would have no impacts on historic or cultural resources. The Section 106 process for the proposed undertakings has been completed, as detailed in Section 4.5. However, if any previously unidentified cultural resources are determined to exist within the proposed project boundaries, either prior to or during construction, then no work shall proceed in the area containing these cultural resources until a CEMVN archaeologist has been notified and consultation with the SHPO and Indian Tribes has been completed.

9.0 CONCLUSION.

The Section 408 requester's preferred alternative consists of raising levee reaches LPV 1.1, 2.2, LPV 19.2 and LPV 20.1 to elevation 17.0-feet (NAVD88). The increase in elevation ranging between 0.0 – 1.5-feet would not have an adverse impact on the performance of the project and would extend the period of performance prior to the next required levee lift anticipated in the next 5-7 years.

This levee lift will extend across four reaches along the south shore of Lake Pontchartrain, from Station 836+87 on LPV 1.1, just east of the Duncan Canal, terminating at Station 521+42 on Reach 20.1, just west of Orpheum Avenue. All construction will occur within existing levee authority right-of-way, and all ingress and egress to the project will occur on an existing access roads.

Approximately 68,763 cubic yards of fill material would be hauled to the site using dumptrucks and placed as embankment on the levee section. Other equipment that may be used during construction include bulldozers, graders, sheepsfoot rollers, or similar equipment, and water trucks. Haul trucks would be entering and exiting the areas on a daily basis during the period of construction.

CEMVN has assessed the environmental impacts of the proposed action on relevant resources based on information provided by the requester. The project as proposed would have only temporary short term impacts on air quality from heavy equipment operations during construction; short term temporary impacts to adjacent areas from construction noise; and temporary transportation impacts from transporting of construction equipment and hauling of borrow materials and scrap materials to/from the construction site.

10.0 PREPARED BY

This EA #550 and the associated FONSI were prepared using information provided by the Southeast Louisiana Flood Protection Authority-East.

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