Draft Environmental Assessment

City of New Orleans Municipal Yacht Harbor Breakwater Improved Project
FEMA-1603-DR-LA
Orleans Parish, Louisiana
May 2018
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<tr>
<td>ABFE</td>
<td>Advisory Base Flood Elevation</td>
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<tr>
<td>A&amp;E</td>
<td>Architect and Engineering</td>
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<td>AI</td>
<td>Agency Interest</td>
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<td>APE</td>
<td>Area of Potential Impacts</td>
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<td>BFE</td>
<td>Base Flood Elevation</td>
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<td>BMP</td>
<td>Best Management Practices</td>
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<td>Clean Air Act</td>
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<td>CBRA</td>
<td>Coastal Barrier Resources Act</td>
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<td>Coastal Barrier Resources System</td>
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<td>CEQ</td>
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<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
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<td>C.F.R.</td>
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<td>CPRA</td>
<td>Louisiana Coastal Protection and Restoration Authority</td>
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<td>CTR</td>
<td>In-house contract consultant</td>
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<td>CUP</td>
<td>Coastal Use Permit</td>
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<tr>
<td>CWA</td>
<td>Clean Water Act</td>
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<tr>
<td>CY</td>
<td>cubic yard</td>
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<td>CZMA</td>
<td>Coastal Zone Management Act</td>
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<tr>
<td>dBA</td>
<td>Decibel, on the A-weighted scale</td>
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<td>DEA</td>
<td>Draft Environmental Assessment</td>
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<td>DFIRM</td>
<td>Digital Flood Insurance Rate Map</td>
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<td>DHS</td>
<td>U.S. Department of Homeland Security</td>
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<td>DNL</td>
<td>Day-night average sound level</td>
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<td>DoA</td>
<td>U.S. Department of the Army</td>
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<td>DPW</td>
<td>Department of Public Works</td>
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<td>EA</td>
<td>Environmental Assessment</td>
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<td>EDMS</td>
<td>Electronic Document Management System</td>
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<td>EFH</td>
<td>Essential Fish Habitat</td>
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<td>EIS</td>
<td>Environmental Impact Statement</td>
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<td>E.O.</td>
<td>Executive Order</td>
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<td>Endangered Species Act</td>
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<td>Flood Insurance Rate Map</td>
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<td>FONSI</td>
<td>Finding of No Significant Impact</td>
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<td>FPPA</td>
<td>Farmland Protection Policy Act</td>
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<tr>
<td>GHG</td>
<td>Greenhouse gas</td>
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<tr>
<td>GPO</td>
<td>U.S. Government Printing Office</td>
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<td>HDPE</td>
<td>High-Density Polyethylene</td>
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<td>HMP</td>
<td>Hazard Mitigation Plan</td>
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<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>LA GOHSEP</td>
<td>Louisiana Governor's Office of Homeland Security and Emergency Preparedness</td>
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LCRP  Louisiana Coastal Resources Plan
LDEQ  Louisiana Department of Environmental Quality
LDNR  Louisiana Department of Natural Resources
LDWF  Louisiana Department of Wildlife and Fisheries
LOC  Letter of Concurrence
LPDES  Louisiana Pollutant Discharge Elimination System
MYH  Municipal Yacht Harbor
MYHMC  Municipal Yacht Harbor Management Corporation
NAAQS  National Ambient Air Quality Standards
NAVD88  North American Vertical Datum of 1988
NDSI  No Direct and Significant Impact
NEPA  National Environmental Policy Act
NESHAP  National Emission Standards for Hazardous Air Pollutants
NFIP  National Flood Insurance Program
NHPA  National Historic Preservation Act
NLAA  Not Likely to Adversely Affect
NMFS  National Marine Fisheries Service
NOMA  New Orleans Metropolitan Area
NOPBR  New Orleans Public Belt Railroad
NPDES  National Pollutant Discharge Elimination System
NRHP  National Register of Historic Places
OCM  Office of Coastal Management
PA  Public Assistance
P.L.  Public Law
PVC  Polyvinyl chloride
RCRA  Resource Conservation and Recovery Act
RHA  Rivers and Harbors Act
R.S.  Louisiana Revised Statutes
SARA  Superfund Amendments and Reauthorization Act
SFHA  Special Flood Hazard Area
SHPO  State Historic Preservation Office/Officer
SIP  State Implementation Plan
SOV  Solicitation of Views
TSCA  Toxic Substances Control Act
USACE  U.S. Army Corps of Engineers
USDA  U.S. Department of Agriculture
USDOC  U.S. Department of Commerce
USDOI  U.S. Department of the Interior
USEPA  U.S. Environmental Protection Agency
USFWS  U.S. Fish and Wildlife Service
WPA  Works Project Administration
1.0 INTRODUCTION

1.1 Hurricane Katrina

Hurricane Katrina made landfall on 29 August 2005, near the town of Buras, Louisiana, as a Category 3 storm with sustained winds of more than 125 miles per hour. The accompanying high winds, storm surge, and surge-driven debris caused extensive damage to piers and other infrastructure within the basin of the Municipal Yacht Harbor (MYH) and the associated breakwater that protects the MYH.

1.2 Project Authority

President George W. Bush declared a major disaster for the State of Louisiana (FEMA-1603-DR-LA) on 29 August 2005, authorizing the U.S. Department of Homeland Security’s (DHS) Federal Emergency Management Agency (FEMA) to provide federal assistance in designated areas of Louisiana. This assistance is pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law (P.L.) 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA’s Public Assistance (PA) Program to assist with funding the repair, restoration, reconstruction, or replacement of public facilities damaged as a result of the declared disaster.

In accordance with FEMA Instruction 108-1-1, a Draft Environmental Assessment (DEA) has been prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President’s Council on Environmental Quality (CEQ; 40 CFR Parts 1500-1508). (Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act 2005).

The purpose of this DEA is to analyze potential environmental impacts of the proposed project. FEMA will use the findings in this DEA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.3 Background

The City of New Orleans (CNO or Sub-Recipient) has requested, through the State of Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (LA GOHSEP) (Recipient), that FEMA provide disaster assistance consisting of federal grant funds in accordance with the provisions of the Stafford Act. FEMA has determined that CNO is eligible for federal disaster public assistance and that the MYH Breakwater project qualifies for repair as a critical or non-critical facility serving the needs of the general public.

CNO has determined that repair of the damaged facility to its pre-Katrina specifications would not be in the best interest of the community, however. Consequently, in accordance with 44 C.F.R. § 206.203(d), CNO has requested an Improved Project. An Improved Project is any project where the Sub-Recipient chooses to make additional improvements to an existing facility in the course of making disaster repairs. An Improved Project restores the facility and maintains its function, either at the current site or in another existing or new facility. For the current request, CNO proposes to make improvements to the Municipal Yacht Harbor Breakwater, while performing eligible disaster-related repairs, executing the scope of work captured in the mitigation proposal, and maintain the pre-disaster function that will better serve the needs of the community. The Municipal Yacht Harbor Breakwater is located west of and north of Breakwater Drive, New
Orleans, Louisiana 70124. The site is situated on the south shore of Lake Pontchartrain, in western Orleans Parish, near the boundary with Jefferson Parish (Figure 1).

![Figure 1 – Municipal Yacht Harbor project vicinity](image)

**1.4 General Site Description**

The city of New Orleans is located entirely within the parish of Orleans. Orleans Parish is primarily urban, with the exception of some areas of coastal marsh in the eastern part and woodlands on the west bank of the Mississippi River (the Lower Coast). The parish has a subtropical, humid climate typical of coastal regions along the Gulf of Mexico. The proposed project site is located within the Mississippi Alluvial Plain ecoregion of Louisiana, Deltaic Coastal Marshes and Barrier Islands sub-ecoregion, which is composed of a broad, mostly flat deltaic plain with river terraces, swales, and levees providing the main elements of relief. The typical physiography is freshwater and saline marshes, rivers, lakes, bayous, tidal channels, canals, and barrier islands. Few trees are present. The average winter temperature is 54°F and the average summer temperature is 81°F. Orleans Parish typically receives 59 inches of rainfall annually (Trahan 1989, Daigle et al. 2006).

Although the corporate boundary of the city of New Orleans has been unchanged since the 1800s, the city’s urban footprint has expanded significantly since then. Before 1900, urbanization was confined primarily to natural levees and ridges along the Mississippi River and elsewhere (the Esplanade Ridge, for example). In 1913, construction of a levee and pump system began, which allowed for the development of lower-lying areas and wetlands. Between 1913 and 2000, the city’s urbanized footprint almost doubled to approximately 71 square miles. The extent of urbanization, however, has been relatively unchanged since the mid-1980s, when development slowed considerably due to a lack of large remaining developable tracts within the city, the general
economic downturn resulting from the “oil bust,” and ongoing concerns about quality of life issues related to crime and public education (CNO 2010b).

New development stalled in the 1980s but, by the 1990s, the city began to witness small-scale reinvestment within established neighborhoods and larger adaptive re-use and limited infill development projects within and around the Central Business District (CBD), or “downtown” area. Since Hurricane Katrina, due to the extent of flooding and numerous other impediments to recovery, many structures within the city remain unoccupied, while others have been demolished and left as vacant lots (CNO 2010b).

The proposed project site is located in the West End neighborhood, which in turn is encompassed within CNO Planning District 5. According to the Planning District 5 Rebuilding Plan (CNO 2006), land use within the West End neighborhood pre-Hurricane Katrina was dominated by single- and two-family residences; however, multi-family, commercial, and open-space uses also were represented. The latest Master Plan proposes essentially to maintain the current mixture of land uses within the West End neighborhood, with the exception of a shift to higher-density development within certain commercial waterfront tracts and other under-occupied shopping areas. According to the Master Plan, these parcels could best be utilized “as a medium density neighborhood oriented center with entertainment/dining/retail establishments to both support the Lake [Pontchartrain] area and draw in tourism” (CNO 2010a).

The MYH is owned by the CNO, but is managed by the Municipal Yacht Harbor Management Corporation (MYHMC). The MYH is a roughly rectangular, artificially-created basin approximately 1,150 feet by 1,800 feet in size and is bounded by North Roadway Street to south, Breakwater Drive to the north and west, and the Southern Yacht Club facility and parking areas to the east. The MYH is located at Latitude 30.026855, Longitude -90.117198. It is connected to Lake Pontchartrain via an entrance channel in the basin’s northeast corner. The MYH possesses a wooden bulkhead on all sides, with numerous boathouses on the north, west, and south margins.

The Municipal Harbor Breakwater consists of an L-shaped man-made breakwater containing Breakwater Drive, parking lots, a boat launch, and a grass covered park area. The Breakwater structure is located at Latitude 30.029454, Longitude -90.118356. Breakwater Drive ends at the terminus of the breakwater which is a cul-de-sac constructed of concrete bulkheads, known as The Point. The Breakwater was constructed circa 1940 as part of the Works Project Administration (WPA) and created the venue for the eventual construction of the Municipal Yacht Harbor (MYH website http://www.nomyh.com). The Breakwater is constructed with rubble riprap as the base, with the primary source of the rubble riprap being old broken concrete structural slabs and pile caps (as viewed from the surface and drainage cuts). As documented in prior versions of the original Project Worksheet for the project, Hurricane Katrina flooded the breakwater and wave energy displaced tens of thousands of tons of the rubble riprap, causing further damage to pavements and other Breakwater area structures and the MYH.

The remaining surfaces of the breakwater consist of Breakwater Drive, paved parking lots, a boat launch, and a grass covered park known as Breakwater Park. There are also residential boathouses on the breakwater and bordering the MYH basin. Currently, during significant tropical storms, the breakwater is completely inundated by wave action and flood waters. In addition, when the 17 Canal Street Canal Pump Station discharges water, the elevation of the water in the MYH basin rises significantly and quickly. Emergency alterations were made after Hurricane Katrina consisting of non-engineered berm construction, drainage alterations, and the placement of
construction debris on top of the existing rip rap along Breakwater Drive. *Figure 2* depicts the project site location. *Figure 3* depicts the extent of the MYH property. *Figure 4* depicts an aerial view of the proposed work area with key work areas labeled. Site photographs of the proposed project area are attached to this EA in Appendix A.

![Figure 2 - Project site location (Google Earth 2016)](image)
Figure 3 – Extent of the MYH property (Image Source - MYHMC web site)
Figure 4 - Aerial view of the Municipal Yacht Harbor Breakwater area with work areas evaluated in this EA identified. (Image Source: Google Earth, 2017)
2.0 PURPOSE AND NEED

The objective of FEMA’s PA Grant Program is to provide assistance to state, tribal, and local governments, as well as certain types of private non-profit organizations, such that communities can quickly respond to, recover from, and mitigate major disasters and emergencies. Hurricane Katrina, a major disaster, severely impacted the MYH Breakwater by means of wave energy, surge flooding, and surge-driven debris which displaced tens of thousands of tons of the breakwater’s rubble riprap, causing further damage to pavements and other Breakwater Drive area structures. The harbor basin experienced flooding to a depth of approximately 11 feet (DoA 2007), which damaged both the breakwater structure and the harbor’s docks and piers, as well as surrounding ancillary buildings. The Sub-Recipient seeks to repair the existing breakwater and perform improvements to the structure, which are intended to mitigate damage from future tropical storms and hurricanes.
3.0 ALTERNATIVES

3.1 Overview of Alternatives

The NEPA process consists of an evaluation of the environmental impacts of a federal action, including its alternatives. Three alternatives have been proposed and will be analyzed in this DEA, including 1) the “No Action” alternative, 2) Repair of the Yacht Harbor Breakwater to its Original Configuration, and 3) Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action).

3.2 Alternative 1 – No Action

Under the “No Action” alternative, no repairs would be made to the existing damaged facility. The harbor would continue to have sub-optimal wave protection from the existing breakwater. The “No Action” alternative would leave this situation unchanged. This alternative does not meet the purpose and need, but will continue to be evaluated throughout this DEA and serve as a baseline comparison of impacts from other action alternatives.

3.3 Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

This alternative would entail restoring the breakwater to its pre-storm condition in the original configuration without any improvements or enhancements. Additional materials similar to those present in the existing breakwater, such as broken concrete slabs and large rocks, would be added as needed to areas where the original materials have been eroded away; however, no pre-engineered materials designed to allow resistance to erosional forces would be added to the existing breakwater. In addition, the breakwater would be repaired only to the pre-storm berm heights. The result of this action would likely be that during the next major storm or hurricane, the repaired breakwater would suffer similar damages as were observed in the aftermath of Hurricane Katrina. While this alternative would serve the purpose and need of the Sub-Recipient, it is not an ideal alternative as it would not effectively mitigate potential damage from future storms and hurricanes or account for anticipated sea level rise due to climate change. However, this does not render the alternative unsuitable; therefore, it will continue to be evaluated throughout this DEA.

3.4 Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

3.4.1 Scope of Work

This alternative would entail restoring the existing breakwater to its pre-storm condition with improvements to enhance the performance of the breakwater during future tropical storms and hurricanes. Figure 5 depicts the areas where the proposed work would take place.

The primary difference between the proposed Alternative 3 and Alternative 2 discussed above would be the replacement of the eroded rubble riprap with pre-engineered, specifically designed riprap which will not displace during similar flood events thus preventing the erosion and loss of material and undercutting of sidewalks. In addition, the breakwater berms would be reconstructed with approximately two (2) feet of additional height to take into consideration the anticipated rise in sea level due to future global warming. The proposed action allows for additional excavation of rubble riprap material to be placed for toe protection. The designed riprap will be of a pre-engineered material of sufficient gradation, fractured faces, thickness and density to allow the particles to interlock and resist erosional forces. An additional 26,289 tons, (or 14,605 cubic yards (CY) at 1.8 tons/CY) of riprap and an additional 18 inches of deeper excavation (3 feet total excavated depth)
are proposed under this Alternative for additional armament and scour protection. In addition, the scope of work calls for the removal and replacement of five (5) dual six-inch polyvinyl chloride (PVC) pipes with dual six-inch diameter High-Density Polyethylene (HDPE) pipes, for a total of approximately 75 linear feet at five (5) locations.

Figure 5 – Construction drawing depicting the areas where work evaluated in this EA would take place. (Image Source: All South Consulting Engineers. Image provided by CNO)
The proposed scope of work includes, but is not limited to, the following:

**Northern and Western section of the Breakwater – Repair and mitigation scope of work**
- Reclaim/Reshape damaged and displaced existing riprap breakwater material
- Install additional riprap/concrete material to replace damaged and displaced breakwater riprap
- Add riprap to achieve height above pre-storm breakwater elevation as a hazard mitigation measure. This will provide additional resiliency to the breakwater and provide additional protection for previously damaged roadway, parking lots, boat houses and Municipal Yacht Harbor. This additional riprap will also be sized properly to interlock with the existing material to strengthen the base and core of the newly constructed breakwater system
- In some breakwater sections, utilize a concrete slurry grout to lock the newly installed riprap as a hazard mitigation measure to prevent future storm riprap displacement
- Install fill material as a hazard mitigation measure in strategic areas along back side of berm Rap to lock-in material, to prevent potential displacement of newly placed Rap material. Interlocked Berm would prevent displacement of Rap and protect site features from damaging impacts
- Replace damaged sidewalk along west side of breakwater and as a hazard mitigation measure provide either a thicker concrete slab or more stable base to prevent future damage

**Breakwater Drive Shoulder – Repair and mitigation scope of work**
- Repair storm damaged roadway shoulder and sections of Breakwater Drive. Mill and overlay repairs for Breakwater Drive but for the parking lot. This pavement damage was related to the displaced riprap
- Install fill, riprap and concrete slurry grout along shoulder as a hazard mitigation measure to minimize/prevent future wave erosion from scouring of the shoulder and roadway of Breakwater Drive. The interlocking concrete surfacing will protect roadway shoulder from breaking waves and dissipate wave energy and heights, providing an advanced protection system for the new Municipal Yacht Harbor Facility
- Regrade area adjacent to Breakwater Drive to allow for drainage of the roadway shoulder
- Clean/replace drainage outfalls in parking areas along west side of Breakwater Drive

**Pier/Boat Launch Parking Lot – Repair and Mitigation scope of work**
- Mill and overlay asphalt parking area and replace asphalt base and sub base at damaged locations
- Replace damaged electrical service and light poles. As a hazard mitigation measure – strengthen foundations and elevate electric service main
- Along the west side of parking lot, as a hazard mitigation measure, install a seepage cut-off wall/turndown barrier, along lake side edges of parking area, to prevent wave induced migration of lake water into the subsurface soils supporting the parking structure. The barrier would mitigate asphalt surface failures caused by oversaturation of subbase materials
• As a hazard mitigation measure, install additional height of riprap and add a concrete slurry grout to interlock riprap some locations to shield the west side of the parking lot from wave action. The interlocking concrete surfacing will protect asphalt surfacing from breaking waves and dissipate wave energy and heights, to provide advanced protection for the asphalt roadway and residential structures.

*Figure 6* and *Figure 7* depict cross sections of the proposed West Berm construction work. *Figure 8* depicts a cross section of the proposed construction work at the jetty at the boat launch. *Figure 9* depicts cross sections of the proposed construction work at the North Berm and the South Berm. *Figure 10* depicts a cross section of the proposed construction work at The Point. *Figure 11* depicts the cross sections of the drainage at the parking areas and the existing outfall. *Figure 12* depicts the cross section of the ditch section.

The total length of the proposed breakwater reconfiguration project is approximately 5,000 linear feet. The proposed project construction plans are attached to this EA in Appendix C.
Figure 6 – Construction drawing depicting cross sections of the work to be performed on the West Berm. Refer to Figure 5 for the locations of the cross sections. (Image Source: All South Consulting Engineers. Image provided by CNO)
Figure 7 - Construction drawing depicting a cross section of the work to be performed on the West Berm. Refer to Figure 5 for the location of the cross section. (Image Source: All South Consulting Engineers. Image provided by CNO)
Figure 8 - Construction drawing depicting a cross section of the work to be performed at the jetty at the boat launch. Refer to Figure 5 for the location of the cross section. (Image Source: All South Consulting Engineers. Image provided by CNO)
Figure 9 – Construction drawing depicting cross sections of the work to be performed on the North and South Berms. Refer to Figure 5 for the locations of the cross sections. (Image Source: All South Consulting Engineers. Image provided by CNO)
Figure 10 - Construction drawing a depicting cross section of the work to be performed at The Point. Refer to Figure 5 for the locations of the cross sections. (Image Source: All South Consulting Engineers. Image provided by CNO)
Figure 11 - Construction drawing depicting cross section of the drainage at the parking areas and the existing outfall. Refer to Figure 5 for the locations of the cross sections. (Image Source: All South Consulting Engineers. Image provided by CNO)
The Barge Access Route (8.0 feet Draft Depth) for the transportation of project materials is anticipated to originate from Pontchartrain Materials beginning at 3819 France Road, New Orleans, LA 70126, then along the Inner Harbor Navigational Canal 2.75 miles, then westerly along the south shoreline of Lake Pontchartrain, approximately 4.85 miles to the project site (Figure 13). The minimum water depth along this course is 11.0 feet in depth, measured from
the SWL according to the reference entitled *Lakes Pontchartrain and Maurepas, Chart 11369 - Soundings in Feet*.

Based on information provided by the project rip rap material suppliers, the anticipated barges utilized will be 195 feet by 35 feet by 10 feet and when fully loaded will have a draft depth of 9.0 feet. If rip rap material is barged in, barges shall be lightly loaded to achieve a draft depth which matches water depth of the site. It is possible that project rip rap material may be truck hauled and placed from the shoreline; the specific method of project material transportation will not be known until actual project bids are received. It is anticipated that a 1,100 Horse Power push boat will be utilized, with a fully loaded draft depth of 6 feet. At no time will project equipment be allowed with draft depths that are greater than water depths located at the project site.

![Figure 13 – Anticipated project barge route (Image Source: Section 404 permit for the proposed project)](image)

### 3.4.2 Hazard Mitigation

The CNO proposed a conceptual HMP based on building a riprap berm which was presented in the All South Consulting Engineers, L.L.C., the CNO’s Architect and Engineering (A&E) Firm’s July 2016 damage report. The A&E’s recommendation is for:

“...hazard mitigation along the entire perimeter of the shoreline for enhanced riprap protection and incorporating the design parameters for sea level rise, based on the current climate change studies for Lake Pontchartrain. It is anticipated that an additional 2.0 feet for sea level rise would be necessary to mitigate the water from the lake overtopping the berm. The top elevation of the riprap should be set at an elevation based on the design recommendations that riprap be stopped at two feet above the highest water elevation. This mitigation would require the riprap berm to be constructed of eligible riprap and [Hazard Mitigation Plan] (HMP) riprap.”
FEMA reviewed the CNO’s HMP and evaluated the CNO’s estimates of the quantities of materials involved in this project. The CNO’s HMP berm greatly exceeds the footprint of the rubble riprap displaced by the storm. In previous versions, FEMA found 26,289 tons of rubble riprap was displaced, impacting an approximated area of 14,605 CY. The CNO’s proposed HMP berm has a footprint approximating 40,791 SY.

The CNO proposed mitigation is to extend the height to two feet above projected Lake Pontchartrain levels based on climate change models. Regardless of the height of the berm, the breakwater is the opening to the harbor and water exists on both sides of the breakwater at all times, meaning in any storm surge or climate related water level rise, the water would engulf both sides of the proposed berm offering no flood or surge protection.

- The primary loss from the storm was shoreline protection rubble riprap material with some minor damages to sidewalks, pavements, and street lights caused by the displaced material. Simple riprap armament of the areas where material was lost is enough to mitigate these damages.
- Per 9526.1 section 7.a. the mitigation measure must be related to eligible-disaster related damages (bold added for emphasis) and must directly reduce the potential of future, similar disaster damages to the eligible facility.

FEMA prepared a conceptual HMP to mitigate erosion damage to the Municipal Yacht Harbor Breakwater caused by storm wave energy. The conceptual HMP will achieve mitigation by retrofitting the breakwater shoreline protection to withstand the wave energy induced by a future event of similar magnitude to the declared event. The mitigation will be used to harden and strengthen the engineered/constructed breakwater structure to make it more sustainable. The HMP proposes to replace eroded rubble riprap with designed riprap which will not displace during similar flood events thus preventing the erosion and loss of material and undercutting of sidewalks. The conceptual HMP also allows for excavation of rubble riprap material to be placed for toe protection. The conceptual HMP riprap will be of an engineered material of sufficient gradation, fractured faces, thickness and density to allow the particles to interlock and resist erosional forces. An additional 26,289 tons of riprap and an additional 18 inches of deeper excavation (for a total excavation depth of 3 feet) are proposed under this conceptual HMP for additional armament and scour protection.

While both FEMA and the CNO agreed that riprap is an appropriate HMP for erosion control, the CNO-proposed HMP Berm cannot be used as mitigation for the following reasons:

- The Sub-Recipient’s HMP Berm is based on the 9526.1 section 7.c.2, (Appendix A, Section 1.A.5) which is specifically for erosion control of “Drainage/crossings and bridges” and not a breakwater. The HMP should be based on 9526.1 section 7.c.3 for riprap erosion control with a cost/benefit analysis as opposed to Appendix A.
- The FEMA eligible scope of work is very different than the scope of work that the Sub-Recipient has requested. For example, the CNO had proposed 122,773 tons as their need for the berm of which 73,524 tons is from their requested eligible repairs leaving 49,249 tons as the HMP request. FEMA has found 26,289 tons of riprap eligible which is much less than the 73,524 tons in the Sub-Recipient’s request.

The berm total request for riprap is between 115,796 tons and 149,915 tons. FEMA is using 122,773 as the required amount for the berm.

This mitigation measure is considered to be policy compliant, technically feasible, and cost-effective in accordance with FEMA Response and Recovery Directorate Policy Number 9526.1.7.c.3 (1998). A benefit cost analysis provides a benefit cost ratio greater than or equal to 1.0 (≥ 1.0), which
indicates that project would be, as designed, cost effective and provide benefits of an equal or greater amount than the cost of the implementation of the project.

The Proposed Redevelopment of the Municipal Yacht Harbor was presented by the City of New Orleans’ Capital Projects Administration and Moffatt and Nichol at the 15 November 2016 MYHMC Board Meeting, along with initial construction diagrams dated 7 November 2016, with dimensions of the existing and proposed marina fairways. Although this meeting was held primarily to discuss the proposed redevelopment of the MYH, (a project which FEMA is also considering funding), the MYH Breakwater project being evaluated in this EA was mentioned and discussion of how these two separate, but related, projects would work together to achieve the goals of the CNO. Public comments on the two proposed MYH projects were accepted in December 2016. On 13 January 2017, the public comments and the responses were published on the MYHMC web site. A copy of these public comments and the project team responses, along with then-current project construction drawings for the MYH project, is attached to this EA in Appendix B. Interested members of the public can also review these comments and responses and learn more about the MYH reconfiguration project and the proposed MYH Breakwater repair project on the MYHMC web site at: http://www.nomunicipalharbor.com/site.php?pageID=304&newsID=21. FEMA’s draft EA, entitled City of New Orleans Municipal Yacht Harbor Reconfiguration and associated appendices, can be reviewed on FEMA’s website: https://www.fema.gov/media-library/assets/documents/143387. The FONSI for the EA for the Municipal Yacht Harbor project was signed on 30 October 2017.

As discussed at the meeting described above, the use of Breakwater Park as a dredge material deposition site “offers the CNO the opportunity to integrate dredging for the marina into a Master Plan approach for improvements to West End”. In addition, “the CNO, through its Department of Public Works (DPW), has developed the scope of repairs for Katrina-related damages and hazard mitigation improvements which will correct emergency alterations made after Hurricane Katrina consisting of non-engineered berm construction, drainage alterations and the placement of construction debris on top of existing rip rap along Breakwater Drive”. By coordinating work between the [MYH] and Breakwater Park, the CNO proposes a “common sense opportunity to develop long-term protective measures to protect West End, the boat houses, and the redeveloped [Municipal Yacht Harbor].

3.4.3 Coordination between the Proposed Project and Other Planned Work in the Project Area

FEMA has evaluated two (2) previous CNO funding requests for proposed work in the MYH/Breakwater Park vicinity. From 2015 through 2017, FEMA evaluated and approved for funding the Reconfiguration of the MYH. According to the CNO, although the construction of the proposed MYH Reconfiguration is scheduled to begin in April 2018, and a contract for the Breakwater Reconfiguration may be issued in the fourth quarter of 2018, based on the duration of MYH Reconfiguration project, there will likely be MYH Reconfiguration work occurring concurrently with work on the Breakwater Reconfiguration project. If concurrent work does occur, coordination will be required between the construction contractors who will be performing the work so that all project work is performed smoothly and without duplication. The FONSI for the MYH Reconfiguration EA was signed on 30 October 2017. The FEMA documentation for the MYH Reconfiguration may be reviewed at https://www.fema.gov/media-library-data/1506633728256-ce8ebaf03d6ea7e100e419da11a3c375c/Al-2406_DraftEA.pdf.

Additionally, in 2012 and 2013 FEMA evaluated and approved for funding the reconstruction of a new replacement fishing pier to the east and north the existing boat jetty located at the northwest corner of Breakwater Park. The FONSI for this EA was signed on 23 January 2013.
Although the project has been approved by FEMA, to date, the replacement fishing pier has not yet been constructed, see photographs 19 through 22 in Appendix A. According to the CNO, the Design Development Phase for the fishing pier is 100% complete and will move into the Construction Document Phase after construction coordination for the MYH Reconfiguration and the Breakwater Reconfiguration projects is completed in May 2018. The purpose of this delay is to ensure that there is no design redundancy or duplication with the three (3) separate projects discussed in this section. FEMA’s NEPA documentation for the fishing pier project may be reviewed at https://www.fema.gov/media-library/assets/documents/29900.
4.0 AFFECTED ENVIRONMENT AND ALTERNATIVES ANALYSIS

4.1 Physical Resources

4.1.1 Geology, Soils, and Seismicity

4.1.1.1 Regulatory Setting

The Farmland Protection Policy Act (FPPA) (P.L. 97-98, §§ 1539-1549; 7 U.S. Code [U.S.C.] § 4201 et seq.) was enacted in 1981 and is intended to minimize the impact federal actions have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. This law assures that, to the extent possible, federal programs and policies are administered in a way that is compatible with state and local farmland protection policies and programs. The FPPA does not authorize the federal government to regulate the use of private or non-federal land or, in any way, affect the property rights of owners.

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service is responsible for protecting significant agricultural lands from irreversible conversions that result in the loss of essential food or environmental resources. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Prime farmland is characterized as land with the best physical and chemical characteristics for production of food, feed, forage, fiber, and oilseed crops (USDA 2016a). Farmland subject to FPPA requirements does not currently have to be used for cropland; it also can be forest land, pastureland, or other land, but not water or built-up land.

4.1.1.2 Existing Conditions

Within Orleans Parish, approximate surface elevations range from 12 feet above sea level on Mississippi River berms to 5 feet below sea level within the drained wetlands inside the city levees. Undrained marshes and swamps typically range from sea level to about one (1) foot above in elevation (Trahan 1989). According to the Louisiana Geological Survey, the geology in the vicinity of the project site is predominantly Holocene Alluvium, which also covers about 55% of the state (Figure 14). The Holocene Epoch began approximately 11,700 years ago and continues to the present day. These alluvial soils consist of sandy and gravelly river channel material overlain by sandy to muddy natural levee deposits, often with an organic-rich muddy backswamp layer in between (Louisiana Geological Survey 2010).

During the last 150 years, only two (2) seismic events have been recorded in New Orleans, the minor earthquakes of 1882 and 1958. These tremors occurred in the vicinity of the Thibodaux Fault, which runs in a roughly east-west direction in metro-New Orleans, between the Mississippi River and the south shore of Lake Pontchartrain. Based upon data from the periods 1938 to 1971 and 2009 to 2012, overall subsidence in the project vicinity is approximately 3 feet/century (including sea level rise) (van Beek et al. 1986, Gagliano et al. 2003, Gagliano 2005, Greicius 2016).

The soils of Orleans Parish vary in their potential for land use and urban development. According to the Soil Survey of Orleans Parish, Louisiana (Trahan 1989), soils in and surrounding the project location are mapped as Aquents, dredged, frequently flooded. These poorly drained Aquents soils consist of hydraulically placed dredged material removed from nearby marshes and swamps during the construction and maintenance of waterways. Aquents are slightly saline to saline and are stratified throughout with layers of muck, clay, loam, and sand. These soils are not suited to crops, woodland, or pasture and are not prime farmland (USDA 2016b).
In Orleans Parish, all of the water used for public consumption and certain industrial applications is taken from the Mississippi River. Even though the quality of the water varies somewhat with the volume of flow in the river, it is considered suitable for public use (Trahan 1989). Groundwater below the study area is located in three (3) of the four (4) major aquifers present in Orleans Parish. These aquifers consist of the Gramercy (up to 400 feet below the soil surface), the Norco (up to 500 feet deep), and the Gonzales-New Orleans (up to 900 feet deep). The “1,200-foot” Sand, present in some parts of Orleans Parish, does not underlay the project area. The Gramercy and Norco aquifers are not used for municipal or industrial purposes due to their high mineral or salt content. The portion of the Gonzales-New Orleans aquifer north of the Mississippi River is freshwater; however, high levels of chloride make it unsuitable for public consumption. It is used, instead, for industrial purposes such as cooling. The “1,200 foot” Sand aquifer contains too much salt for most uses (Prakken 2009). A database search of Louisiana Department of Environmental Quality (LDEQ) permit records revealed one (1) water supply well within a one (1)-mile radius of the proposed project site. This well pumps from the Gonzales-New Orleans aquifer (LDEQ 2016b).

4.1.1.3 Environmental Consequences

Alternative 1 – No Action

The “No Action” alternative would have no significant impacts to prime farmland, unique farmland, farmland of statewide or local importance, or other important geologic resources.
Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

Alternative 2, likewise, would have only inconsequential impacts on geologic or soil resources. There would be minor soil disturbance and turbidity associated with the repair of the existing breakwater to its pre-disaster condition.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

Impacts associated with the Proposed Action Alternative would be similar to those of Alternative 2; however; because there would additional excavation of 18 inches for a total of 3 feet of excavation, there would be additional soil disturbance and additional turbidity as compared to Alternative 2.

4.1.2 Air Quality

4.1.2.1 Regulatory Setting

The Clean Air Act (CAA) of 1970 (42 U.S.C. § 7401 et seq.), including its 1977 and 1990 amendments, is the federal law that regulates air emissions from stationary and mobile sources. This law tasks the U.S. Environmental Protection Agency (USEPA), among its other responsibilities, with establishing primary and secondary air quality standards. Primary air quality standards protect the public’s health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect the public’s welfare by promoting ecosystem health, preventing decreased visibility, and reducing damage to crops and buildings. The USEPA also has set National Ambient Air Quality Standards (NAAQS) for the following six (6) criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen oxides (NOx), ozone (O₃), particulate matter (less than 10 micrometers [PM₁₀] and less than 2.5 micrometers [PM₂.₅]), and sulfur dioxide (SO₂).

In addition, the USEPA regulates hazardous air pollutants, such as asbestos, under the “air toxics” provisions of the CAA. Section 112 of the CAA established the National Emission Standards for Hazardous Air Pollutants (NESHAP) and required the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. Major health impacts associated with asbestos include lung cancer, mesothelioma, and asbestosis (USEPA 2016a).

Under the 1990 amendments to the CAA, the USEPA may delegate its regulatory authority to any state which has developed an approved State Implementation Plan (SIP) for carrying out the NAAQS mandates or an approved program for the prevention and mitigation of accidental releases under NESHAP. The State of Louisiana’s initial SIP was approved on 5 July 2011, and has been revised several times since then. The Louisiana Department of Environmental Quality’s (LDEQ) NESHAP regulatory program was re-approved by USEPA effective 27 April 2015 (New Source Performance Standards 2015). Louisiana’s CAA implementing regulations are codified in Title 33.III of the Louisiana Environmental Regulatory Code.

According to 40 C.F.R. § 93.150(a), “No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan” under NAAQS. In addition, 40 C.F.R. § 93.150(b) states, “A Federal agency must make a determination that a Federal action conforms to the applicable implementation plan in accordance with the requirements of this subpart before the action is taken.” As a result, when FEMA provides financial assistance for a project, such as the one currently under review in this DEA, the CAA requires a General Conformity determination whenever the project site is located in a “non-attainment area” for
any one (1) of the six (6) NAAQS criteria pollutants (Revisions to the General Conformity Regulations 2010).

4.1.2.2 Existing Conditions

According to The Green Book Nonattainment Areas (USEPA 2016d), the Parish of Orleans is considered to be an “attainment area” for criteria pollutants. Pursuant to 40 C.F.R. § 93.157, “If an action’s emissions are below the de minimis levels or the action is not located in a nonattainment or maintenance area, a conformity determination is not required” (Revisions to the General Conformity Regulations 2010). As a result, no General Conformity determination is required by FEMA for projects it funds within this parish.

4.1.2.3 Environmental Consequences

Alternative 1 – No Action

The “No Action” alternative would involve no project and, therefore, would cause no short- or long-term impacts to air quality.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

This alternative would cause short-term impacts to air quality, primarily as a result of road dust suspended by trucks bringing equipment/supplies to the site and from internal combustion engine emissions by trucks, cranes, pile-drivers, and other construction equipment. In order to restrict potential short-term impacts to air quality from construction-related activities, the contractor would be responsible for using best management practices (BMPs) to reduce fugitive dust generation and diesel emissions. Exhaust emissions include both criteria pollutants, such as CO₂, NO₂, O₃, and PM₁₀, and non-criteria pollutants such as volatile organic compounds. To reduce emissions of criteria pollutants, running times for fuel-burning equipment should be kept to a minimum and engines properly maintained.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

The Proposed Action Alternative also includes short-term impacts to air quality that are likely to occur during construction. Particulate emissions from the generation of fugitive dust during these activities would be temporarily increased in the immediate vicinity of the project area. Other on-site sources of emissions would include heavy construction equipment, although these releases would be less than Alternative 2 since the number of piles needed would be reduced. These impacts would be localized and of short duration, however.

In order to reduce potential short-term impacts to air quality from construction-related activities, the contractor would be responsible for using BMPs to decrease fugitive dust generation and diesel emissions. Emissions from the burning of fuel by internal combustion engines (e.g., heavy equipment and machinery) could temporarily increase the levels of some of the criteria pollutants, including CO₂, NO₂, O₃, and PM₁₀, and non-criteria pollutants such as volatile organic compounds. To reduce emissions of criteria pollutants, running times for fuel-burning equipment should be kept to a minimum and engines properly maintained.
4.2 Water Resources

4.2.1 Wetlands and Waters of the United States

4.2.1.1 Regulatory Setting

4.2.1.1.1 Section 401 of the Clean Water Act

Section 401 of the Clean Water Act (CWA) requires state certification of all federal licenses and permits in which there is a “discharge of fill material into navigable waters.” The certification process is used to determine whether an activity, as described in the federal license or permit, would impact established site-specific water quality standards. A water quality certification from the issuing state, LDEQ in this case, is required prior to the issuance of the relevant federal license or permit. The most common federal license or permit requiring certification is the U.S. Army Corps of Engineers (USACE) CWA § 404 permit.

4.2.1.1.2 Section 402 of the Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) was created by § 402 of the CWA. This program authorizes the USEPA to issue permits for the point source discharge of pollutants into waters of the U.S. In 1996, the permit program for the state of Louisiana was delegated to LDEQ, with subsequent revisions documented by means of a 2004 Memorandum of Agreement. The ensuing Louisiana Pollutant Discharge Elimination System (LPDES) program authorizes individual permits, general permits, stormwater permits, and pretreatment activities that result in discharges to jurisdictional waters of the state.

4.2.1.1.3 Section 404 of the Clean Water Act

The USACE, through its permit program, regulates the discharge of dredged or fill material into waters of the U.S., including wetlands, pursuant to § 404 of the CWA. In addition, the USEPA has regulatory oversight of the USACE permit program, allowing the agency under § 404c to veto USACE–issued permits where there are unacceptable environmental impacts. Waters of the U.S. are defined in 33 C.F.R. § 328.3 and include a broad scope of surface waters.

Wetlands, a subset of waters of the U.S., are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 C.F.R. § 328.3(b)) (Regulatory Programs of the Corps of Engineers 1986).

4.2.1.1.4 Section 10 of the Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act of 1899 (RHA) regulates structures or work in or affecting navigable waters. Navigable waters under this statute are defined as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce” (33 C.F.R. § 329.4) (Regulatory Programs of the Corps of Engineers 1986). The USACE implements a permit program to evaluate impacts to navigable waters and their navigable capacity under § 10 (jointly with § 404 of the CWA when a discharge of fill material is also involved). Regulated structures include such objects as buoys, piers, docks, bulkheads, and jetties, while work includes dredging or filling activities.

4.2.1.1.5 Executive Order 11990 – Protection of Wetlands

E.O. 11990, Protection of Wetlands, directs federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the values of wetlands for federally funded

4.2.1.2 Existing Conditions

Past human interventions have significantly modified the natural hydrologic regime within Orleans Parish and Lake Pontchartrain. Levees along the Mississippi River now prevent the annual overbank flooding that previously occurred, blocking an important source of freshwater and sediments from entering the lake (although the Bonnet Carré Spillway, first used in 1937, mimics this situation when it is very infrequently opened [DoA 2014]). The more recent system of hurricane protection levees also has separated former wetlands from Lake Pontchartrain, allowing them to be developed for human use. Instead of natural overland and bayou water flow, precipitation is discharged into the wetlands that remain via pumping stations and floodgates, which are part of the channelized drainage network within the city’s leveed areas. As discussed in Section 1.4, a significant reduction in wetland acreage occurred in the early to mid-20th Century due to this drainage network. Elsewhere in the parish, deep canals have been excavated for logging, drainage, improved navigation and, in later years, oil and gas development. These and other similar modifications to the local landscape allowed freshwater to enter the nearby estuaries, including Lake Pontchartrain, more quickly from point sources (Templett 1982, Seed et al. 2006).

The sidecast excavated material along artificial canals caused segmentation of the wetlands and interfered with natural circulation. The deeper water within the canals allowed tidal fluctuation to extend farther inland, increasing saltwater intrusion during drier periods. Although major saltwater intrusions into the Mississippi River usually do not extend as far upstream as Orleans Parish, intrusions through various canals and channels do reach other surface waters in most areas of the parish. Because of these human-created conditions, hydrologic circulation now reflects an unnatural competition between local runoff, discharges from diked areas, and daily tides. As a result, a stable hydrologic regime has been altered relatively rapidly into one with greater fluctuations in water levels, salinity values, and sediment transfer/deposition (Templett 1982).

The entire MYH project area has been substantially disturbed through past excavation, filling, and other construction activities, beginning in the 19th Century or earlier. The current configuration of the protected boat basin is the result of a constructed L-shaped breakwater, originating from the reclaimed, developed shoreline and extending into Lake Pontchartrain. Although the breakwater was constructed in approximately 1940, the eastern edge of the harbor is the remnant of an earlier canal jetty. The vegetated wetlands that previously existed along the shoreline were filled in the distant past, possibly as late as 1891 due to construction of a prior breakwater, or perhaps earlier with the commencement of the New Canal lighthouse facility in 1838 (Rice and Griswold 1903, USDOI 1994). Nevertheless, according to the U.S. Fish and Wildlife Service’s (USFWS) National Wetlands Inventory map, Lake Pontchartrain and the MYH basin’s open water area still would be classified as “estuarine and marine deepwater” wetlands (Figure 15) (USDOI 2016d).
4.2.1.3 Environmental Consequences

Alternative 1 – No Action

The “No Action” alternative would have no impact on wetlands or other waters of the U.S. and would not require permits under §§ 401, 402, or 404 of the CWA or § 10 of the RHA.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

Because Lake Pontchartrain is considered to be a navigable water of the U.S., activities under Alternative 2 would be subject to regulation under the RHA and the CWA, as well as review pursuant to E.O. 11990. As a result, a § 10/§ 404 permit would be needed from the USACE and a CWA § 401 water quality certification would be required from LDEQ. Required permits must be obtained before work begins. The Sub-Recipient would be responsible for ensuring that there is no net loss of wetlands under E.O. 11990.

FEMA also has determined that the proposed location is a wetland under E.O. 11990. Thus, the Sub-Recipient would be responsible for ensuring that there is no net loss of wetlands in accordance with this order. Required permits must be obtained before work begins.

In a response dated 9 September 2017 to FEMA’s SOV request dated 20 July 2017, the LDEQ had no objections to the proposed project with regard to clean water issues. In addition, an LPDES permit may be required in accordance with § 402 of the CWA and Title 33.IX of the Louisiana Environmental Regulatory Code. For example, if the project results in a new discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater. Further, the proposed construction activities may require an LDPES stormwater permit. If required, the Sub-Recipient must obtain a Water Quality Certification from the LDEQ prior to initiation of construction activities. A copy of the LDEQ’s response is attached in Appendix D.
In a response date 8 September 2017 to FEMA’s SOV request dated 21 July 2017, the USACE indicated “that a Department of the Army permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act will be required. Any changes or modifications to the proposed project will require a revised determination.” A copy of the USACE’s response is attached in Appendix D.

The CNO has obtained a permit for the proposed project from the USACE, Number MVN-2017-0161 ES for the proposed project, which was issued on 7 September 2017 (Appendix D).

In order to minimize indirect impacts (erosion, sedimentation, dust, and other construction-related disturbances) to waters of the state or well-defined drainage areas surrounding the site, including the bulkhead replacement, the contractor must implement BMPs that meet LDEQ permitting specifications for stormwater and also include the following into the daily construction routine: silt screens, barriers (e.g., hay bales), berms/dikes, fences, and/or turbidity curtains to be placed as and where needed. Fencing should be placed to mark land-based staging areas for storage of construction equipment and supplies, as well as for sites where maintenance/repair operations occur.

**Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)**

Because Lake Pontchartrain is considered to be a navigable water of the U.S., activities under Alternative 3 would be subject to regulation under the RHA and the CWA, as well as review pursuant to E.O. 11990. As a result, a § 10/§ 404 permit would be needed from the USACE and a CWA § 401 water quality certification would be required from LDEQ. Required permits must be obtained before work begins. The Sub-Recipient would be responsible for ensuring that there is no net loss of wetlands under E.O. 11990.

FEMA also has determined that the proposed location is a wetland under E.O. 11990. Thus, the Sub-Recipient would be responsible for ensuring that there is no net loss of wetlands in accordance with this order. Required permits must be obtained before work begins.

In a response dated 9 September 2017 to FEMA’s SOV request dated 20 July 2017, the LDEQ had no objections to the proposed project with regard to clean water issues. In addition, an LPDES permit may be required in accordance with § 402 of the CWA and Title 33.IX of the Louisiana Environmental Regulatory Code. For example, if the project results in a new discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater. Further, the proposed construction activities may require an LDPES stormwater permit. If required, the Sub-Recipient must obtain a Water Quality Certification from the LDEQ prior to initiation of construction activities. A copy of the LDEQ’s response is attached in Appendix D.

In a response date 8 September 2017 to FEMA’s SOV request dated 21 July 2017, the USACE indicated “that a Department of the Army permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act will be required. Any changes or modifications to the proposed project will require a revised determination.” A copy of the USACE’s response is attached in Appendix D.

The CNO has obtained a permit for the proposed project from the USACE, Number MVN-2017-0161 ES for the proposed project, which was issued on 7 September 2017 (Appendix D).

In order to minimize indirect impacts (erosion, sedimentation, dust, and other construction-related disturbances) to waters of the state or well-defined drainage areas surrounding the site, including the bulkhead replacement, the contractor must implement BMPs that meet LDEQ permitting
specifications for stormwater and also include the following into the daily construction routine: silt screens, barriers (e.g., hay bales), berms/dikes, fences, and/or turbidity curtains to be placed as and where needed. Fencing should be placed to mark land-based staging areas for storage of construction equipment and supplies, as well as for sites where maintenance/repair operations occur.

4.2.2 Floodplains

4.2.2.1 Regulatory Setting

E.O. 11988, *Floodplain Management*, requires federal agencies to avoid direct or indirect support or development within or affecting the 1% annual chance Special Flood Hazard Area (SFHA) (i.e., the 100-year floodplain) or, for “Critical Actions,” within the 0.2% annual chance SFHA (i.e., the 500-year floodplain), whenever there is a practicable alternative (U.S. President 1977a). FEMA’s regulations for complying with E.O. 11988 are found at 44 C.F.R. Part 9, Floodplain Management and Protection of Wetlands (1980).

4.2.2.2 Existing Conditions

In July 2005, prior to Hurricane Katrina, FEMA initiated a series of flood insurance studies for many of Louisiana’s coastal parishes as part of the Flood Map Modernization Effort through FEMA’s National Flood Insurance Fund. These studies were necessary because the flood hazard and risk information shown on the effective Flood Insurance Rate Maps (FIRMs) was developed during the 1970s. Since that time, the physical terrain had changed considerably, including the significant loss of wetland areas. After Hurricanes Katrina and Rita, FEMA expanded the scope of work to include all of coastal Louisiana. The magnitude of impacts caused by the two (2) hurricanes reinforced the urgency to obtain additional flood recovery data for the coastal zones of Louisiana. More detailed analysis was possible because new data obtained after the hurricanes included information on levees and levee systems, new high-water marks, and new hurricane parameters.

During an initial post-hurricane analysis, FEMA determined that the 100-year or 1% annual chance storm flood elevations on FIRMs for many Louisiana communities, referred to as Base Flood Elevations (BFEs), were too low. FEMA created recovery maps showing the extent and magnitude of the surges from Hurricanes Katrina and Rita, as well as information on other storms over the past 25 years. The 2006 advisory flood data shown on the recovery maps for the Louisiana-declared disaster areas indicated high-water marks surveyed after the storm, flood limits developed from these surveyed points, and Advisory Base Flood Elevations, or ABFEs. These recovery maps and other advisory data were developed to assist parish officials, homeowners, business owners, and other affected citizens with their recovery and rebuilding efforts. Orleans Parish ABFE Maps (DHS 2006) are currently used by the Orleans Parish National Flood Insurance Program (NFIP) community for floodplain management purposes.

Updated preliminary flood hazard maps from an intensive five-year mapping project guided by FEMA subsequently were provided to all Louisiana coastal parishes. These maps, released in early 2008, known as Preliminary Digital Flood Insurance Rate Maps (DFIRMs), were based on the most technically advanced flood insurance studies ever performed for Louisiana, followed by multiple levels of review. The DFIRMs provided communities with a more scientific approach to economic development, hazard mitigation planning, emergency response, and post-flood recovery.

The USACE has completed and certified the new Hurricane and Storm Damage Risk Reduction System (HSDRRS) for the Greater New Orleans area. This 350-mile system of levees, floodwalls, surge barriers, and pump stations will reduce the flood risk associated with future storm events. In September 2011, the USACE provided FEMA with assurances that the HSDRRS is capable of
defending against a storm surge with a 1% annual chance of occurrence (DHS 2011). The areas protected include portions of St. Bernard, St. Charles, Jefferson, Orleans, and Plaquemines Parishes. It should be noted that the proposed project site is located outside of the HSDRRS. Although the 100-year perimeter system is now complete, additional contracts for armoring and environmental mitigation are either ongoing or have not yet been awarded (DoA 2014). In November 2012, FEMA revised the 2008 preliminary DFIRMs within the HSDRRS to incorporate the reduced flood risk associated with the system improvements. The preliminary DFIRMs were subsequently revised in 2013 and 2014. On 30 September 2016, the 2014 Revised Preliminary DFIRMs for Orleans Parish became effective.

The 2016 Effective DFIRMs are currently viewed as the best available flood risk data for Orleans Parish. In many areas, the flood risk has been significantly reduced due to heightened protection. For traditional construction projects, no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through its participation in the NFIP (DHS 2011). Orleans Parish enrolled in the NFIP on 3 August 1970. Per Effective DFIRM Panel Number 22071C0113F dated 30 September 2016, the majority of the project site is located within Flood Zones VE EL 17 and VE EL 18 at The Point. The project site located outside the floodwall- or levee-protected areas of New Orleans, (Figure 16). Ground elevations on the roads adjacent to the site are approximately 0 to 6 feet above the North American Vertical Datum (NAVD) of 1988. In compliance with E.O. 11988, an 8-step process was completed and documentation is attached in Appendix E.

Velocity zones (V1-30, VE, and V Zones) and riverine floodways are high risk, high hazard flood zones on FEMA DFIRMs. During tropical storms and other flooding events, these are areas where losses are expected to be highest and most catastrophic. To reduce the potential for future losses, FEMA has determined that most types of new construction in these areas are ineligible for FEMA funding. In addition, certain types of structures, such as those built over water, are not insurable under the NFIP. For proposed projects located in these high risk, high hazard areas, in order to be eligible for FEMA funding, FEMA must be able to answer “Yes” to the following questions:

- Is the structure functionally dependent? Yes
- Does it facilitate open space use? Yes
4.2.2.3 Environmental Consequences

Practicable alternatives to locating the proposed action in the floodplain were identified and evaluated. Various practicability factors were considered including feasibility, social concerns, hazard reduction, mitigation costs, and environmental impacts.

**Alternative 1 – No Action**

Under the “No Action” alternative, there would be no reconfiguration of the MYH. This course would have no further adverse impacts to the floodplain.

**Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration**

Alternative 2 was reviewed for possible impacts associated with occupancy or modification to a floodplain. This alternative would entail Repair of the Municipal Yacht Harbor Breakwater in its original configuration. Restoration of the MYH breakwater to its original configuration would not affect the functions and values of the 100-year floodplain since these actions would not impede or redirect flood flows.
Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

Alternative 3 was reviewed for possible impacts associated with occupancy or modification to a floodplain. This alternative would entail Repair of the Municipal Yacht Harbor Breakwater in its original configuration, in substantially the same footprint, with pre-engineered materials designed to resist erosional forces and with additional height. Restoration of the MYH breakwater to its substantially original configuration with additional height would not affect the functions and values of the 100-year floodplain since these actions would not impede or redirect flood flows, nor would the proposed action provide additional flood protection for Breakwater Park or the boathouses surrounding the MYH.

4.3 Coastal Resources

4.3.1 Regulatory Setting

4.3.1.1 Coastal Zone Management Act of 1972

The Coastal Zone Management Act (CZMA) (P.L. 92-583, as amended; 16 U.S.C. §§ 1451-1464) encourages the management of coastal zone areas and provides grants to be used in maintaining these areas. It requires that federal agencies be consistent in enforcing the policies of state coastal zone management programs when conducting or supporting activities that affect a coastal zone. This provision is intended to ensure that federal activities are consistent with state programs for the protection and, where possible, enhancement of the nation's coastal zones.

The Act’s definition of a coastal zone includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines, and land extending inward to the extent necessary to control shorelines. Included within the coastal zone are islands, beaches, transitional and intertidal areas, and salt marshes.

The CZMA requires that coastal states develop a State Coastal Zone Management Plan or program and that any federal agency conducting or supporting activities affecting the coastal zone conduct or support those activities in a manner consistent with the approved state plan or program. To comply with the CZMA, a federal agency must identify activities that would affect the coastal zone, including development projects, and review the state coastal zone management plan to determine whether a proposed activity would be consistent with the plan.

4.3.1.2 Louisiana State and Local Coastal Resources Management Act of 1978

Pursuant to the CZMA, the State and Local Coastal Resources Management Act of 1978 (R.S. 49:214.21 et seq. Act 1978, No. 361) is the state of Louisiana’s legislation creating the Louisiana Coastal Resources Program (LCRP). The LCRP establishes policy for activities including construction in the coastal zone, defines and updates the coastal zone boundary, and creates regulatory processes. The LCRP is under the authority of the Louisiana Department of Natural Resource’s (LDNR) Office of Coastal Management (OCM). If a proposed action is within the Coastal Zone boundary, OCM will review the eligibility of the project concurrently with its review by other federal agencies (USACE, USFWS, and National Marine Fisheries Service [NMFS]). The mechanism employed to review these projects is the Coastal Use Permit (CUP). Per the CZMA, all proposed federal projects within the coastal zone must undergo a Consistency Determination by OCM for that project’s consistency with the state’s Coastal Resources Program (i.e., LCRP) (LDNR 2016b).
4.3.1.3 Coastal Barrier Resources Act of 1972

The USFWS regulates federal funding in John H. Chafee Coastal Barrier Resources System (CBRS) units under the Coastal Barrier Resources Act (CBRA). CBRA protects undeveloped coastal barriers and related areas (i.e., Otherwise Protected Areas) by restricting direct or indirect federal funding of projects that support development in these areas. CBRA promotes appropriate use and conservation of coastal barriers along the Atlantic and Gulf coasts (USDOI 2016a).

4.3.2 Existing Conditions

The MYH is located within the Louisiana Coastal Zone and is subject to permit requirements under the LCRP. According to LDNR online records, since the CZMA was passed the MYH has received six (6) CUPs for various activities (LDNR 2016a). CUP No. P19850820, issued in 1986, was for the placement of fill material within Lake Pontchartrain in order to expand the footprint of the current breakwater on the north side. CUP No. P19901042 was issued in 1990 for unspecified work, which was deemed to have “No Direct and Significant Impact” (NDSI) to coastal waters. CUP No. P19900609, for hydraulic dredging of the harbor, was issued in 1992.

CUP No. P20010711, approved in 2002, was issued for recreational development and expansion of a boat launch; however, the work was not completed and the permit has expired. CUP No. P20140442, for repairs to a boat launch at the site, was issued in 2014. Revisions to this permit are currently in process. CUP No. P20141006 was issued for the proposed replacement of the existing fixed docks in the MYH with floating docks, a related project which FEMA is considering funding, which was discussed in some detail in Section 3.4.2.

The project area is not located within a regulated CBRS unit.

4.3.3 Environmental Consequences

Alternative 1 – No Action

The “No Action” alternative would entail no undertaking and therefore, would have no impact on a coastal zone or a CBRS unit.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

Alternative 2 would involve construction in a designated coastal zone. In accordance with a 2013 LDNR OCM Special Public Notice, the granting of federal financial assistance as defined in 15 C.F.R. § 930.91 is fully consistent with the LCRP; however, consistency with the LCRP does not excuse Sub-Recipients from the need to obtain a CUP, if necessary. Because this alternative does not appear to qualify for any of the exemptions found at Title 43.I Part 723 of the Louisiana Natural Resources Regulatory Code, a complete CUP Application packet would be required in order to properly evaluate work under Alternative 2.

FEMA consulted with LDNR on 13 July 2017. In a response letter dated 18 July 2017 (Appendix D), the LDNR stated:

“"We have received your Solicitation of Views for the above referenced project, which has been found to be inside the Louisiana Coastal Zone. In order for us to properly review and evaluate this project, we require that a complete Coastal Use Permit Application packet (Joint Application Form, locality maps, project illustration plats with plan and cross section views, etc.) along with the appropriate application fee be submitted to our office. Using your complete application, we can provide you with an official determination, and begin the processing of any Coastal Use Permit that may be required for your project. You may obtain a free application packet by calling our office at (225) 342-7591 or (800)-267-4019, or by visiting our website at http://www.dnr.state.la.us/crm/coastmgt/cup/cup.asp."
“We recommend that, during your planning process, you make every effort to minimize impacts to vegetated wetlands. As our legislative mandate puts great emphasis on avoiding damages to these habitats, in many cases the negotiations involved in reducing such disturbances and developing the required mitigation to offset the lost habitat values delay permit approval longer than any other factor.

“Additionally, the following sensitive features may require additional processing time by the appropriate resource agencies:

- Office of State Lands
- Coastal Protection and Restoration Authority - Master Plan Project - Greater New Orleans High Level
- Louisiana Department of Wildlife and Fisheries, Louisiana Natural Heritage Program
- Chitimacha Tribe of Louisiana
- Orleans Levee District

“Should you desire additional consultation with our office prior to submitting a formal application, we recommend that you call and schedule a pre-application meeting with our Permit Section staff. Such a preliminary meeting may be helpful, especially if a permit application that is as complete as possible is presented for evaluation at the pre-application meeting.”

The project site is not located within a CBRS unit; therefore, CBRA requirements do not apply. In addition, because the project would not take place within 300 feet of the centerline of the hurricane protection system (levee/floodwall), no permit from the Orleans Levee District would be needed for the work (Southeast Louisiana Flood Protection Authority - East 2016).

The CNO has obtained a CUP, Number P20170562, for the proposed project, which was issued on 15 November 2017 (Appendix D).

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

Alternative 3 would involve construction in a designated coastal zone. In accordance with a 2013 LDNR OCM Special Public Notice, the granting of federal financial assistance as defined in 15 C.F.R. § 930.91 is fully consistent with the LCRP; however, consistency with the LCRP does not excuse Sub-Recipients from the need to obtain a CUP, if necessary. Because this alternative does not appear to qualify for any of the exemptions found at Title 43.I Part 723 of the Louisiana Natural Resources Regulatory Code, a complete CUP Application packet would be required in order to properly evaluate work under Alternative 2.

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“We recommend that, during your planning process, you make every effort to minimize impacts to vegetated wetlands. As our legislative mandate puts great emphasis on avoiding damages to these habitats, in many cases the negotiations involved in reducing such disturbances and developing the required mitigation to offset the lost habitat values delay permit approval longer than any other factor.
“Additionally, the following sensitive features may require additional processing time by the appropriate resource agencies:

- Office of State Lands
- Coastal Protection and Restoration Authority - Master Plan Project - Greater New Orleans High Level
- Louisiana Department of Wildlife and Fisheries, Louisiana Natural Heritage Program
- Chitimacha Tribe of Louisiana
- Orleans Levee District

“Should you desire additional consultation with our office prior to submitting a formal application, we recommend that you call and schedule a pre-application meeting with our Permit Section staff. Such a preliminary meeting may be helpful, especially if a permit application that is as complete as possible is presented for evaluation at the pre-application meeting.”

As with Alternative 2, the project site is not located within a CBRS unit; therefore, CBRA requirements do not apply. In addition, because the project would not take place within 300 feet of the centerline of the hurricane protection system (levee/floodwall), no permit from the Orleans Levee District would be needed for the work (Southeast Louisiana Flood Protection Authority - East 2016).

The CNO has obtained a CUP, Number P20170562, for the proposed project, which was issued on 15 November 2017 (Appendix D).

4.4 Biological Resources

4.4.1 Federally Protected Species and Critical Habitats

4.4.1.1 Regulatory Setting

4.4.1.1.1 Endangered Species Act of 1973

The Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1531-1543) prohibits the taking of listed threatened and endangered species unless specifically authorized by permit from the USFWS or the NMFS. “Take” is defined in 16 U.S.C. § 1532 (19) as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 C.F.R. § 17.3) (Endangered and Threatened Wildlife and Plants 1975).

Section 7(a)(2) of the ESA requires the lead federal agency to consult with either the USFWS or the NMFS, depending which agency has jurisdiction over the federally-listed species in question, when a federally-funded project either may have the potential to adversely affect a listed species, or a federal action occurs within or may have the potential to impact designated critical habitat. The lead agency must consult with the USFWS, the NMFS, or both (Agencies) as appropriate and will determine if a biological assessment is necessary to identify potentially adverse impacts to federally-listed species, their critical habitat, or both. If a biological assessment is required, it will be followed by a biological opinion from either or both Agencies, depending on the jurisdiction of the federally-listed species identified in the biological assessment. If the impacts of a proposed federal project are considered negligible to federally-listed species, the lead agency may instead prepare a letter to the Agencies with a “May Affect, but Not Likely to Adversely Affect” determination requesting the relevant agency’s concurrence. This DEA serves to identify potential impacts and meet the ESA § 7 requirement by ascertaining the risks of the proposed action and alternatives to known federally-listed species and their critical habitat, as well as providing a means for consultation with the Agencies.
4.4.1.1.2 Marine Mammal Protection Act of 1972

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. § 1361 et seq.) protects all marine mammals, regardless of whether or not they are listed under the ESA. The Secretary of Commerce is responsible for the protection of all cetaceans (whales, porpoises, and dolphins) and pinnipeds (seals and sea lions), except walruses, and has delegated authority for implementing the MMPA to NMFS. The Secretary of the Interior is responsible for the protection of walruses, polar bears, sea otters, manatees, and dugongs, and has delegated this responsibility to the USFWS (USDOC n.d.). These responsibilities include providing oversight and advice to regulatory agencies on all federal actions that might affect these species. The MMPA prohibits the “take” of marine mammals, with certain exceptions, in waters under U.S. jurisdiction and by U.S. citizens on the high seas. Under the MMPA, take is defined as “harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal” (50 C.F.R. 18.3).

4.4.1.2 Existing Conditions

One (1) mammal species, the West Indian manatee, and two (2) fish species, the Gulf sturgeon and pallid sturgeon, are federally listed as threatened or endangered and are known to occur in select waterways of Orleans Parish (USDOI 2016c). In addition, two species were identified that have the potential to be present in or near the project area that are protected under the MMPA. These include the West Indian manatee and bottlenose dolphin.

The pallid sturgeon is an obligate freshwater species that would be present only in the Mississippi River in Orleans Parish. The project area is within the zone of federally designated critical habitat for the Gulf sturgeon, however. The remaining mammal species are all known to inhabit Lake Pontchartrain, at least seasonally (Endangered and Threatened Wildlife and Plants 2003, Wilson 2003, Mullin et al. 2015, Miller 2016).

These dolphins likely enter the Lake from the Gulf of Mexico while in search of prey items such as bay anchovies and at times menhaden. The bottlenose dolphin is not an estuarine species and will incur injury if they remain in a brackish environment for too long. It has been purported that a pod of approximately 30 bottlenose dolphins utilize Lake Pontchartrain for feeding habitat and will retreat to the marine waters of the Lake Borgne area when their health deteriorates to an unspecified level and then return to Lake Pontchartrain to feed when their condition improves.

The bottlenose dolphin is a rare but known occurrence in Lake Pontchartrain. A pod of approximately 30-40 individuals were observed and monitored by NMFS from April of 2008 to at least 2009 (≥ 30 months) (Barry et al. 2008 and NMFS 2011). This pod of dolphins was monitored by NMFS for injuries as a result of living in an estuarine environment for prolonged periods of time. The noted injuries included topical lesions that were typical of injuries as a result of living in low salinity environments (Barry et al. 2008). Because of the low probability of bottlenose dolphin or other dolphin species being present in Lake Pontchartrain and/or being impacted by the proposed project, FEMA has issued a “No Effect” determination under the MMPA. According NMFS communication dated 24 July 15, “If FEMA's determination [is] No Effect, then consultation with NMFS [is not] required.”

In addition, the Loggerhead sea turtle (Caretta caretta), a reptile species, although not listed by the LDWF as an endangered species in Orleans Parish, is a species of concern for the NMFS, can be found in Lake Pontchartrain and is listed under the ESA, having “threatened” status. Loggerheads are also considered an endangered species and are protected by the International Union for the Conservation of Nature. Untended fishing gear is responsible for many loggerhead deaths. Turtles may also suffocate if they are trapped in fishing trawls. According to the Lake Pontchartrain Basin
Foundation, the Loggerhead has been found in Lake Pontchartrain from time to time. Recently, sightings have been rare, as sea turtle numbers have been diminished by cumulative man-made and natural impacts to these species throughout the Gulf of Mexico and in Lake Pontchartrain and Lake Borgne. This species is listed as “endangered” on the Federal ESA. This marine transient species enter Lake Pontchartrain year-round and as top-level predators in the Lake Pontchartrain ecological food web; however, these sea turtles likely enter the lake most often during the summer when salinity is higher.” (Framework, 2011)

Inshore areas of the Gulf of Mexico are important habitat for the Kemp’s ridley sea turtles (Lepidochelys kempii), and these sea turtles have been found in Lake Pontchartrain from time to time. They are characteristically found in waters of low salinity, high turbidity, high organic content, and where shrimp and crabs are abundant. Kemp’s ridley sea turtles in the Gulf of Mexico tend to be concentrated around major river mouths. Occurrence of Kemp's ridley sea turtles in bays and estuaries along the Louisiana coast is likely since their primary food items (i.e., fish, jellyfish, molluscs, and crabs) occur in these areas. Kemp’s ridley sea turtles are listed as endangered on the ESA.

Further, according to the NMFS, the Green sea turtle (Chelonia mydas) has historically been fished off the Louisiana coast, but exploitation and incidental drowning in shrimp trawls have led to the decline in this population. Green sea turtles are found worldwide in water temperatures greater than 20°C, though their distribution can be correlated to seagrass beds, nesting beaches, and associated ocean currents. During their first year of life, green sea turtles are primarily carnivores, feeding mostly on invertebrates. As adults they feed almost exclusively on sea grasses (i.e. turtle grass [Thalassia testudinum]) growing in shallow water flats. Green sea turtles make long migrations between nesting and feeding grounds. Sightings of green sea turtles are rare in Louisiana, but do occur. Green sea turtles are listed as threatened on the ESA.

4.4.1.3 Environmental Consequences

**Alternative 1 – No Action**

The “No Action” alternative would entail no project and, therefore, would have no impact on species federally listed as threatened or endangered or on federally-listed critical habitat.

**Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration**

In a 13 July 2017 response to FEMA’s online consultation performed on the USFWS iPAC site on 13 July 2017, the USFWS stated:

“Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.

“A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

“If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected (e.g. adverse, beneficial, insignificant or discountable) by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species and proposed critical habitat be
addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license Sub-Recipients, can be found in the “Endangered Species Consultation Handbook” at http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF or by contacting our office at the number above.”

The USFWS indicated that a total of nine (9) threatened, endangered, or candidate species should be considered in an impacts analysis for the proposed project. According to the USFWS, there is one species critical habitat located wholly or partially within the project area: that of the Atlantic Sturgeon (Gulf Subspecies) (*Acipenser oxyrinchus (oxyrhynchus) desotoi*) (Appendix D).

On 28 July 2017, the LDWF responded to FEMA’s SOV request dated 20 July 2017 (Appendix D). The LDWF indicated that:

“No impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, wildlife management areas, or scenic streams are known to occur at the specified site within Louisiana’s boundaries.”

FEMA prepared a Biological Assessment for the project, which is attached in Appendix F.

On 1 March, 2018, FEMA sent an ESA Section 7 Letter of Concurrence (LOC) request to the NMFS. Regarding three (3) sea turtles on the ESA list which may be found in Lake Pontchartrain, FEMA concluded that the project is “Not Likely to Adversely Affect” (NLAA) these species. On 1 May, 2018, the NMFS responded to FEMA’s LOC indicating their concurrence with FEMA’s ESA Section 7 determination. The LOC request and the NMFS response are attached to this EA in Appendix D.

**Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)**

In a 13 July 2017 response to FEMA’s online consultation performed on the USFWS iPAC site on 13 July 2017, the USFWS stated:

“Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.

“A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

“If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected (e.g. adverse, beneficial, insignificant or discountable) by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license Sub-Recipients, can be found in the “Endangered Species Consultation Handbook” at http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF or by contacting our office at the number above.”

The USFWS indicated that a total of nine (9) threatened, endangered, or candidate species should be considered in an impacts analysis for the proposed project. According to the USFWS, there is
one species critical habitat located wholly or partially within the project area: that of the Atlantic Sturgeon (Gulf Subspecies) \((Acipenser oxyrinchus (oxyrhynchus) desotoi)\) (Appendix D).

On 28 July 2017, the LDWF responded to FEMA’s SOV request dated 20 July 2017 (Appendix D). The LDWF indicated that:

“No impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, wildlife management areas, or scenic streams are known to occur at the specified site within Louisiana’s boundaries.”

FEMA prepared a Biological Assessment for the project, which is attached in Appendix F.

On 1 March, 2018, FEMA sent an ESA Section 7 Letter of Concurrence (LOC) request to the NMFS. Regarding three (3) sea turtles on the ESA list which may be found in Lake Pontchartrain, FEMA concluded that the project is “Not Likely to Adversely Affect” (NLAA) these species. On 1 May, 2018, the NMFS responded to FEMA’s LOC indicating their concurrence with FEMA’s ESA Section 7 determination. The LOC request and the NMFS response are attached to this EA in Appendix D.

4.4.2 Other Biological Resources

4.4.2.1 Regulatory Setting

4.4.2.1.1 Migratory Bird Treaty Act

Unless otherwise permitted by regulation, the Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712) prohibits pursuing; hunting; taking; capturing; killing; attempting to take, capture, or kill; possessing; offering for sale; selling; offering to purchase; purchasing; delivering for shipment; shipping; causing to be shipped; delivering for transportation; transporting; causing to be transported; carrying or causing to be carried by any means whatever; receiving for shipment, transportation, or carriage; or exporting; at any time or in any manner, any migratory bird or any part, nest, or egg of any such bird, that is included on the list of protected bird species (General Provisions; Revised List of Migratory Birds 2013). The USFWS is responsible for enforcing the provisions of this Act.

4.4.2.1.2 Magnuson-Stevens Fishery Conservation and Management Act of 1976

The Magnuson-Stevens Fishery Conservation and Management Act (P.L. 94-265) was first enacted in 1976 and has since undergone revisions and amendments as the Sustainable Fisheries Act (P.L. 104-297) and the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (P.L. 109-479). The intent of this Act is to conserve “fish off the coasts of the United States, the highly migratory species of the high seas, the species which dwell on or in the Continental Shelf appertaining to the United States, and the anadromous species which spawn in United States rivers or estuaries,” because “these species constitute valuable and renewable natural resources” (USDOC 2007).

The Sustainable Fisheries Act’s 1996 amendments established a new requirement to describe and identify “essential fish habitat” (EFH) in each federal fishery management plan and “ensure the conservation and enhancement of such habitat.” NMFS issued implementing regulations in January 2002. As defined in 50 C.F.R. § 600.10, EFH “means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Within this definition, “waters” is clarified to “include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where
appropriate.” In addition, “‘substrate’ includes sediment, hard bottom, structures underlying the waters, and associated biological communities,” while “‘necessary’ means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.” Finally, “spawning, breeding, feeding, or growth to maturity” is intended to represent “a species’ full life cycle” (Essential Fish Habitat 2002).

4.4.2.2 Existing Conditions

In addition, Using the NOAA – NMFS EFH Mapper (online, V3.0) mapping program several shellfish and finfish species were identified as having designated EFH in Lake Pontchartrain. Several economically important shellfish and finfish species were also identified to have the potential for being in the project area. These species have local, domestic and international commercial and recreational economic value.

The proposed site is located within the Mississippi Flyway (Mississippi Flyway Council n.d.). The upland areas surrounding the basin are consistent with a public park setting, with predominantly ruderal habitat features including ornamental plantings, cultivar escapees, paved parking areas, street lighting, and paved roadways. There were no signs on the piles or utility poles of new or old migratory bird nests or other evidence that this location is being used extensively by migratory bird species. Potential habitat for bald eagles (Haliaeetus leucocephalus) was observed on the proposed site; however, no indication of present or past usage by this species was observed. According the NOAA EFH online tool, the proposed site is classified as “Essential Fish Habitat: for Coastal Migratory Pelagics (Figure 17).

Figure 17 – EFH Map indicating that the project site is classified as “Essential Fish Habitat” for Coastal Migratory Pelagics, with the proposed site outlined in red (Image Source – EFH Mapper, 2016).

According to the EPA NEPAssist web-based online search system has labeled the proposed project site as “critical habitat” for the Atlantic sturgeon (Gulf subspecies) (Figure 18).
Within the City of New Orleans the setting is decidedly urban. The upland areas of City of New Orleans is home to a number of animals adapted to urban conditions, including raccoons (*Procyon lotor*), opossums (*Didelphis marsupialis*), nine-banded armadillos (*Dasypus novemcinctus*), coyotes (*Canis latrans*), Norway rats (*Rattus norvegicus*) (Allman 2011), and various species of mice, as well as reptiles such as the green anole (*Anolis carolinensis*) and amphibians such as the green treefrog (*Hyla cinerea*, the State Amphibian of Louisiana) and the Gulf Coast toad (*Bufo valliceps*). A large number of common bird species are also present, including rock pigeons (*Columba livia*), mourning doves (*Zenaidura macroura*), boat-tailed grackles (*Quiscalus major*), ruby-throated hummingbirds (*Archilochus colubris*), and American robins (*Turdus migratorius*).

The project site is a public park and the protective breakwater for an active yacht harbor connected to Lake Pontchartrain and is composed of aquatic habitat containing brackish water. During FEMA’s 18 January 2017 site visit, FEMA staff observed numerous common gulls (*Larus canus*), small flocks of American coots (*Fulica Americana*), several anhinga (also known as darters or snakebirds) (*Anhinga anhinga*) and numerous brown pelicans (*Pelecanus occidentalis*), the Louisiana state bird, fishing in the yacht harbor. Given the constant presence of humans and boating activities, it would be unlikely that birds would choose to nest in or near the Municipal Yacht Harbor project site.

### 4.4.2.3 Environmental Consequences

**Alternative 1 – No Action**

The “No Action” alternative would entail no project and, therefore, would have no impact on migratory birds or other wildlife.

**Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration**

Alternative 2 would not adversely impact bald eagles or other wildlife. Impacts to migratory birds would be minimal and temporary. No prohibited actions directed toward migratory birds would be expected as a result of this action.
Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

Alternative 3 would not adversely impact bald eagles or other wildlife. Impacts to migratory birds would be minimal and temporary. No prohibited actions directed toward migratory birds would be expected as a result of this action.

FEMA staff observed several feral cats living within the voids of the existing breakwater structure. Implementation of Alternative 3 would result in smaller a fewer voids, leaving fewer places for these cats to live and take shelter during inclement weather.

4.5 Cultural Resources

4.5.1 Regulatory Setting

The consideration of impacts to historic and cultural resources is mandated under § 101(b)(4) of NEPA as implemented by 40 C.F.R. Parts 1501-1508. Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account their impacts on historic properties (i.e., historic and cultural resources, including American Indian Cultural Sites) and allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. Additionally, it is the policy of the federal government to consult with Indian Tribal Governments on a Government-to-Government basis as required in E.O. 13175 (U.S. President 2000). FEMA has chosen to address potential impacts to historic properties through the “Section 106 consultation process” of NHPA as implemented through 36 C.F.R. Part 800.

In order to fulfill its Section 106 responsibilities, FEMA has initiated consultation on this project in accordance with the Statewide Programmatic Agreement (PA) dated December 21, 2016, between the Louisiana State Historic Preservation Officer (SHPO), the Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (LA GOHSEP), the Alabama-Coushatta Tribe of Texas, the Caddo Nation, the Chitimacha Tribe of Louisiana, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Quapaw Tribe of Oklahoma, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, the Tunica-Biloxi Tribe of Louisiana, and the Advisory Council on Historic Preservation (http://www.fema.gov/new-orleans-metropolitan-area-infrastructure-projects-2#2). The 2016 Statewide Programmatic Agreement (PA) was created to streamline the § 106 review process, and may be reviewed at https://www.fema.gov/media-library/assets/documents/128322.

The “Section 106 process” outlined in the Statewide Agreement requires the identification of historic properties that may be affected by the proposed action or alternatives within the project’s area of potential impacts (APE). Historic properties, defined in § 101(a)(1)(A) of NHPA, include districts, sites (archaeological and religious/cultural), buildings, structures, and objects that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). Historic properties are identified by qualified agency representatives in consultation with interested parties. Below is a consideration of various alternatives and their impacts on historic properties.
4.5.2 Existing Conditions – Identification and Evaluation of Historic Properties

Historic Properties within the APE were identified based on FEMA’s review of the NRHP database, the Louisiana Cultural Resources Map, historic map research, and project files. This data was evaluated by FEMA using the National Register Criteria.

4.5.3 Environmental Consequences

Alternative 1 – No Action

This alternative does not include any FEMA undertaking; therefore FEMA has no further responsibilities under § 106 of the NHPA.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

Under Alternative 2, FEMA has determined that there will be “No Effect” to historic properties. SHPO concurrence with this determination was received, dated October 11, 2017. Consultation with affected tribes (Alabama-Coushatta Tribe of Texas, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Mississippi Band of Choctaw Indians, Muscogee Creek Nation, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Tunica-Biloxi Tribe of Louisiana) was conducted per FEMA’s Programmatic Agreement dated December 21, 2016 (PA). The Choctaw Nation of Oklahoma submitted written concurrence with the determination. The remaining Tribes did not respond within the regulatory timeframes; therefore, in accordance with Stipulation II.C.4 of the PA and 36 CFR part 800.5(c)1, FEMA may proceed with funding the undertaking assuming concurrence. The applicant must comply with the NHPA conditions set forth in this EA, which are included in Section 7. Copies of the responses are attached in Appendix D.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

Under Alternative 3, FEMA has determined that there will be “No Effect” to historic properties. SHPO concurrence with this determination was received, dated October 11, 2017. Consultation with affected tribes (Alabama-Coushatta Tribe of Texas, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Mississippi Band of Choctaw Indians, Muscogee Creek Nation, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Tunica-Biloxi Tribe of Louisiana) was conducted per FEMA’s Programmatic Agreement dated December 21, 2016 (PA). The Choctaw Nation of Oklahoma submitted written concurrence with the determination. The remaining Tribes did not respond within the regulatory timeframes; therefore, in accordance with Stipulation II.C.4 of the PA and 36 CFR part 800.5(c)1, FEMA may proceed with funding the undertaking assuming concurrence. The applicant must comply with the NHPA conditions set forth in this EA, which are included in Section 7. Copies of the responses are attached in Appendix D.

4.6 Socioeconomic Resources

4.6.1 Environmental Justice

4.6.1.1 Regulatory

E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed on 11 February 1994 (U.S. President, 1994). This E.O. directs federal agencies to make achieving environmental justice part of their missions by identifying and
addressing, as appropriate, disproportionately high adverse human health, environmental, economic, and social impacts of their programs, policies, and activities on minority and/or low-income populations.

4.6.1.2 Existing Conditions

Information obtained from the U.S. Census Bureau (USDOC 2010), compiled and extrapolated by the USEPA and presented on its Enforcement and Compliance History website, indicates that the population within a three (3)-mile radius of the proposed project site in zip code 70124 is composed of 4.5% African-American, 90.4% White, and 5.1% other groups. Of these households, 13.6% have incomes less than $25,000 per year, with approximately 6.9% of individuals existing below the poverty level. For the 5-year dataset 2008-2012, the U.S. Census Bureau’s American Community Survey (USDOC 2012) estimated median household income over the preceding 12 months for New Orleans (Orleans Parish) at $36,964 (in 2012 inflation-adjusted dollars).

4.6.1.3 Environmental Consequences

In compliance with E.O. 12898, the following key questions were addressed with regard to potential Environmental Justice concerns:

- Is there an impact caused by the proposed action? No
- Is the impact adverse? No
- Is the impact disproportionate? No
- Has an action been undertaken without considerable input by the affected low-income and/or minority community? No

Alternative 1 – No Action

The “No Action” alternative would not involve the implementation of a federal program, policy, or activity. Under this alternative, the current situation would be maintained. There would be no new construction at the MYH. The harbor would remain in its existing deteriorated condition and likely would further deteriorate with the passage of time of exposure to the elements.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

There would be no disproportionately high adverse impacts on low-income or minority populations with this alternative. It would provide the benefits of an improved recreational facility for the local community.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

There would be no disproportionately high adverse impacts on low-income or minority populations with this alternative. It would provide the benefits of an improved recreational facility for the local community.

4.6.2 Hazardous Material

4.6.2.1 Regulatory Setting

The management of hazardous materials is regulated under various federal and state environmental and transportation laws and regulations, including but not limited to the Resource Conservation
and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Toxic Substances Control Act (TSCA); the Emergency Planning and Community Right-to-Know provisions of the Superfund Amendments and Reauthorization Act (SARA); the Hazardous Materials Transportation Act; and the Louisiana Voluntary Investigation and Remedial Action statute. The purpose of the regulatory requirements set forth under these laws is to ensure the protection of human health and the environment through proper management (identification, use, storage, treatment, transport, and disposal) of these regulated materials. Some of the laws provide for the investigation and cleanup of sites already contaminated by releases of hazardous materials, wastes, or substances.

The TSCA (codified at 15 U.S.C. § 53), authorizes the USEPA to protect the public from “unreasonable risk of injury to health or the environment” by regulating the introduction, manufacture, importation, sale, use, and disposal of specific new or already existing chemicals. “New Chemicals” are defined as “any chemical substance which is not included in the chemical substance list compiled and published under [TSCA] § 8(b).” Existing chemicals include any chemical currently listed under § 8(b), including polychlorinated biphenyls (PCBs), asbestos, radon, lead-based paint, chlorofluorocarbons, dioxin, and hexavalent chromium.

TSCA Subchapter I, “Control of Toxic Substances” (§§ 2601-2629), regulates the disposal of PCB-containing products, sets limits for PCB levels present within the environment, and authorizes the remediation of sites contaminated with PCBs. Subchapter II, “Asbestos Hazard Emergency Response” (§§ 2641-2656), authorizes the USEPA to impose requirements for asbestos abatement in schools and requires accreditation of those who inspect asbestos-containing materials. Subchapter IV, “Lead Exposure Reduction” (§§ 2681-2692), requires the USEPA to identify sources of lead contamination in the environment, to regulate the amounts of lead allowed in products, and to establish state programs that monitor and reduce lead exposure.

4.6.2.2 Existing Conditions

USEPA and LDEQ database searches for the proposed project site revealed that there are no known hazardous waste or leaking underground storage tank sites located on or in close proximity to the proposed project site. No sites of concern were found on or within one-half (½) mile of the proposed project area during a review of LDEQ’s Voluntary Remediation Program/Brownfields Initiative database, as well as its Electronic Document Management System (EDMS) database for other hazardous waste management and disposal, solid waste disposal, enforcement, or related activities. There are no recorded active oil or gas wells within one (1) mile of the project area. The search of the EPA’s NEPAssist online search site revealed there are five (5) wastewater dischargers located along South Roadway Drive. None of these sites would have any impact on the proposed site.

A search of the LDEQ EDMS revealed that the LDEQ has records for MYH project site itself under Agency Interest (AI) number 104674 (LDEQ 2016a, 2016c; USEPA 2016c, 2016d). These records range by date from 1992 to 2011. Pertinent documents include a 1992 document entitled “An Evaluation of Sediment/Pollutants Report; Characteristics in the New Orleans Municipal Yacht Harbor”, a 1993 Dredging Permit for Soil Disposal, a 2007 Sonar scanner Survey, and a 2011 Incident Report. Results of the 1992 report indicated that, of all the parameters tested for, only zinc and the non-discriminate parameter oil and grease were found to exceed any regulatory thresholds. Zinc levels were low; however, the sediment oil and grease levels were found to be well above regulatory threshold. The 2011 incident involved a complaint about “abandoned
drums/containers” and involved the discharge of diesel fuel from a sunken fire rescue boat. According to the LDEQ report, less than one (1) gallon of diesel was released. The sunken vessel was raised for repairs. The LDEQ also has records for the Southern Yacht Club, located at 105 N. Roadway Street. These records pertain to asbestos removal in the building.

On 17 July 2017, FEMA personnel were informed by a resident of one of the boathouses that during the previous week, herbicides were sprayed on some of the vegetation along the breakwater and in Breakwater Park. The resident reported that herbicide had a foul odor and was concerned that the material may have leached into Lake Pontchartrain during subsequent rain storms. FEMA observed extensive areas of dead vegetation in the area, see Appendix A, photographs 23 through 31. Based on review of EDMS records, the LDEQ received a complaint about this incident and the fact the maintenance crews were not picking up litter prior to cutting the grass. The LDEQ accessed the site on 19 July 2017 and spoke with Mr. Taylor J. Casey of the MYHMC. The LDEQ determined that the herbicide used to kill the vegetation was Reward Landscape & Aquatic Herbicide, which is EPA approved, according to the MYHMC. The LDEQ observed litter and black fence material remnants in the Breakwater area and reviewed MYHMC maintenance records. No areas of concern were established at the time of the LDEQ visit. The LDEQ record of this incident and their response, including a Fact Sheet for the Reward herbicide, may be viewed here: http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10722684&ob=yes&child=yes. A copy of the incident record is included in Appendix B.

4.6.2.3 Environmental Consequences

Alternative 1 – No Action

The “No Action” alternative would not disturb any hazardous materials or create any additional hazards to human health.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

The database search findings indicate that no hazardous materials, wastes, or substances, including contaminated soil or groundwater, appear to be present within the proposed project area. Any hazardous constituents unexpectedly encountered at the site during construction operations would require that appropriate measures for the proper assessment, remediation, and management of the contamination be initiated in accordance with applicable federal, state, and local rules and regulations. In a reply dated 14 September 2017 to FEMA’s 20 July 2017 SOV for this project, LDEQ stated that it did not object to the project as proposed, but provided a number of general comments, which have been incorporated into Section 7.0 of this DEA, as warranted.

Project activities may involve the use of hazardous materials (e.g., petroleum products, cement, caustics, acids, solvents, paints, electronic components, pesticides/herbicides and fertilizers, and/or treated timber) and may result in the generation of small amounts of hazardous wastes. BMPs must be followed; appropriate measures to prevent, minimize, and control spills of hazardous materials taken; and any generated hazardous or non-hazardous wastes disposed of in accordance with applicable federal, state, and local requirements.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

The database search findings indicate that no hazardous materials, wastes, or substances, including contaminated soil or groundwater, appear to be present within the proposed project area. Any
hazardous constituents unexpectedly encountered at the site during construction operations would require that appropriate measures for the proper assessment, remediation, and management of the contamination be initiated in accordance with applicable federal, state, and local rules and regulations. In a reply dated 14 September 2017 to FEMA’s 20 July 2017 SOV for this project, LDEQ stated that it did not object to the project as proposed, but provided a number of general comments, which have been incorporated into Section 7.0 of this DEA, as warranted.

Project activities may involve the use of hazardous materials (e.g., petroleum products, cement, caustics, acids, solvents, paints, electronic components, pesticides/herbicides and fertilizers, and/or treated timber) and may result in the generation of small amounts of hazardous wastes. BMPs must be followed; appropriate measures to prevent, minimize, and control spills of hazardous materials taken; and any generated hazardous or non-hazardous wastes disposed of in accordance with applicable federal, state, and local requirements. According to plans dated 12 May 2017, the waste oil disposal area is to be co-located with a 20 foot by 20 foot dumpster at the proposed west yacht harbor entrance.

4.6.3 Noise

4.6.3.1 Regulatory Setting

Noise is commonly defined as unwanted or unwelcome sound and most commonly measured in decibels (dBA) on the A-weighted scale (i.e., the scale most similar to the range of sounds that the human ear can hear). The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. Sound is federally regulated by the Noise Control Act of 1972, which charges the USEPA with preparing guidelines for acceptable ambient noise levels. USEPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dBA DNL are “normally unacceptable” for noise-sensitive land uses including residences, schools, or hospitals (USEPA 1974). The Noise Control Act, however, only charges implementation of noise standards to those federal agencies that operate noise-producing facilities or equipment.

The City of New Orleans Noise Ordinance (§ 66) places restrictions on any source of sound exceeding the maximum permissible sound level based on the time of day and the zoning district within which the sound is emitted. A number of exemptions exist for certain types of activities, however. In accordance with Noise Ordinance § 66-138, “[n]oises from construction and demolition activities for which a building permit has been issued by the department of safety and permits are exempt from” maximum permissible sound level restrictions “between the hours of 7:00 a.m. and 11:00 p.m., except in those areas zoned as RS, RD, or RM residential districts. Construction and/or demolition activities shall not begin before 7:00 a.m. or continue after 6:00 p.m. in areas zoned as RS, RD, or RM residential districts, or within 300 feet of such residential districts. Mufflers on construction equipment shall be maintained” (CNO 2015b). “RS,” “RD,” and “RM” are considered to be types of residential districts.

4.6.3.2 Existing Conditions

The entire site under consideration in this EA is within an area zoned as Suburban Area Yacht Harbor District “OS-N,” or “Neighborhood Open Space” (Figure 19) (CNO 2015a, 2015c). These areas consist of parks and other open space recreational areas, including Lake Pontchartrain. The areas adjacent to proposed project site are zoned as Neighborhood Open Space “S-LM”, Suburban
Area Yacht harbor District “S-LP,” which allows for mixed maritime uses of all types, including light industrial and residential, although hazardous industries have certain restrictions. The CNO Property Viewer does not provide ownership information for the open water where the proposed project activities would take place.

Figure 19 – City of New Orleans zoning map (OS-N=Neighborhood Open Space, S-LM=Suburban Lake Area Yacht Harbor District) (CNO 2017)

4.6.3.3 Environmental Consequences

Alternative 1 – No Action

Under the “No Action” alternative there would be no short- or long-term impacts on noise levels because no construction would occur.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

For the Proposed Action Alternative, construction activities would result in short-term increases in noise during site preparation and restoration. Equipment and machinery utilized on the project during construction would be expected to meet all local, state, and federal noise regulations, as would subsequent use of the area for physical education and athletics. The nearest residences are the boathouses adjacent to the proposed project site to the south and east. Consequently, there would be potential for disturbing nearby neighbors under this Alternative.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

For the Proposed Action Alternative, construction activities would result in short-term increases in noise during site preparation and restoration. Equipment and machinery utilized on the project during construction would be expected to meet all local, state, and federal noise regulations, as would subsequent use of the area for physical education and athletics. The nearest residences are
the boathouses adjacent to the proposed project site to the south and east. Consequently, there would be potential for disturbing nearby neighbors under this Alternative.

4.6.4 Public Health and Safety

4.6.4.1 Background

A considerable number of health and safety laws and regulations exist for a wide variety of activities. An exhaustive review of these various rules is beyond the scope of this DEA; therefore, only those most germane will be examined in this document.

The NEPA process provides an opportunity to improve safety for new and improved yacht harbor projects. The process should:

- Include a safety analysis commensurate with the complexity of the project as part of the review process;
- Utilize the best available safety data specific to the project location in the review process;
- Involve safety analysis using the best available information and tools;
- Promote dialogue with the general public and key stakeholders about the safety aspects of the project;
- Address potential safety issues associated with construction; and
- Incorporate innovative educational and enforcement techniques to address issues.

Safety considerations can arise in many stages of the NEPA process. Safety concerns are a significant part of the impetus for the yacht harbor project under review (the project purpose and need). The existing storm damaged yacht harbor operates at a reduced capacity and efficiency. Damaged pier infrastructure presents safety concerns due to the potential of rotted timber to collapse or cause trips and falls. Damaged pump out systems increase adverse impacts to public health through direct contact with contaminated water. Adequate water supply pressure is critical to the functioning of the existing fire hydrant system. Insufficient fire hydrant pressure during a disaster response would impede firefighting and exacerbate the disaster conditions.

Workers who operate construction vehicles or heavy equipment risk injury due to overturn, electrocution, collision, or being caught in running equipment. Construction workers, regardless of their assigned task, often work in conditions of low lighting, low visibility, and inclement weather, and may work in congested areas, with exposure to high traffic volume and speed. Open trenches present fall and engulfment hazards to site workers and pedestrian traffic. Furthermore, pedestrians and bicyclists must negotiate adjacent roads and sidewalks during construction and require special consideration during safety planning and decision-making.

Construction activities frequently involve the use of hazardous materials such as fuels, oils, solvents, cleaners, and degreasers. Additional safety concerns include, among other things, the use of torches for cutting and welding, sanding and abrading activities, and open excavations. Workers may be exposed to environmental contamination beneath roadways when roadways are impacted by historical construction, land use, or waste management practices. Unanticipated conditions could exist whereby workers could be exposed to hazardous substances, such as from an underground storage tank leak. Furthermore, workers exposed to human waste or sewage are at increased risk from disease.
4.6.4.2 Existing Conditions

At the present time, the project site is breakwater that separates Lake Pontchartrain and the land comprised of Breakwater Park and Breakwater Drive. Several safety hazards were observed, primarily consisting of haphazardly arranged pieces of rock and concrete that present an uneven surface with voids between the pieces of rock and concrete.

4.6.4.3 Environmental Consequences

Alternative 1 – No Action

Under the “No Action” alternative there would be no new project and the existing site conditions would remain. Any unknown health or safety concerns would remain to be discovered.

Alternative 2 – Repair of the Yacht Harbor Breakwater in its Original Configuration

Under this alternative, the MYH breakwater would be restored to its original configuration with new, but similar materials. Overall the completion of this alternative will increase public health and safety by repairing the damaged infrastructure of the breakwater. The replacements would result in beneficial impacts to human health and a safer yacht harbor area.

The repairs and replacements would be built in accordance with applicable and relevant building codes and standards. The project would be completed in compliance with federal, state, and local rules and regulations for safety and health, and will thereby, mitigate safety risks. Best management practices would be required to be incorporated into all work practices during construction to minimize risk and improve safety.

Alternative 3 – Reconfiguration of the Yacht Harbor Breakwater with Improvements (Preferred Action)

Under the proposed alternative, the MYH breakwater would be repaired and improved by installation of additional height of riprap and adding a concrete slurry grout to interlock riprap some locations to shield the west side of the parking lot from wave action. The interlocking concrete surfacing will protect asphalt surfacing from breaking waves and dissipate wave energy and heights, to provide advanced protection for the asphalt roadway and residential structures.

Overall the completion of this alternative will increase public health and safety by repairing the damaged infrastructure of the MYH breakwater. The replacements would result in beneficial impacts to human health and a safer yacht harbor area.

The repairs, improvements, and replacements would be built in accordance with applicable and relevant building codes and standards. The project would be completed in compliance with federal, state, and local rules and regulations for safety and health, and will thereby, mitigate safety risks. Best management practices would be required to be incorporated into all work practices during construction to minimize risk and improve safety.
5.0 CUMULATIVE IMPACTS

CEQ regulations state that the cumulative impact of a project represents the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR § 1508.7).

In its comprehensive guidance on cumulative impacts analysis under NEPA, CEQ notes that “the range of actions that must be considered includes not only the project proposal, but all connected and similar actions that could contribute to cumulative impacts” (Regulations for Implementing the Procedural Provisions of the NEPA 2005). The term, “similar actions,” may be defined as “reasonably foreseeable or proposed agency actions [having] similarities that provide a basis for evaluating the environmental consequences together, such as common timing or geography” (40 CFR § 1508.25[a][3]).

Not all potential issues identified during cumulative impacts scoping need be included in an EA. Because some impacts may be irrelevant or inconsequential to decisions about the proposed action and alternatives, the focus of the cumulative impacts analysis should be narrowed to important issues of national, regional, or local significance. To assist agencies in this narrowing process, CEQ (2007) provides a list of several basic questions to be considered, including: (1) Is the proposed action one of several similar past, present, or future actions in the same geographic area?; (2) Do other activities (governmental or private) in the region have environmental impacts similar to those of the proposed action?; (3) Have any recent or ongoing NEPA analyses of similar or nearby actions identified important adverse or beneficial cumulative effect issues?; and (4) Has the impact been historically significant, such that the importance of the resource is defined by past loss, past gain, or investments to restore resources?

It is normally insufficient when conducting a cumulative impacts analysis to merely analyze impacts within the immediate area of the proposed action. Geographic boundaries should be expanded for cumulative impacts analysis and conducted on the scale of human communities, landscapes, watersheds, or airsheds. Temporal frames should be extended to encompass additional impacts on the resources, ecosystems, and human communities of concern. A useful concept in determining appropriate geographic boundaries for a cumulative impacts analysis is the project impact zone, that is, the area (and resources within that area) that could be affected by the proposed action. The area appropriate for analysis of cumulative impacts will, in most instances, be a larger geographic area occupied by resources outside of the project impact zone (CEQ 2007).

In accordance with NEPA, and to the extent reasonable and practical, this EA considered the combined impacts of the proposed project to be undertaken by FEMA, as well as actions by other public and private entities, which affect the environmental resources the proposed action also would affect, and occur within the considered geographic area and temporal frame(s). Specifically, a range of past, present, and reasonably foreseeable future actions undertaken by FEMA within the designated geographic boundary area were reviewed: (1) for similarities such as scope of work, common timing and geography; (2) to determine environmental impacts similar to those of the proposed action, if any; and (3) to identify the potential for cumulative impacts. As part of the cumulative impacts analysis, FEMA also reviewed known past, present, and reasonably foreseeable future projects of federal agencies and other parties identified within the designated geographic boundary. These reviews were performed in order to assess the impacts of proposed,
completed, and ongoing activities and to determine whether the incremental impact of the current proposed action, when combined with the impacts of other past, present, and reasonably foreseeable future projects, are cumulatively considerable or significant.

FEMA has determined the boundary of a one mile radius from the approximate center of the proposed work area constitutes an appropriate project impact zone for this cumulative impacts analysis. The one mile radius study area includes portions of the 70126, 70122 and 70117 zip codes. Table 3 and Figure 20 focus on FEMA-funded project sites that meet two specific criteria within the study area: (1) project sites with obligated funding above FEMA’s 2005 “small projects” threshold of $55,000 and (2) reviews for all project categories that were cleared with an Environmental Assessment (EA).

Using the above criteria, FEMA-funded undertakings for the study area total 130 project sites. The sites represent less than 1% of over 10,000 FEMA program-funded projects that have occurred, are occurring, or are reasonably foreseen to occur to from August 2005 through September 2016 within Orleans Parish.

![Figure 20 - Map of FEMA-funded Projects within One Mile Radius Study Area (FEMA).](image)

After the devastation of the 2005 hurricane season, the USACE, Mississippi Valley Division, New Orleans District was tasked with the planning, design, and construction of a 350-mile system of levees, floodwalls, surge barriers, and pump stations to “increase public safety and enable the physical and economic recovery of the area to occur through the reduction of storm damage risk to residences, businesses, and other infrastructure from hurricanes (100-year storm events) and
other high-water events within the Greater New Orleans Metropolitan Area.” Referred to as the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS), it is one of the largest civil works projects ever undertaken, at an estimated cost of $14 billion (DoA 2013a). Major drainage features associated with this infrastructure project within Orleans Parish include the Mississippi River (Waterbody ID# LA070301) and the Industrial Canal (Waterbody ID# LA041501). Except during major river flooding events, these watercourses serve to remove excess water from the local area more efficiently, providing a positive cumulative benefit to residents and businesses.

Table 1 below lists and briefly describes known present, past, and reasonably foreseeable infrastructure and recovery improvement projects, including activities identified by FEMA that may have the potential for cumulative impacts when combined with the impacts of the present proposed action. The table also identifies the potential for cumulative impacts when combined with the impacts of the proposed action and the rationale for that assessment.

**Table 1. Projects that May Have the Potential to Contribute to Cumulative Impacts**

<table>
<thead>
<tr>
<th>Project Name/Status</th>
<th>Lead Agency or Firm</th>
<th>Location</th>
<th>Description</th>
<th>Cumulative Impact</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of New Orleans Municipal Yacht Harbor Reconfiguration/Reconstruction</td>
<td>City of New Orleans</td>
<td>Municipal Yacht Harbor, New Orleans</td>
<td>Reconstruction and reconfiguration of the existing piers of the New Orleans Municipal Yacht Harbor. Project includes installation of an engineered floating dock system, dredging of the harbor with disposal of dredge materials at Breakwater Park.</td>
<td>Less than significant</td>
<td>FONSI for this project signed on 30 October 2017. Impacts of this project when combined with those of the proposed action will not result in significant cumulative impacts.</td>
</tr>
<tr>
<td>City of New Orleans City-Wide Road Repairs</td>
<td>City of New Orleans Department of Public Works</td>
<td>New Orleans City-Wide</td>
<td>Repairs, replacements, and improvements to roads and components damaged as a result of Hurricane Katrina. Elements include upgrades to current codes and standards including mitigation measures to reduce the risk of future damages in the next flood.</td>
<td>Less than significant</td>
<td>Impacts of this project when combined with those of the proposed action will not result in significant cumulative impacts.</td>
</tr>
<tr>
<td>Project Name/Status</td>
<td>Lead Agency or Firm</td>
<td>Location</td>
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<td>Cumulative Impact</td>
<td>Rationale</td>
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<tr>
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</tr>
<tr>
<td>Comprehensive Environmental Document, Phase I Study for HSDRRS</td>
<td>USACE</td>
<td>217 miles of post-Katrina HSDRRS work located within the Greater New Orleans Metropolitan Area; the area within Lake Pontchartrain and West Bank and vicinity.</td>
<td>Evaluates the cumulative impacts associated with the implementation of the HSDRRS; describes cumulative impacts of HSDRRS construction completed as of July 2011; and incorporates information from Individual Environmental Reports (IERs) and supplemental IERs completed as of 15 November 2010</td>
<td>Less than significant</td>
<td>Adversely affected resources for the HSDRRS project (regional soils, habitat supporting wildlife, wetlands and jurisdictional bottomland hardwood resources) are significantly different from those in the currently proposed action. Through mitigation and compensation measures, the overall socioeconomic benefits are expected to outweigh the unavoidable natural resources impacts and, thus, would not impact the proposed action.</td>
</tr>
<tr>
<td>Hurricane Storm Damage Risk Reduction System</td>
<td>USACE</td>
<td>New Orleans Regional Metropolitan Area</td>
<td>Complete re-engineering the levee system in New Orleans and surrounding areas in order to withstand impacts from a “100 year storm,” or a storm that has a 1% chance of occurring each year.</td>
<td>Less than significant</td>
<td>Impacts from this project reduce overall impacts in the areas levee protected from the base flood including the site of the proposed action.</td>
</tr>
<tr>
<td>New Orleans East Streetscape</td>
<td>HUD</td>
<td>Eastern New Orleans</td>
<td>Addition of sidewalks, street lights, trees, a bike lane, and trash receptacles</td>
<td>Less than significant</td>
<td>Restoration and improvement to existing infrastructure</td>
</tr>
<tr>
<td>New Orleans Rail Gateway</td>
<td>Federal Railroad Administration</td>
<td>Rail corridors citywide</td>
<td>Environmental Impact Statement currently in preparation for upgrades to the city’s rail system (LaDOTD 2014)</td>
<td>Less than significant</td>
<td>Although the New Orleans Public Belt Railroad (NOPBR) is adjacent to the proposed cruise terminal, close coordination will occur with the railroad to minimize traffic disruption.</td>
</tr>
<tr>
<td>Project Name/Status</td>
<td>Lead Agency or Firm</td>
<td>Location</td>
<td>Description</td>
<td>Cumulative Impact</td>
<td>Rationale</td>
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<tr>
<td>New Orleans Sewer and Water Board Water Supply and Sanitary Sewer System-Wide Repairs</td>
<td>Sewer and Water Board of New Orleans</td>
<td>New Orleans City-Wide</td>
<td>Repairs and improvements to water and sanitary sewer system components damaged as a result of Hurricane Katrina. Elements include upgrades to current codes and standards including mitigation measures to reduce the risk of future damages in the next flood.</td>
<td>Less than significant</td>
<td>Project is conditioned to comply with minimum NFIP floodplain development regulations as adopted by the local community and will thereby reduce risk and increase protection from future damage.</td>
</tr>
<tr>
<td>Recovery School District Single Settlement Request</td>
<td>Recovery School District</td>
<td>New Orleans City Wide</td>
<td>Refurbishment, repair, reconstruction, and new construction for restoration of the school system</td>
<td>Less than significant</td>
<td>Project is conditioned to comply with minimum NFIP floodplain development regulations as adopted by the local community and will thereby reduce risk and increase protection from future damage.</td>
</tr>
<tr>
<td>Response to Hurricanes Katrina and Rita</td>
<td>USACE</td>
<td>Orleans, St. Bernard, Jefferson, Plaquemines, St. Mary’s, Terrebonne, and Lafourche Parishes</td>
<td>Evaluates emergency actions to dewater New Orleans Metropolitan Area; rehabilitate federally authorized levees, and restore non-federal levees and pump stations (Orleans, St. Bernard, Jefferson and Plaquemines Parishes); and flood prevention operations (St. Mary, Terrebonne, and Lafourche Parishes)</td>
<td>No effect</td>
<td>Adverse impacts to resources (wetlands) required compensatory mitigation and are significantly different from those in the currently proposed action; no similar resources associated with proposed action; no impact on proposed action</td>
</tr>
<tr>
<td>SWBNO Pump Stations</td>
<td>USACE</td>
<td>Throughout Orleans Parish</td>
<td>Pump station elevation</td>
<td>Negligible</td>
<td>Restoration and improvements to existing infrastructure; no impact on proposed action</td>
</tr>
</tbody>
</table>
As identified in Table 1, the cumulative effect of these present, past, and reasonably foreseeable future actions is not anticipated to result in a significant impact to any resource. Each of the projects either aims to restore or improve the function of pre-existing infrastructure within an urban setting or proposes redevelopment consistent with current zoning requirements, with minimal impacts to the natural and human environment.
6.0 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

The Proposed Redevelopment of the Municipal Yacht Harbor was presented by the City of New Orleans' Capital Projects Administration and Moffatt and Nichol at the 15 November 2016 MYHMC Board Meeting, along with initial construction diagrams, (dated 7 November 2016), with dimensions of the existing and proposed marina fairways. Although this meeting was held primarily to discuss the MYH project, the Municipal Yacht Harbor Breakwater project, which is evaluated in this EA, was mentioned. The public was invited to comment on the proposed project. The project team accepted comments from the public in December. On 13 January 2017, the public comments and the responses were published on the MYHMC website. The MYHMC sent emails to boathouse owners, slip tenants, and the agenda distribution list informing them of the posting of this information on the website. A copy of these public comments and the project team responses, along with then-current project construction drawings is attached to this EA in Appendix B. Interested members of the public may also view these comments and responses and learn more about the proposed MYH project at the MYHMC web site at: http://www.nomunicipalharbor.com/site.php?pageID=304&newsID=21.

The public is invited to comment on the proposed action described this EA. A legal notice will be published on Wednesday, May 30, 2018; Friday, June 1, 2018; and Sunday, June 3, 2018 in the Times-Picayune, the journal of record for Orleans Parish, as well as in The Advocate – New Orleans Edition on Wednesday, May 30, 2018; Thursday, May 31, 2018; and Friday, June 1, 2018. Additionally, the Draft Environmental Assessment will be available for review at the New Orleans Main Public Library, 219 Loyola Avenue, New Orleans, Louisiana 70112 (hours of operation are 10:00 a.m. to 6:00 p.m., Mondays-Thursdays, 10:00 a.m. to 5:00 p.m. Fridays and Saturdays, and 1:00 p.m. to 5:00 p.m. on Sundays). Further, there will be a 30-day comment period, beginning on Wednesday, May 30, 2018, and concluding on June 29, 2018 at 4:00 p.m. The document also has been published on FEMA’s websites. A copy of the Public Notice is attached in Appendix G.

The state and federal agencies consulted were:

- Louisiana Department of Environmental Quality
- Louisiana Department of Natural Resources
- Louisiana Department of Wildlife and Fisheries
- Louisiana State Historic Preservation Office
- National Marine Fisheries Service
- Natural Resources Conservation Service
- Tribal Historic Preservation Office and/or cultural offices
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
7.0 CONDITIONS AND MITIGATION MEASURES

Construction of the proposed improvements at the proposed location was analyzed based on the studies, consultations, and reviews undertaken as reported in this DEA. The findings of this DEA conclude that no significant adverse impacts to geology, groundwater, floodplains, public health and safety, hazardous materials, socioeconomic resources, environmental justice, or cultural resources are anticipated from the proposed action at the proposed site under the Proposed Action Alternative.

During project construction, short-term impacts to soils, surface water, air quality, and noise are anticipated and conditions have been incorporated to mitigate and minimize the impacts. Project short-term adverse impacts would be mitigated using BMPs, including silt fences, proper vehicle and equipment maintenance, and appropriate signage. No long-term adverse impacts are anticipated from the proposed project. Therefore, FEMA finds the proposed action meets the requirements for a Finding of No Significant Impacts (FONSI) under NEPA and the preparation of an EIS will not be required. The FONSI for this EA is attached in Appendix G.

Based upon the studies, reviews, and consultations undertaken in this DEA, several conditions must be met and mitigation measures taken by CNO prior to and during project implementation:

- The Sub-Recipient must follow all applicable local, state, and federal laws, regulations, and requirements and obtain and comply with all required permits and approvals prior to initiating work.

- Project construction would involve the use of potentially hazardous materials (e.g., petroleum products, including but not limited to gasoline, diesel, brake and hydraulic fluid, cement, caustics, acids, solvents, paint, electronic components, pesticides, herbicides, fertilizers, and/or treated timber) and may result in the generation of small volumes of hazardous wastes. Appropriate measures to prevent, minimize, and control spills of hazardous materials must be taken and generated hazardous or non-hazardous wastes are required to be disposed in accordance with applicable federal, state, and local regulations.

- The Sub-Recipient shall comply with all special conditions of the LDNR CUP No. P20141006 (Extended, Revised), dated 6 February 2017, in order to meet the guidelines of the Coastal Resources Program.

- The Sub-Recipient must comply with all special conditions included in USACE Section 404 Permit MVN 2014-2120-EII, dated 25 January 2017.

- Prior to commencing work, the Sub-Recipient must obtain approvals from state and local agencies as required by law and by terms of the USACE Section 404 permit. These approvals include, but are not limited to a permit, consistency determination, or determination of “no direct or significant impact (NDSI) on coastal waters” from the LDNR OCM.

- If the project results in a discharge to waters of the state, a Louisiana Pollutant Discharge Elimination System (LPDES) permit may be required in accordance with the Clean Water Act and the Louisiana Clean Water Code. If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater. In order to minimize indirect impacts (erosion, sedimentation, dust, and other construction-related disturbances) to nearby waters of the U.S. and surrounding drainage areas, the contractor must ensure compliance with.
all local, state, and federal requirements related to sediment control, disposal of solid waste, control and containment of spills, and discharge of surface runoff and stormwater from the site. All documentation pertaining to these activities and Sub-Recipient compliance with any conditions should be forwarded to LA GOHSEP and FEMA for inclusion in the permanent project files.

- If Rap material is barged in, barges will be lightly loaded to achieve a draft depth which matches water depth of the site. It is possible that Rap material may even be truck hauled and placed from the shoreline; this will not be known actual bids are received. It is anticipated that an 1100 Horse Power push boat will be utilized, with a fully loaded draft depth of 6 feet. At no time will project equipment be allowed with draft depths that are greater than water depths located at the project site.

- The Sub-Recipient is required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. All coordination pertaining to these activities and Sub-Recipient compliance with any conditions should be documented and copies forwarded to the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (LA GOHSEP) and FEMA for inclusion in the permanent project files.

- Unusable equipment, debris, and material shall be disposed of in an approved manner and location. The Sub-Recipient must handle, manage, and dispose of petroleum products, hazardous materials, and/or toxic waste in accordance with all local, state, and federal agency requirements. All coordination pertaining to these activities should be documented and copies forwarded to the state and FEMA as part of the permanent project files.

- Should any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents be encountered during execution of the project, notification to LDEQ’s Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Appropriate measures for the proper assessment, remediation, management, and disposal of the contamination must be initiated in accordance with applicable federal, state, and local regulations. The contractor is required to take appropriate actions to prevent, minimize, and control the spill of hazardous materials at the proposed site. Additionally, precautions must be taken to protect workers from these hazardous constituents.

- All waste is to be transported by an entity maintaining a current “waste hauler permit” specifically for the waste being transported, as required by Louisiana Department of Transportation and Development and other regulations.

- Contractor and/or sub-contractors must properly handle, package, transport and dispose of hazardous materials and/or waste in accordance with all local, state, and federal regulations, laws, and ordinances, including all Occupational Safety and Health Administration worker exposure regulations covered within 29 C.F.R. Parts 1910 and 1926.

- The Sub-Recipient is required to coordinate with the Orleans Levee District for any required permits, clearances, or authorizations.

- If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the discharge.
• All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permits Division at (225) 219-9371 to determine if your proposed project requires a permit.

• If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit is required. An application or Notice of Intent will be required if the sludge management practice includes preparing biosolids for land application or preparing sewage sludge to be hauled to a landfill. Additional information may be obtained on the LDEQ website at http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx or by contacting the LDEQ Water Permits Division at (225) 219-9371.

• All precautions should be observed to protect the groundwater of the region.

• The Louisiana Natural Heritage Program (LNHP) requests that if at any time, Heritage tracked species are encountered within the project area, the Sub-Recipient contact the LNHP Data Manager at 225-765-2643.

• Louisiana Unmarked Human Burial Sites Preservation Act: If human bone or unmarked grave(s) are present within the project area, compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) is required. The Sub-Recipient shall notify the law enforcement agency of the jurisdiction where the remains are located within twenty-four (24) hours of the discovery. The Sub-Recipient shall also notify FEMA and the Louisiana Division of Archaeology at 225-342-8170 within seventy-two (72) hours of the discovery.

• Inadvertent Discovery Clause: If during the course of work, archaeological artifacts (prehistoric or historic) are discovered, the Sub-Recipient shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The Sub-Recipient shall inform their Public Assistance (PA) contacts at FEMA, who will in turn contact FEMA Historic Preservation (HP) staff. The Sub-Recipient will not proceed with work until FEMA HP completes consultation with the SHPO, and others as appropriate.

The following conservation measures for Atlantic (Gulf) sturgeon must be employed by construction personnel as a requirement of FEMA funding:

• All personnel related to the construction project will receive worker awareness training on the Atlantic (Gulf) sturgeon. This training will include at a minimum: the laws protecting the sturgeon (Endangered Species Act of 1973) as a federally threatened species, a definition of “take” as it applies to the Endangered Species Act § 3.19, the fines and possible imprisonment for take of a sturgeon, and images of the sturgeon as it is likely to be seen in Lake Pontchartrain. All personnel must sign a worker awareness training sign-in sheet as a record of their attendance and training received. Any new workers that did not receive the initial training will need to be trained before working in or near construction areas.

• A spill prevention and emergency response plan (SPERP) will be required for all construction contractor groups. The SPERP will need to identify at a minimum: emergency contact numbers for local, state, and federal environmental and public health agencies; material safety data sheets (MSDS) for all hazardous substances; hazardous materials inventory; spill prevention plan; spill response plan/emergency response plan; spill response equipment (e.g., absorbent pads, disposal containers); and reporting requirements.
• Sediment control features (Best Management Procedures [BMPs]) will be implemented on land to limit sediment delivery to the MYH and Lake Pontchartrain. Sediment control features will be required around all dredged material, unclean gravel, sand, and/or soil stockpiles. These features may include, but would not be limited to: sediment (silt) fences, straw wattles (fiber rolls), straw bales, sandbag barriers, plastic sheeting, storm drain inlet protection, and street sweeping/vacuuming. As with any stormwater control methods, the implementation of the appropriate controls will be dictated by the type and amount of sediment being controlled and the forecasted environmental conditions. Monitoring of sediment control features will be required prior to and during rain events to ensure control features are installed correctly and are functioning properly.

• In-water silt barriers (turbidity curtains) will be utilized within the MYH basin for all aspects of the project, including pile/pier removal and installation, bulkhead replacement, debris removal, and dredging. Silt barriers will need to be installed in a manner that contains the dislodged bottom sediments within the immediate work area.

• Barge decks that receive removed piles, debris, or dredged material will be fitted with containment basins made of plastic sheeting draped over straw bale sidewalls. Disposal of all debris and the containment basin(s) will conform to local, state, and federal laws and standards.

• Erosion control will be necessary for any ground disturbing activities (e.g., bulkhead replacement work or ground disturbed by heavy equipment). The choice of erosion control measure to be employed will be based on the type and duration of disturbance. For example, areas disturbed due to heavy equipment may receive mulch or hydromulch to control sediment runoff, as needed.

• Any floating debris will be trapped by the silt barrier and removed from the water.

• In-water work will only be conducted when waters are calm enough to allow for the efficacy of the silt barrier system.

• Preserved wood used for the replacement bulkhead, pier piles, and attachments must meet Environmental Protection Agency standards for in-saltwater (or brackish water) applications.

• In-water work and all BMPs identified above may be subject to additional stipulations based on permitting requirements by the U.S. Army Corps of Engineer under § 10 of the Rivers and Harbors Act of 1899 and § 404 of the Clean Water Act and the LDNR under the CUP No. P20170562, dated 7 September 2017.

The following conservation measures for West Indian manatee must be employed by construction personnel as a requirement for FEMA funding:

• All personnel related to the construction project will receive worker awareness training on the West Indian manatee. This training will include at a minimum: the laws protecting the West Indian manatee (Marine Mammal Protection Act of 1972 and Endangered Species Act of 1973) as a federally endangered species, a definition of “take” as it applies to the Endangered Species Act, the fines and possible imprisonment for take of a West Indian manatee, images of the West Indian manatee as it is likely to be seen in Lake Pontchartrain, vessel work area restrictions and special operating conditions, monitoring requirements, procedures to follow if a manatee is sighted within 100 yards of the active work zone, and who to call and who will call if a manatee is sighted. All personnel must sign a worker awareness training sign-in sheet.
as a record of their attendance and training received. Any new workers that did not receive the initial training will need to be trained before working in or near construction areas.

- Informational signs will be posted at visible locations in any construction area where in-water work occurs, including all project-related vessels. The signs will have an image of a manatee as it is likely to be seen in Lake Pontchartrain, the federal listing status of the manatee, possible punishment for take of a manatee, and phone numbers to immediately call in the event a manatee is seen: USFWS’s Lafayette Field Office, (337) 291-3100, and the Louisiana Department of Wildlife and Fisheries’ Natural Heritage Program, (225) 765-2800. These informational signs will be weather-proofed (laminated) and large enough so that they can be read from a distance of 20 feet. Signs will be posted prior to and for the duration of the construction project.

- One person per construction site will be made responsible by their crew lead (if not the lead personally) to call the phone numbers stated above in the event a manatee is sighted.

- All construction personnel will be responsible for monitoring water-related activities for the presence of manatees as part of their regular duties.

- The following are special conditions that will be followed in the event a manatee is sighted within 100 yards of the project area:
  - All construction personnel will have “Stop Work” authority if they see a manatee within 50 feet of a construction activity, including moving vessels.
  - All vessels will operate at no-wake/idle speeds within 100 yards of the work area.
  - In-water sediment barriers or siltation barriers will need to be re-secured and monitored.
  - Work will only resume without restriction when a previously sighted manatee is greater than 100 yards away from the project area.


- In-water work and all BMPs identified above may be subject to additional stipulations based on permitting requirements by the U.S. Army Corps of Engineers under § 10 of the Rivers and Harbors Act of 1899 and § 404 of the Clean Water Act and the LDNR under the CUP No. P20170562, dated 15 November 2017.

The following conservation measures for the Loggerhead, Green, and Kemp’s ridley sea turtles must be employed by construction personnel as a requirement for FEMA funding:

- All personnel related to the construction project will receive worker awareness training on the Loggerhead, Green, and Kemp’s ridley sea turtles. This training will include at a minimum: the laws protecting the Loggerhead sea turtle (Endangered Species Act of 1973) as a federally threatened species, a definition of “take” as it applies to the Endangered Species Act, the fines and possible imprisonment for take of sea turtles, images of the Loggerhead, Green, and Kemp’s ridley sea turtles as they are likely to be seen in Lake Pontchartrain, vessel work area restrictions and special operating conditions, monitoring requirements, procedures to follow if a manatee is sighted within 100 yards of the active work zone, and who to call and who will call if a manatee is sighted. All personnel must sign a worker awareness training sign-in sheet.
as a record of their attendance and training received. Any new workers that did not receive the initial training will need to be trained before working in or near construction areas.

- Informational signs will be posted at visible locations in any construction area where in-water work occurs, including all project-related vessels. The signs will have an image of a Loggerhead, Green, and Kemp’s ridley as they are likely to be seen in Lake Pontchartrain, the federal listing status of the three sea turtle species, possible punishment for take of a manatee, and phone numbers to immediately call in the event a sea turtle is seen: USFWS’s Lafayette Field Office, (337) 291-3100, and the Louisiana Department of Wildlife and Fisheries’ Natural Heritage Program, (225) 765-2800. These informational signs will be weather-proofed (laminated) and large enough so that they can be read from a distance of 20 feet. Signs will be posted prior to and for the duration of the construction project.

- One person per construction site will be made responsible by their crew lead (if not the lead personally) to call the phone numbers stated above in the event a loggerhead (or other sea turtle) is sighted.

- All construction personnel will be responsible for monitoring water-related activities for the presence of loggerheads as part of their regular duties.

- The following are special conditions that will be followed in the event a sea turtle is sighted within 100 yards of the project area:
  - All construction personnel will have “Stop Work” authority if they see a sea turtle within 50 feet of a construction activity, including moving vessels.
  - All vessels will operate at no-wake/idle speeds within 100 yards of the work area.
  - In-water sediment barriers or siltation barriers will need to be re-secured and monitored.
  - Work will only resume without restriction when a previously sighted sea turtle is greater than 100 yards away from the project area.

- In-water work and all BMPs identified above may be subject to additional stipulations based on permitting requirements by the U.S. Army Corps of Engineers under § 10 of the Rivers and Harbors Act of 1899 and § 404 of the Clean Water Act and the LDNR under the CUP No. P20170562, dated 15 November 2017.

- These following protected species construction conditions from the NMFS must be adhered to by the permittee:
  - The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles. All construction personnel are responsible for observing water-related activities for the presence of these species.
  - The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles, which are protected under the Endangered Species Act of 1973.
  - Siltation barriers shall be made of material in which a sea turtle cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service’s Protected Resources Division, St. Petersburg, Florida.
- All vessels associated with the construction project shall operate at “no wake/idle” speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- If a sea turtle is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle. Operation of any mechanical construction equipment shall cease immediately if a sea turtle is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- Any collision with and/or injury to a sea turtle shall be reported immediately to the National Marine Fisheries Service’s Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.
8.0 LIST OF PREPARERS

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9.0 REFERENCES

9.1 Literature Cited


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9.2 Federal and State Laws


