

Draft Environmental Assessment

Gretna 25th Street Canal and Heebe Canal Improvements

Flood Mitigation Assistance (FMA) Proposal

Jefferson Parish/City of Gretna, Louisiana

FMA-PJ-06-LA-2018-014

November 2023



FEMA

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Region 6
Department of Homeland Security
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Acronyms

APE	Area of Potential Effect
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CUP	Coastal Use Permit
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEQ	Louisiana Department of Environmental Quality
DOA	Division of Archaeology, Louisiana
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMA	Flood Mitigation Assistance
FONSI	Finding of No Significant Impact
FHWA	Federal Highway Administration
GHG	Greenhouse Gas
GOHSEP	Louisiana Governor's Office of Homeland Security and Emergency Preparedness
H&H	Hydrologic and Hydraulic
IPaC	Information for Planning and Consultation
LCRP	Louisiana Coastal Resources Program

LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LHRI	Louisiana Historic Resource Inventory
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
NEPA	National Environmental Policy Act
NAAQS	National Ambient Air Quality Standards
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OCM	Louisiana Office of Coastal Management
RGA	Richard Grubb & Associates
SHPO	State Historic Preservation Office
SOV	Solicitation of Views
TMDL	Total Maximum Daily Loads
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

1. Introduction

1.1. Project Authority

Jefferson Parish submitted a Flood Mitigation Assistance (FMA) grant application to the Federal Emergency Management Agency (FEMA), through the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), requesting funding for the Gretna 25th Street Fiscal Year 18 FMA – Community Flood Mitigation Project in Jefferson Parish, Louisiana. The FMA Grant Program is authorized by Section 1366 of the National Flood Insurance Act of 1968 with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

The proposed project would consist of flood risk reduction activities along the Heebe Canal and 25th Street Canal in Jefferson Parish, Louisiana. Flood risk reduction activities would include installing flap gates, improving drainage pipelines, 25th Street Canal improvements (i.e., dredging and reshaping of the canal and reconstructing 25th Street), and constructing a new pump station at the corner of 25th Street and the Heebe Canal. The area that would benefit from the project is the 25th Street Canal drainage basin, which spans from United States (U.S.) Highway 90 to the north, Gretna Boulevard to the south, Belle Chasse Highway (U.S. 23) to the east, and the Heebe Canal to the west (Figure 1-1). The proposed project would reduce flood risk and property damage by addressing backwater flooding from the Heebe Canal and insufficient stormwater capacity within the drainage system.

This draft Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508); the U.S. Department of Homeland Security's Instruction 023-01-001; and FEMA Instruction 108-01-1. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this draft EA is to analyze the potential environmental consequences of the proposed project and alternatives, including a No Action alternative. FEMA will use the findings in this EA to determine whether to prepare an environmental impact statement or to issue a finding of no significant impact (FONSI).

1.2. Background

The 25th Street Canal drainage system is a gravity flow system composed of curb and gutter sewers, drop inlets, catch basins, and underground pipes that outfall directly into the 25th Street Canal, which conveys water to the Heebe Canal. The drainage system was constructed in the 1950s and has had minor upgrades and improvements.

The project area is subject to two sources of flooding: water overtopping the Heebe Canal and insufficient stormwater capacity within the drainage system. During heavy rain events, backflow from Heebe Canal outfall pipes and inadequate drainage infrastructure has resulted in flooding of local roadways, impacting access to residences, fire services, and emergency services. Between 1998 to

2014, four flood events were recorded in the City of Gretna, two of which required the closure of Lafayette Steet (City of Gretna 2018a). Flooding has continued to occur in recent years due to heavy rain events and insufficient stormwater infrastructure (WVUE 2018, Schleifstein 2021).

The project is located in the City of Gretna's Resiliency District, which was established in 2017 to support community-wide flood risk reduction through improvements to the 25th Street Canal and the Gretna City Park (City of Gretna 2022). The proposed project would constitute Stage 2 of planned flood mitigation improvements to the district. Stage 1 included adding 20 acre-feet of detention storage to the Gretna City Park detention ponds and using several green infrastructure treatments to reduce runoff into the drainage system. Further, an objective of the Gretna Comprehensive Plan, adopted in 2018, is to reduce localized flooding and the 25th Street Canal improvements are identified as a strategy to support this objective (City of Gretna 2018b). Improvements constructed and planned under the Gretna Comprehensive Plan are described in more detail in the Cumulative Effects Section (Section 5).



Figure 1-1. 25th Street Canal Drainage Basin

2. Purpose and Need

The FMA Grant program makes federal funds available to states, territories, federally recognized tribes, and local communities for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the NFIP. The study area has been subject to repetitive, significant flood events causing damage to residential and commercial properties. The purpose of the proposed project is to reduce flood risk, protect residential and commercial properties in the study area and reduce the FEMA flood damage claims experienced during and after flood events. The project is needed because there is insufficient stormwater drainage capacity in the 25th Street Canal drainage system. Floodwaters have repeatedly inundated residences and roadways, impacting access to homes and fire and emergency services. The 25th Street Canal drainage basin encompasses one of the highest concentrations in the country of both repetitive loss and severe repetitive loss properties as a result of flooding. Repetitive losses have impacted roughly 300 structures in a dense concentration of properties around 25th Street and the Heebe Canal.

3. Alternatives

NEPA requires federal agencies to consider the effects of a proposed action and any reasonable alternatives on the human and natural environment. Therefore, a key step in the EA process is to identify a range of reasonable alternatives to be studied in detail in the EA. This step is commonly referred to as an alternative development and screening process. The purpose is to identify a range of reasonable alternatives to the proposed action to allow for meaningful subsequent comparison of how these alternatives may affect the human and natural environment. This section describes the No Action alternative, the Proposed Action, and alternatives that were considered but dismissed from further evaluation in this draft EA. Alternatives are evaluated for their ability to address the purpose and need, hazard mitigation goals, engineering constraints, and environmental impacts.

3.1. No Action Alternative

Under the No Action alternative, there would be no FEMA funding for the construction of flood risk reduction features. Under the No Action alternative, it is expected that the proposed flood mitigation work would remain unfunded or be deferred indefinitely. With no change to the 25th Street Canal drainage basin and Heebe Canal, heavy rain events would continue to flood the surrounding residential area, including local roadways, and potentially increase in frequency and magnitude due to climate change. Recurrent flooding would continue to result in damage to property and infrastructure and public health and safety would continue to be at risk. This alternative would not meet the overall purpose and need of the project but will continue to be evaluated throughout this EA and serve as a baseline for comparison.

3.2. Proposed Action

Under the Proposed Action, the Parish proposes to manage and increase available runoff capacity within the Heebe Canal through four components. These components include (1) installation of six flap gates along the Heebe Canal, (2) improve approximately 7,000 feet of drainage pipe and four catch basins, (3) improve the 25th Street Canal by dredging and reshaping the canal and reconstruct 25th Street, and (4) construct a pump station near the intersection of Hero Street and the 25th Street Canal (Figure 3-1). The Proposed Action has been designed to protect up to a 25-year storm and provide more targeted protection against a 100-year storm to more than 105 repetitive loss and severe repetitive loss properties. Extensive site plans are found in Appendix C.

3.2.1. FLAP GATES

The six flap gates would include four 36-inch diameter and two 24-inch diameter gates, and they would be installed on existing outfall pipes that drain directly from the 25th Street Canal basin into the Heebe Canal. They would remain open for gravity drainage except in instances when the Heebe Canal water level rises above the outfall pipes. Closing the flap gates when water levels are raised would minimize backflow from the Heebe Canal. Subsurface runoff would flow directly into the 25th Street Canal where it would be pumped out by the proposed pump station at Hero Street.



Figure 3-1. Project Area

3.2.2. DRAINAGE PIPE AND CATCH BASIN IMPROVEMENTS

Drainage pipes larger than the existing pipes would be installed within City of Gretna rights-of-way to support increased flow capacity and to route water to the 25th Street Canal. In total, 1,354 feet of 15-inch drainage pipe, 5,457 feet of 30-inch drainage pipe, and 304 feet of 36-inch drainage pipe would be installed. Four catch basins would be improved. Drainage pipeline improvements are shown on Figure 3-1 and would occur on:

- The eastern bank of the Heebe Canal from 23rd Street south to Gretna Boulevard,
- The 25th Street Canal from Heebe Canal east to Belle Chasse Highway,
- 23rd Street from Hero Drive to Rose Drive
- Hero Drive from Gretna Boulevard to 23rd Street,
- Claire Avenue from Gretna Boulevard to 23rd Street,
- Rose Drive from Gretna Boulevard to 23rd Street,
- White Boulevard from Gretna Boulevard to 27th Street,
- Lafayette Street from Gretna Boulevard to 25th Street,
- 27th Street from just west of White Boulevard to Lafayette Street.

Drainage pipe and catch basin improvements would require some utility relocations during construction (i.e., gas, water, or sewer lines may need to be moved to accommodate the larger stormwater pipes).

3.2.3. 25TH STREET CANAL DREDGING AND RESHAPING

The 25th Street Canal would be dredged and reshaped to stabilize the canal slopes and expand retention and conveyance capacity. Dredging and reshaping of the 25th Street Canal would occur from the Heebe Canal to Lafayette Street and include the reconstruction of 25th Street. The canal would be dredged to minus 13 feet North American Vertical Datum of 1988 (NAVD88). The depth of dredging would vary between approximately 1 foot to 5 feet from the existing ground surface, with the deepest dredging expected to occur just east of Newton Street. The 25th Street Canal would be replanted with native species. The design of the canal and 25th Street reconstruction would vary depending on the section of the canal:

- Heebe Canal to Hero Drive: a 20-foot wide by 8-foot deep by 140-foot-long concrete lined channel would be installed between Hero Drive and the proposed pump station. The channel would be fenced for public safety.

- Hero Drive to Rose Drive: the canal would be dredged, reshaped to a prismatic section, and stabilized using gabion retaining walls and bioretention area plants. The existing 25th Street (adjacent to the canal) would be reconstructed to include an 11-foot one-way road and 5-foot sidewalk on each side of the canal.
- Rose Drive to Lafayette Street: the canal would be dredged, reshaped to a prismatic section, and stabilized using gabion retaining walls and bioretention area plants. A 5-foot sidewalk would be constructed on the top of the south bank of the canal; a 22-foot two-way road would be reconstructed on the top of the north bank.

3.2.4. PUMP STATION

The proposed pump station would be located near the intersection of Hero Street and the 25th Street Canal (Figure 3-1) to pump water from the 25th Street Canal into Heebe Canal during high water events. It would have three pumps with a pump capacity of 350 cubic feet per second. The pumps would use electric motors and all electrical equipment including controls, panels, and a transformer would be installed in a climate-controlled concrete block building approximately 85 feet by 114 feet in size. A 1000-kilowatt backup generator fueled by natural gas would be installed as a source of power in case of outages. The natural gas would be piped in from off-site. The maximum depth of ground disturbance for pump station installation would be 30 feet.

To conduct the in-water work in the 25th Street Canal and to construct the pump station, a temporary bypass channel would be installed along the southern side of the 25th Street Canal to the Heebe Canal. Turbidity curtains and a temporary sheet pile wall would be installed within the 25th Street Canal at the confluence with the Heebe Canal for dewatering during the 25th Street Canal reconstruction and construction of the pump station. Sheet piles would be installed from the northeastern bank of the Heebe Canal using a vibratory hammer. Vibratory monitoring would occur during installation to ensure vibratory readings do not exceed a peak particle velocity of 0.25 inches per second (in/sec). Should the amplitude readings surpass a peak particle velocity of 0.5 in/sec, construction operations would stop, and the intensity of the hammer would be reduced and/or a smaller hammer would be employed. In-water work for installation is not expected; however, if in-water work is required, work would occur from a small flat boat, or a crane supported platform.

All work, including access and staging areas, would occur within City of Gretna rights-of-way. Staging areas would be located adjacent to the Heebe Canal at Hero Drive and along the 25th Street Canal from Long Avenue to just east of Newton Street. Existing roadways would provide access to the project site and staging locations. Work is anticipated to be done on land; if water access is required, a small float boat or a crane supported platform would be used. Fill material would be sourced locally (e.g., from Bonnet Carre Spillway and sand pits of Mississippi River Batture in Jefferson Parish) and excess dredged material would be disposed of in a licensed or permitted disposal locations at the discretion of the construction contractor. Trenching for pipeline upgrades would occur on either side of the existing paved streets so road repair patching would be minimal.

3.3. Alternative Considered but Dismissed

The City of Gretna evaluated a second alternative that would elevate 300 structures within the benefit area so that the lowest floor would be at least 2 feet above the base flood elevation. This alternative would require construction on poor soils and would reduce risk to individual properties at a higher expense per property than the Proposed Action. This alternative was dismissed from further consideration because it was determined to not be cost effective and it would not contribute to substantive community-wide flood reduction that would meet the purpose and need for the project.

4. Affected Environment, Potential Impacts, and Mitigation

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts, and the significance of potential impacts is evaluated qualitatively based on the criteria listed in Table 4.1 (below). The study area generally includes the project area and access and staging areas needed for the proposed action. If the study area for a particular resource category is different from the project area, the differences will be described in the appropriate subsection.

Table 4.1. Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1. Resources Not Affected and Not Considered Further

The following resources shown in Table 4.2 below would not be affected by either the No Action alternative or the Proposed Action because they do not exist in the project area, or the alternatives would have no effect on the resource. These resources have been dismissed from further consideration in this EA.

Table 4.2. Resources Eliminated from Further Consideration

Resource Topic	Reason for Elimination
Geology and Bedrock	The project benefit area is located on unconsolidated and undifferentiated geology (U.S. Geological Survey [USGS] 2023a). There would be no impact on geology and bedrock from any of the alternatives.
Farmland Protection Policy Act (FPPA)	The project is in an urban area, as defined by the U.S. Census Bureau. Therefore, the FPPA is not applicable.
Wild and Scenic Rivers Act	According to the National and Wild and Scenic Rivers website (National Wild and Scenic Rivers 2023), the closest wild and scenic river, the Black Creek River, is approximately 96 miles northeast of the project area. Thus, the alternatives would have no effect on wild and scenic rivers.
Sole Source Aquifers	According to the U.S. Environmental Protection Agency's (EPA) sole source aquifer map (EPA 2023a), there are no sole source aquifers designated in Jefferson Parish; therefore, the alternatives would have no effect on sole source aquifers.
Coastal Barrier Resources Act	According to the Coastal Barrier Resources System Mapper (U.S. Fish and Wildlife Service, 2023a), the closest system unit is approximately 40 miles from the project area. Therefore, the alternatives would have no effect on coastal barrier act resources.
Bald and Golden Eagle Protection Act	Although Bald eagles are known to occur regionally, individuals are not expected to occur within the project area because of a lack of prey resources and suitable nesting or perching sites. Similarly, Golden eagles are not expected to occur within the project area because of a lack of suitable resting or foraging habitat. Therefore, neither alternative would affect resources protected under the Bald and Golden Eagle Protection Act.
Magnuson-Stevens Fishery Conservation and Management Act	The project area does not include waters designated as essential fish habitat. Additionally, the Proposed Action would not impact waters downstream of the project area that constitute essential fish habitat. Therefore, neither the No Action alternative nor the Proposed Action would adversely affect resources protected under the Magnuson-Stevens Fishery Conservation and Management Act.
Visual Quality and Aesthetics	The project benefit area is not located within an area of particular scenic value; there are no scenic districts, byways, or historic districts that would be impacted by any of the alternatives. The alternatives would have no effect on visual resources.

4.2. Soils and Topography

The project benefit area is within the Mississippi Alluvial Plain ecoregion, which is characterized by poorly drained soils (USGS 2023b). Soils are composed entirely of clay — 83 percent Harahan clay and 17 percent Schriever clay — and have been previously disturbed for construction of urban

structures such as houses and roadways (Figure 4-1) (US Department of Agriculture [USDA] 2023). The topography of the area is generally flat with zero to one percent slopes and is at or below sea level (USGS 2023b, USDA 2023).

4.2.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no earth moving activities would occur that would impact soils and topography. Therefore, there would be no short-term impact on soils and topography. Continued flooding could result in the mobilization of soils in floodwaters and potentially result in areas of erosion and sedimentation; however, the developed nature of the project benefit area would minimize this potential impact. Therefore, there would be a negligible long-term reoccurring impact on soils from floodwaters. There would be no short- or long-term impact on topography.

4.2.2. PROPOSED ACTION

Under the Proposed Action, ground disturbance would occur during construction activities. Construction-related ground disturbance would be temporary and localized to the project area. Best management practices (BMPs) to avoid and minimize soil mobilization would be used, in accordance with required water resources permits (see Section 4.5). Therefore, there would be a negligible short-term impact on soils during construction activities. In the long term, the reduced risk of flooding would reduce the potential for floodwater to erode and mobilize soils in the benefit area. The 25th Street Canal channel improvements would include bioretention plantings, gabion retaining walls, and installation of washed stone to stabilize soils reducing erosion potential in the project area. Therefore, there would be a negligible to minor long-term beneficial effect on soil retention and a reduction of sedimentation.

Construction would include dredging and excavation resulting in the reshaping of the 25th Street Canal. Topographic changes would be permanent but would be localized along the 25th Street Canal. Therefore, there would be a minor short- and long-term impact on topography resulting from dredging and excavation.

Legend

- Drainage Pipe Improvements
- 25th Street Canal Improvements and Roadway Reconstruction
- Staging Areas
- Pump Station
- Project Benefit Area

Soil Type

- Harahan clay, 0 to 1 percent slopes
- Schriever clay, 0 to 1 percent slopes, rarely flooded

Soil Types within Project Area

25th Street
Resilient Infrastructure Project
Gretna, LA

4.3. Air Quality

The Clean Air Act, as amended, requires EPA to establish National Ambient Air Quality Standards (NAAQS) for six pollutants harmful to human and environmental health, including ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter (EPA 2016a). Federally funded actions in nonattainment and maintenance areas for these pollutants are subject to conformity regulations (40 CFR Parts 51 and 93) to ensure that emissions of air pollutants from planned federally funded activities would not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. Fugitive dust, which is considered a component of PM, also can affect air quality. Fugitive dust is released into the air by wind or human activities, such as construction, and can have human and environmental health impacts.

According to the EPA's Green Book (accessed April 30, 2023), Jefferson Parish is currently in attainment for all criteria pollutants.

4.3.1. NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no construction-related short-term impact on air quality within the project benefit area nor would there be any creation of permanent sources of air emissions. However, continued flooding could result in flood-related damage to structures and property in the project benefit area that would require repairs and generate emissions from construction equipment. Flooding could also cause temporary road closures or detours, which could increase vehicle emissions if travel lengths increase due to the detours. Therefore, there would be a recurring minor long-term impact on air quality from increased vehicle emissions associated with road closures, detours, and flood-related repairs.

4.3.2. PROPOSED ACTION

Under the Proposed Action, the use of construction equipment and vehicles would result in temporary air pollutant emissions. Emissions and dust generated from construction equipment have the potential to temporarily impact air quality near the project site. Construction-related air quality impacts would be localized and temporary and all construction equipment would be required to meet current EPA emissions standards (EPA 2016a). Thus, FEMA anticipates that air emissions would not increase to the extent that a general conformity analysis would be required. Therefore, there would be a negligible short-term impact on air quality as a result of construction activities.

In the long term, the pump station would be powered using electric equipment and therefore, would not cause localized emissions. In the case of a power outage, a gas-fueled generator would be used to power the pump station, which would result in temporary reoccurring air emissions from a new source. The reoccurring, short-term emissions from the new generator would not increase emissions in the area. Therefore, there would be a negligible, reoccurring, long-term impact on air quality from the use of the proposed gas-fueled generator.

In the long term, the risk of flooding and associated emissions from roadway detours, closures, and flood-related repairs would be reduced. Therefore, there would be a minor long-term beneficial effect from the reduced risk of flooding and associated emissions for repair activities.

4.4. Climate Change

Climate change refers to changes in the Earth's climate caused by a general warming of the atmosphere. Its primary cause is emissions of greenhouse gases, including carbon dioxide and methane. Climate change can affect species distribution, temperature fluctuations, and weather patterns. The CEQ's *Final NEPA Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change in National Environmental Policy Act Reviews* recommends that agencies quantify the projected direct and indirect greenhouse gas (GHG) emissions from an agency's proposed action, taking into account available data and GHG quantification tools that are suitable for the proposed action. Agencies may use projected GHG emissions (to include, where applicable, carbon sequestration implications associated with the proposed action) as a proxy for assessing potential climate change effects when preparing a NEPA. Where agencies do not quantify projected GHG emissions because tools, methodologies, or data inputs are not reasonably available to support calculations for a quantitative analysis, agencies may include a qualitative analysis in the NEPA document and explain the basis for determining that quantification is not reasonably available (CEQ 2021).

Climate change in Louisiana is expected to result in increased rainfall, with more rain arriving during any given rain event (EPA 2016b). Since 1958, the amount of precipitation falling during rainstorms in the southeast U.S. has increased by 27 percent (EPA 2016b). Increased precipitation during a given storm increases the risk of flooding, particularly in low-lying areas such as Jefferson Parish, which rely on levees and pump systems to remove rainwater.

4.4.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no flood reduction construction activities would occur that could increase greenhouse gas emissions. Therefore, there would be no short-term impact on climate change. In the long term, the risk of flooding would not be reduced and increased precipitation could worsen flooding conditions. The greater frequency or extent of flooding could increase damage to property from floodwaters, which may require flood-related repairs that use equipment and vehicles that emit greenhouse gases. Depending on the increased extent of flood damage due to climate change, abandonment of homes, businesses, or infrastructure may occur if flood repairs become cost prohibitive. Therefore, there could be a minor impact on climate change from the emissions associated with flood-related repairs and a minor to moderate impact on people and property due to impacts from climate-change-related abandonment.

4.4.2. PROPOSED ACTION

Under the Proposed Action, construction activities would result in an increase in greenhouse gas emissions from the use of gas and diesel-powered equipment and vehicles. However, these

emissions would be minimal and temporary, as described in Section 4.3. Given the global scale of climate change and the localized nature of the Proposed Action, emissions associated with construction activities are not expected to have larger climate impacts. Therefore, there would be a negligible short-term impact on climate change from greenhouse gas emissions associated with construction activities.

In the long term, no direct reduction of greenhouse gas emissions would occur. However, the Proposed Action would reduce the risk of flooding in the project benefit area and associated emissions from flood-related repairs. Use of the backup generator at the pump station during power outages would result in greenhouse gas emissions from the use of natural gas as fuel. However, emissions from the backup generator would be temporary and localized. There would also be a decrease in repair work that would reduce periodic emissions from the equipment. Therefore, there would be a negligible long-term impact on climate change due to the use of natural gas to fuel the pump station but would be offset by the reduced repair-related emissions.

Although the Proposed Action would increase the stormwater conveyance capacity within the project benefit area, the proposed design does not account for the increased severity of flooding due to climate change. The system could become overwhelmed from potential increases in the depth and duration of flooding. However, there would be a minor long-term beneficial effect from the indirect reduction of greenhouse gas emissions associated with flood-related repairs, and a minor long-term beneficial effect on people and property from the reduced risk of flooding.

4.5. Surface Waters and Water Quality

The Clean Water Act (CWA) of 1972, as amended, regulates the discharge of pollutants into water with sections falling under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and EPA. Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into waters of the United States. Under Section 402 of the CWA, the Louisiana Department of Environmental Quality (LDEQ) regulates both point and nonpoint pollutant sources including stormwater and stormwater runoff, via the National Pollutant Discharge Elimination System (NPDES) permitting system. Jefferson Parish has obtained an NPDES permit (Permit No. LAS000201) and developed a stormwater management plan to control the discharge of pollutants in the stormwater drainage basin. The Jefferson Parish NPDES permit, stormwater management plan, and associated BMPs are applicable to all stormwater runoff in the parish.

CWA Section 303(d) requires states to identify waters that do not or are not expected to meet applicable water quality standards with current pollution control technologies alone. Under Section 303(d), states must develop Total Maximum Daily Loads (TMDLs) for impaired waterbodies. A TMDL establishes the maximum amount of a pollutant or contaminant allowed in a water body and serves as a planning tool for restoring water quality. The Louisiana Integrated Report contains a list of waters requiring a TMDL, which is also known as the 303(d) list or Category 5 waters. The 25th Street Canal and the Heebe Canal are not waters assessed under Section 303(d); however, they are part of a larger system of connected canals that are assessed. The Intracoastal Waterway, south of the project benefit area, from Bayou Villars to the Mississippi River Canal, is included on the 303(d) list

as impaired water requiring a TMDL (LDEQ 2022). The category of impairment is enterococcus with an unknown point source (LDEQ 2022). It is assumed that Heebe Canal and 25th Street Canal may also have impaired water quality because they convey water to the Intercoastal Waterway.

4.5.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no construction activities would occur within or near waterways. Therefore, there would be no short-term impact on surface waters and water quality. In the long term, floodwaters could inundate roads, houses, and hazardous waste sites located within the project benefit area (see Section 4.14). Receding floodwaters could transport contaminants such as oils, household chemicals, or hazardous materials into the Heebe Canal, 25th Street Canal, or larger canal system in the project vicinity. Therefore, there would be a negligible to minor long-term impact on surface waters and water quality, depending on the frequency and extent of flooding.

4.5.2. PROPOSED ACTION

Construction activities associated with the Proposed Action would have the potential to impact water quality in the short-term due to ground disturbance and excavation. The most common pollutant to surface waters from construction is sediment and turbidity (EPA 2009). Under the Proposed Action, construction activities would occur along the bank of the Heebe Canal and excavation could occur within the 25th Street Canal. The 25th Street Canal would be temporarily dewatered and bypassed; turbidity curtains would be used to minimize the risk of water quality impacts and sedimentation during construction. Construction on the banks of the Heebe Canal would occur on land to the extent feasible to avoid equipment use within water. If equipment is used within water, a small flat boat or crane on a support platform would be used to avoid alterations to water flow and turbidity.

Construction activities would be temporary and short in duration, and the City of Gretna would use BMPs in accordance with the Jefferson Parish NPDES permit and stormwater pollution prevention plan. The use of BMPs would prevent pollutants and debris from entering stormwater runoff, and thus, the larger system of canals. The Proposed Action is also expected to require a Nationwide Permit authorization in accordance with Section 404 of the CWA because the proposed work in Heebe Canal and 25th Street Canal is expected to be under the jurisdiction of USACE. The Nationwide Permit may require additional BMPs. Therefore, with the implementation of BMPs and all permit conditions, there would be a minor short-term impact on surface waters and water quality during construction.

In the long term, use of the pump station would not increase turbidity or other pollutants in the Heebe Canal and would comply with the Jefferson Parish NPDES permit for the discharge of stormwater. The pump station would reduce the risk of flooding, which in turn would reduce the risk of flood-related soil disturbance or the risk that receding floodwaters would transport sediments into surface waters (see Section 4.2). Reduced flooding would also mitigate the risk that floodwaters inundating roads, houses, or hazardous waste sites would convey contaminants into the larger system of canals. Therefore, the pump station would provide a minor long-term beneficial effect on surface waters and water quality from the reduced risk of flooding.

4.6. Wetlands

Executive Order (EO) 11990, Protection of Wetlands requires federal agencies to consider alternatives to work in wetlands and limits potential impacts on wetlands if there are no practicable alternatives. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. Activities that disturb wetlands may also require a permit from USACE under Section 404 of the CWA. The Louisiana Office of Coastal Management (OCM) regulates activities that occur in wetlands when those activities would have a significant impact on coastal resources or coastal waters.

According to the National Wetlands Inventory, accessed on May 19, 2023, the project area is not located within wetlands and the project benefit area does not contain wetlands. The National Wetlands Inventory identifies freshwater forested and shrub wetlands adjacent to and west of the project benefit area; however, except for a narrow fringe along Heebe Canal, these wetlands were filled and developed between 1998 and 2003.

4.6.1. NO ACTION ALTERNATIVE

Under the No Action alternative, construction would not occur within or adjacent to wetlands that could disturb vegetation or pose the risk of contaminants spilling or leaking from construction equipment into wetlands. Therefore, there would be no short-term impact on wetlands. In the long term, the risk of flooding would not be reduced. The small area of wetlands remaining immediately adjacent to the project benefit area would continue to be inundated during flood events. Floodwaters would unlikely impact wetland species because they are adapted to withstand temporary inundation. Floodwaters could carry contaminants and pollutants from the project area into these wetlands and could adversely impact wetland species (see Section 4.14). Therefore, there could be a negligible impact on wetlands depending on the frequency and extent of flooding.

4.6.2. PROPOSED ACTION

Under the Proposed Action, construction would occur on the opposite side of Heebe Canal from remnant wetlands and no disruption or removal of wetland area would occur. The use of construction equipment in good condition and other BMPs and implementation of conditions specified in the NPDES stormwater pollution prevention plan and the CWA permit, would reduce the potential for contaminants or pollutants to impact nearby wetlands. Therefore, there would be a negligible short-term impact on wetlands during construction. In the long term, the reduced risk of flooding would reduce the likelihood that floodwaters could carry pollutants into wetlands. Therefore, there would be a negligible long-term beneficial effect on wetlands from the reduced risk of flooding.

4.7. Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, short- and long-term, adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable

alternative. FEMA regulations (44 CFR Part 9.7) use the 1-percent-annual-chance flood as the minimal area for floodplain impact evaluation. FEMA uses an eight-step decision making process to ensure compliance with EO 11988, which requires the evaluation of alternatives to the use of the floodplain prior to funding the action.

The City of Gretna municipal code regulates all development, new construction, and substantial improvements that occur within the floodplain in alignment with the NFIP (Gretna Unified Development Code Article IV, Division 11, Sections 58-279 to 58-289). Per Section 58-287, permits are required for all construction and improvement activities proposed within a floodplain.

Based on FEMA Flood Insurance Rate Map panels 22051C0220F effective February 2, 2018, and 22071C0241F effective September 30, 2016, the project area is in Flood Zone AE, a Special Flood Hazard Area with a 1-percent annual chance of flooding. Base flood elevations in the project area (the surface water elevation resulting from a flood that has a 1-percent chance of equaling or exceeding that level in any given year) have been established. Heebe, 25th Street, and Verret Canals are considered undesignated floodways, which are floodways not designated on a Flood Insurance Rate Map.

4.7.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no construction or alteration of the floodplain would occur. Therefore, there would be no short-term impact on floodplains. In the long term, the project benefit area would remain at risk of flooding, resulting in the potential for damage to homes, businesses, and infrastructure. Therefore, there would be a minor long-term impact on people and property located within the floodplain.

4.7.2. PROPOSED ACTION

During construction, vegetation would be removed and there would be areas of exposed and bare soil, which could cause short-term impacts on the floodplain. As described in Section 4.2 and 4.5, construction activities would use BMPs and comply with the Jefferson Parish stormwater management plan and any CWA permit conditions to minimize impacts on water quality. A small amount of new impervious surface would be added by the 25th Street Canal improvements, 25th Street reconstruction, and pump station construction. Disturbed areas would be stabilized after construction through replanting of vegetation and hardening of channel slopes and bottom (see Section 4.9). Vegetation in the pump station footprint would be permanently removed. Therefore, there would be a minor short-term impact on the floodplain from construction.

In the long term, the Proposed Action would improve floodplain function by increasing water storage capacity, regulating water flows within the project benefit area, and conveying water more efficiently to the Heebe Canal. Native bioretention plantings along the 25th Street Canal improvements would improve the natural value and function of the floodplain by improving aesthetic values, filtering incoming water, and stabilizing soils.

A Hydrologic and Hydraulic study (H&H) for the Proposed Action was conducted for the Proposed Action (Appendix A). It was found that within the general project area 90.6 percent of the properties would have benefits in a 2-year rain event; for the 5-year rain event, 93.7 percent of the properties would have benefits; for the 25-year rain event, 98 percent of the properties would have benefits; and for the 100-year rain event, 99.3 percent of the properties would have benefits. Only 9 properties would have minimal increases, with none greater than 1.56 inches, and no structures in the study area would have an increase in water levels. Table 1 of Appendix A summarizes the benefits and increase ranges for the properties within the general project area. The H&H study found that outside the general project area, 11 properties saw increases in water surface elevations. Outside of the general project area, 11 properties saw an increase with a 2-year rain event; for the 5-year event, 7 properties saw an additional increase; for the 25-year, event 3 properties saw an additional increase, and for the 100-year flood event, 2 properties saw an additional increase (See Table 2 of Appendix A). The greatest level of increase outside the general project area was estimated at 4.64 inches, but this increase would not affect any structures. Per the H&H study, the Proposed Action would not increase water surface elevations by 1-foot or more upstream or downstream of the project area or within the project benefit area. Therefore, there would be a minor long-term beneficial effect from the reduced risk of flooding and associated property damage within the floodplain.

For work identified in an undesignated floodway the Parish must coordinate with the local floodplain administrator and obtain required permits prior to initiating work. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the base floodplain unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

FEMA completed an eight-step checklist for the Proposed Action, which indicated that implementation of this project would have more beneficial than detrimental impacts on floodplains and that there is no practicable alternative to conducting the project within the floodplain. To satisfy step 7 of the 8-step process, Jefferson Parish is required to host a public meeting. This public meeting will discuss the purpose and need for this project, alternatives considered, floodplain impacts, water surface elevation increases, and provide design plans and maps. Jefferson Parish is required to coordinate with the local floodplain manager prior to construction. The eight-step checklist is provided in Appendix B.

4.8. Coastal Resources

The Coastal Zone Management Act (CZMA) is administered by states with coastal shorelines to manage coastal development. The CZMA requires federal actions, within or outside of the coastal zone, to be consistent with the enforceable policies of a state's federally approved coastal management program. To guide development and resource management within the coastal area, the Louisiana Department of Natural Resources, Office of Coastal Management (OCM) has identified and promulgated substantive policies under the Louisiana Coastal Resources Program (LCRP). The program seeks to protect, develop, and where feasible, restore or enhance the coastal zone. The

Louisiana Coastal Use Guidelines further identify methods and BMPs required for projects located in coastal areas (Casetext 2023).

The Louisiana State and Local Coastal Resources Management Act of 1978 further allows coastal parishes to develop local coastal management programs. The Jefferson Parish Coastal Zone Management Program was developed in 1982. The purpose of this local program reflects the state program and seeks to (1) support and encourage multiple uses of coastal resources to provide adequate economic growth and development while maintaining and enhancing renewable resources, (2) enhance the recreational values of the coastal zone, and (3) to develop and implement equitable management of the coastal zone to ensure that local governments have the primary authority for managing coastal resources (Jefferson Parish 1982). The local program identifies additional policies based on geographic management units; the West Bank Management Unit encompasses the project benefit area. Policies for the West Bank Management Unit that are relevant to the project include: 1) directional drilling should be used when appropriate to mitigate environmental impacts; 2) existing canals should be used when appropriate; 3) riprap or vegetation stabilization should be used instead of bulkheading (Jefferson Parish 1982).

Complementing the local program, Jefferson Parish developed a Coastal Strategic Action Plan in 2020. The plan underscores the importance of projects that protect coastal ecosystems, improve recreational opportunities, and reduce the risk of damage from coastal storms and flooding (Jefferson Parish 2020).

The project benefit area is entirely located within the Louisiana coastal zone. There are no natural beaches or barrier islands in the project benefit area or vicinity. The project benefit area is developed, consisting of residences, small businesses, roadways, and canals.

4.8.1. NO ACTION ALTERNATIVE

Under the No Action alternative, construction activity that could conflict with coastal zone policy and management guidelines would not occur within the Louisiana coastal zone. Therefore, there would be no short-term impact on coastal resources. In the long term, the risk of flooding would not be reduced; flood-related damage would continue to occur in the project benefit area; thereby impacting people and property within the coastal zone. Continued flooding would not align with the Louisiana Coastal Resources Program, the Jefferson Parish Coastal Zone Management Program, or the Coastal Strategic Action Plan because the coastal zone would be subject to recurring flood damage. Continued flooding would not support economic growth and development, maintain or enhance renewable resources, support recreational opportunities, or allow for efficient management of coastal resources. Therefore, there would be a minor long-term impact on coastal resources.

4.8.2. PROPOSED ACTION

Under the Proposed Action, construction activities would occur within the coastal zone. The Proposed Action would be consistent with the Louisiana Coastal Resources Program, the Jefferson Parish Coastal Zone Management Program, and the Coastal Strategic Action Plan because it would protect

the coastal zone by reducing the risk of flooding in the project benefit area. Reducing flood hazards would reduce damage to people and property located in the coastal zone, thereby supporting the existing use and management of coastal resources, and economic growth and development, as specified in state and local coastal policy. The Proposed Action would enhance recreational opportunities by constructing sidewalks along the 25th Street Canal in alignment with coastal programs and the strategic action plan. Construction, operation, and maintenance of the Proposed Action would align with the Louisiana Coastal Use Guidelines that are applicable to all coastal uses, and which seek to avoid adverse environmental impacts (such as those associated with flood damage). Adherence to coastal programs and guidelines would result in a negligible short-term impact on coastal resources from construction activities. In the long term, it is anticipated that the Proposed Action would have a minor long-term beneficial effect on coastal resources from the reduced risk of flooding.

FEMA submitted an SOV for a Coastal Use Permit (CUP) determination and the Louisiana Department of Natural Resources (LDNR) confirmed that the SOV was administratively complete on July 17, 2023, and the review by the state for compliance with the LCRP has begun (CUP20230581). Jefferson Parish is required to coordinate with OCM to obtain a CUP for the Proposed Action. Obtaining a CUP would ensure the project aligns with both the state and Jefferson Parish coastal management plans.

4.9. Vegetation

The project area is largely developed, which has removed most native vegetation, and the vegetation present is subject to ongoing disturbance from regular maintenance. Vegetation within the city rights-of-way, where drainage improvements would occur, largely consists of linear strips of regularly maintained turfgrass and scattered ornamental shrubs bordered by landscaped areas associated with adjacent private residences.

Vegetation along the moderately sloped banks of the existing 25th Street Canal, a portion of which falls within the pump station footprint and the remainder of which would be reshaped, comprises a mix of nonnative grasses, cinquefoil (*Potentilla* spp.), and beggarticks (*Bidens* spp.). Vegetation within and along the edges of the existing 25th Street Canal largely consists of nonnative, invasive alligator weed (*Alternanthera philoxeroides*) with scattered patches of native pickerelweed (*Pontederia cordata*) and flatsedge (*Cyperus* spp.).

Vegetation within the upland portions of the pump station footprint is dominated by maintained (i.e., mowed) turfgrass and includes a single pine (*Pinus* sp.) tree and three palmetto (*Sabal* spp.) trees. Vegetation along the gently sloped section of the eastern bank of Heebe Canal that falls within the pump station footprint is similar to the banks of the 25th Street Canal.

EO 13112, Invasive Species, requires federal agencies, to the extent practicable, to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species, such as

alligator weed, prefer disturbed habitats and generally possess high dispersal abilities, enabling them to out-compete native species.

4.9.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no vegetation removal related to construction or canal modifications would occur. Flooding would continue, along with short-term measures to repair damaged areas, which could entail vegetation removal or disturbance. Continued flooding could contribute to the spread of invasive species that can outcompete native vegetation. Therefore, under the No Action alternative, there would be a long-term minor impact on vegetation within the project area.

4.9.2. PROPOSED ACTION

Under the Proposed Action, impacts on vegetation would include tree and vegetation removal within the project footprint, including the pump station, city rights-of-way for the drainage pipe and catch basin improvements, and along the 25th Street Canal. Following construction, the areas along the 25th Street Canal would be replanted with native species for bioretention, and the temporarily disturbed portions of the city rights-of-way would likely naturally revegetate through the establishment of plants growing from the existing soil seed bank or seeds from nearby plants. However, vegetation within the pump station footprint would be permanently removed. The project design plans indicate up to four trees—one pine and three palmetto trees—are within the limits of construction and could be removed. Per Louisiana Administrative Code 1-315 B.6, Jefferson Parish would be required to plant two trees for every tree removed.

The removal of trees and other vegetation would result in short-term minor adverse impacts on vegetation within the project area until naturally and actively revegetated areas become established in approximately one to two years. In the long-term, there would be minor beneficial effects on vegetation from a reduction in the spread of invasive plants during flooding and the establishment of native species along the 25th Street Canal in place of existing invasive species.

4.10. Fish and Wildlife

Fish and wildlife include the species that occupy, breed, forage, rear, rest, hibernate, or migrate through the project area. Regulations relevant to fish and wildlife include the Migratory Bird Treaty Act (MBTA) and the Endangered Species Act (ESA). Fish and wildlife species listed as threatened or endangered and those currently proposed for listing under the ESA are evaluated separately in Section 4.11.

The MBTA of 1918, as amended (16 U.S.C. 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. The U.S. Fish and Wildlife Service (USFWS) is the lead federal agency for implementing the MBTA. All native birds are protected by the MBTA.

The following paragraphs describe the existing terrestrial and aquatic habitats within the project area and the wildlife and fish species that may occupy those habitats.

4.10.1. TERRESTRIAL FAUNA

The project area is composed of highly developed residential areas that are expected to be of minimal value to wildlife and likely only function as marginal foraging or dispersal habitat. Terrestrial wildlife with potential to occur in the project area includes regionally common mammal, reptile, and bird species that are adapted to living in and near developed areas with frequent human disturbance. Common mammal and reptile species include the eastern gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), brown anole (*Anolis sagrei*), green anole (*Anolis carolinensis*), and spotted house gecko (*Hemidactylus parvimaculatus*) (iNaturalist 2023). Additionally, existing habitats within the project area have potential to support a variety of native bird species including the American robin (*Turdus migratorius*), Blue jay (*Cyanocitta cristata*), Common grackle (*Quiscalus quiscula*), Northern cardinal (*Cardinalis cardinalis*), Northern mockingbird (*Mimus polyglottos*), and Red-shouldered hawk (*Buteo lineatus*) (eBird 2023). The nesting season for these species is generally February through July.

4.10.2. AQUATIC FAUNA

Aquatic habitats within or directly adjacent to the project area consist of the approximately 0.5-mile-long 25th Street Canal and the approximately 0.9-mile section of the Heebe Canal that borders the western edge of the project area. Both waterbodies are largely fed by stormwater runoff from surrounding urbanized areas. The 25th Street Canal is narrow, shallow, and lacks habitat complexity (i.e., structural elements such as woody debris, boulders, and rock ledges). Vegetation along the channel banks is of insufficient height to shade the water in the channel. Outside of storm events, water within the 25th Street Canal is generally stagnant. For these reasons, it is likely the 25th Street Canal generally has poor water quality conditions such as high temperatures, low dissolved oxygen, and elevated pollutant concentrations. The Heebe Canal, although wider and deeper than the 25th Street Canal, remains relatively shallow and is similarly characterized by a lack of habitat complexity and riparian shading. Therefore, the Heebe Canal is expected to have similarly degraded water quality. Aquatic species with the potential to occur within or proximate to the project area would be those capable of exploiting shallow-water habitats and tolerating poor water quality conditions. Such species include fishes such as the western mosquitofish (*Gambusia affinis*), bluegill (*Lepomis macrochirus*), common carp (*Cyprinus carpio*), and other aquatic species such as Gulf Coast toad (*Incilius nebulifer*), green treefrog (*Hyla cinerea*), and red-eared slider (*Trachemys scripta* ssp. *elegans*) (iNaturalist 2023).

4.10.3. NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no construction-related impacts on terrestrial or aquatic fauna within the project area, including migratory birds. However, there would likely be periodic construction work associated with flood damage repairs, similar to maintenance activities that would regularly occur in this developed area, which would result in noise and disturbance that may temporarily exclude wildlife from preferred habitats within the project area. Additionally, during repeated flooding events, urban-adapted wildlife with potential to occupy the limited amount of low-quality habitat present within the project area could drown, become displaced, harmed while fleeing

submerged habitats, lose food resources and shelter, and experience increased competition and predation due to temporarily decreased habitat availability. Therefore, under the No Action alternative, repeated flooding would have a long-term minor impact on fish and wildlife within the project area.

4.10.4. PROPOSED ACTION

Under the Proposed Action, there is the potential for direct harm to terrestrial and aquatic species from the use of heavy equipment during construction. Vegetation removal and construction disturbance would cause some extant urban-adapted wildlife to leave the limited amount of low-quality habitat within the project area in search of refuge, which could make them vulnerable to injury, predation, loss of food resources, and subject to increased competition for remaining resources. However, the number of individuals that would be displaced because of project-related disturbance is expected to be relatively small owing to the limited extent and low quality of existing wildlife habitat. Further, such displaced individuals would be able to relocate to similar habitats nearby and would be able to return to portions of the project area that are restored through active and natural revegetation once construction is complete. Reshaping of the 25th Street Canal and pump station construction would require the canal to be dewatered, which would entail installing a temporary sheet pile wall using a vibratory hammer at the canal's confluence with the Heebe Canal and constructing a bypass channel around the dewatered area. The pump station construction would also involve sheet pile wall installation using a vibratory hammer. Underwater sound produced during vibratory pile driving would not reach intensities that would directly harm aquatic species (National Marine Fisheries Service [NMFS] 2022a). However, vibratory pile driving would likely cause extant aquatic wildlife to temporarily flee the area, which would result in increased energy expenditure and an increased likelihood of predation.

Dewatering of the 25th Street Canal could exclude aquatic species from preferred habitat areas or result in injury or mortality of individuals if they are unable to leave the work area before it is dewatered. The bypass channel construction and any in-water work could result in temporarily elevated levels of suspended sediments resulting in increased turbidity and sedimentation in surrounding waters. However, the use of a turbidity curtain and the implementation of all permit-related BMPs and conditions required pursuant to Section 404 of the CWA would minimize the spread of turbid water to surrounding areas. Therefore, effects on aquatic species from increased suspended sediment due to construction work would be minimal.

Although the Proposed Action would result in the permanent loss of approximately 0.3 acres of vegetated habitat within the footprint of the pump station, this 0.3-acre area has been degraded by past and ongoing anthropogenic disturbance. As such, this area provides marginal habitat for terrestrial wildlife; consequently, the Proposed Action would not eliminate any unique or high-quality terrestrial wildlife habitat. Additionally, in the long-term, the Proposed Action would result in decreased habitat disturbance from flooding and increased aquatic habitat quality and quantity through the expansion of the 25th Street Canal and the associated planting of native riparian vegetation for bioretention purposes. For these reasons, construction activities conducted under the

Affected Environment, Potential Impacts, and Mitigation

Proposed Action would have minor, short-term, adverse impacts and minor long-term beneficial effects on fish and wildlife within the project area.

Birds are mobile and can readily fly away from construction noise and disturbance. However, if construction occurs during the migratory bird breeding season (i.e., February through July), related activities could have moderate short-term adverse impacts on bird species protected by the MBTA because vegetation removal could result in nest destruction and loss of eggs and young. In addition, tree removal would have a minor long-term adverse impact on migratory birds by incrementally decreasing nesting habitat availability within the project area. Given the potential for take of migratory birds to occur, the Proposed Action would be subject to the prohibitions of the MBTA, and the Parish would be responsible for obtaining and complying with federal and state laws for the protection of birds before initiating work. With compliance with the MBTA, the Proposed Action would result in a negligible short-term impact on migratory birds.

4.11. Threatened and Endangered Species and Critical Habitat

The ESA of 1973 gives USFWS and NMFS authority for the protection of threatened and endangered species. This protection includes a prohibition on direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat).

The ESA defines the action area as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR 402.02). Therefore, the action area where effects on listed species must be evaluated may be larger than the project area where project activities would occur. The action area for the Proposed Action includes the project footprint where construction would occur and a 400-foot buffer surrounding the project footprint where disturbance from noise, vibration, and human activity would be expected to return to levels consistent with existing conditions.

Based on the USFWS Information for Planning and Consultation tool (IPaC), accessed May 17, 2023, and the NMFS Threatened and Endangered Species List for Louisiana, accessed May 17, 2023, there is one listed species and one proposed species with potential to occur within the action area (NMFS 2022b, USFWS 2023b) (Table 4.3). The likelihood of these species to occur within the action area is briefly discussed below. The action area does not overlap any designated critical habitat.

Table 4.3. Listed and Proposed Species with Potential to Occur in the Action Area

Common Name	Scientific Name	Status
Mammals	-	-
West Indian manatee	<i>Trichechus manatus</i>	Threatened
Reptiles	-	-
Alligator snapping turtle	<i>Macrochelys temminckii</i>	Proposed Threatened

Sources: USFWS 2023b

West Indian Manatee: According to data obtained from the Dauphin Island Sea Lab's Manatee Sighting Network, manatees have not been observed within or near (i.e., within 5 miles) the action area (Dauphin Island Sea Lab 2023). Additionally, based on a review of orthophotography and site photos, waterways within the action area generally appear too shallow to provide manatee passage and do not demonstrate conditions typically preferred by the species (i.e., abundant aquatic vegetation and ready access to deep channels). Moreover, the project area is upstream of flood-control structures, including flood gates, that likely impede or prevent manatees from reaching waters within or near the action area. However, according to spatial data obtained from the USFWS Environmental Conservation Online System, an approximately 0.4-mile-long stretch of the Heebe Canal that falls within the southwestern corner of the action area is within the current range of the species (USFWS 2023c). Therefore, manatees are considered to have some, albeit extremely low, potential to occur within the action area.

Alligator Snapping Turtle: The alligator snapping turtle is generally found in deeper water of large rivers and their major tributaries; however, it is also found in a wide variety of aquatic habitats, including small streams, bayous, and canals (USFWS 2021). Alligator snapping turtles are most often found in areas with in-stream structures such as submerged logs, root wads, and debris; overhanging banks; and adjacent riparian forests. Sandy soils or other dry substrate within 8 to 656 feet of the edge of freshwater sources are needed for nesting. Neither the 25th Street Canal nor the Heebe Canal support these habitat features. Therefore, while it is possible for adult alligator snapping turtles to move through the action area enroute to more desirable habitats or during high-water events, the potential for this species to occur within the action area is considered extremely low.

The Marine Mammal Protection Act (MMPA) establishes a federal responsibility to conserve marine mammals, with management vested in NMFS for cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and sea lions, with the exception of walrus) and USFWS for all other marine mammals (e.g., manatees, sea otters). The MMPA of 1972 prohibits the "take" of any marine mammal within U.S. waters and/or by U.S. citizens on the high seas, as well as the importation of marine mammals and marine mammal products into the U.S. Pursuant to the MMPA, "take" is defined as the act of hunting, killing, capture, and/or harassment of any marine mammal, or the attempt at such. Protections afforded by the MMPA extend to species without listing under the ESA. Exceptions are established for incidental take of small numbers of marine mammals where the take would be limited to harassment. An authorization for incidental take of marine mammals is called an Incidental Harassment Authorization. A single marine mammal species, the West Indian manatee, has potential to occur within the project area. As discussed above, this species has an extremely low potential to occur within the project area. No other marine mammals are expected to occur within the project area.

4.11.1. NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no construction that would affect federally listed or proposed species or species protected under the MMPA. Construction work associated with intermittent flood damage repairs is not expected to impact habitats with the potential to support

listed or proposed species or marine mammals. However, repeated flooding within the project benefit area could result in pollutants being transported from inundated areas to surrounding aquatic habitats that have the potential to support the West Indian manatee and/or alligator snapping turtle. Therefore, the No Action Alternative could have a negligible to minor long-term impact on listed and proposed species and species protected under the MMPA occurring in the vicinity by decreasing water quality due to flooding, depending on the frequency and extent of flooding.

4.11.2. PROPOSED ACTION

As discussed above, West Indian manatees are extremely unlikely to occur within the action area. However, if individuals were to occur within the action area during project implementation, they could be impacted by construction activities. If the use of boats is required for work along the Heebe Canal, there could be the potential for manatee-boat collisions, which could result in manatee injuries or deaths. Additionally, underwater sound from boat operation and in-water construction activities could disrupt manatee communication and behavior by masking or reducing the transmission distance of vocalizations. The Proposed Action would be conducted in accordance with the Standard Manatee Conditions for In-Water Activities (USFWS 2023d). With the implementation of these measures, the Proposed Action would have a negligible to minor short-term impact on the West Indian manatee if they were to occur in the action area. Based on a review of the Proposed Action using the Louisiana Endangered Species Act project review and guidance for other federal trust resources key included in IPaC, the proposed action *may affect, but is not likely to adversely affect* the West Indian manatee. According to the documentation provided by IPaC, no further consultation is required provided that the conditions specified in the key (i.e., implementation of the Standard Manatee Conditions for In-Water Activities) are met (Appendix D). In the long-term, the proposed action would have a negligible impact on the West Indian manatee because the Proposed Action would not appreciably change the quantity or quality of potential habitat for the species within the action area.

As discussed above, the alligator snapping turtle, which is proposed for listing, is considered extremely unlikely to occur within the action area because of the lack of suitable habitat. However, if an individual were to occur within the action area during project implementation, there is potential for direct harm through contact with construction equipment. In addition, noise, vibration, and human activity could cause turtles to move from the area, which would make them vulnerable to injury, predation, loss of food resources, and subject to increased competition for remaining resources. Therefore, the Proposed Action would have a minor short-term adverse impact on the alligator snapping turtle if they were to occur in the action area. Given the extremely low potential for the species to be encountered and affected during construction, the Proposed Action *would not jeopardize the continued existence* of the alligator snapping turtle. Therefore, a conference with USFWS would not be required. In the event that the species becomes listed before the Proposed Action is completed, the Proposed Action *may affect, but is not likely to adversely affect* the species because of its extremely low potential to occur in the action area. In the long-term, the Proposed Action would have a negligible impact on the alligator snapping turtle because the proposed action

would not appreciably change the quantity or quality of potential habitat for the species within the action area.

As discussed above, if marine mammals (i.e., West Indian manatees) were to occur within the project area, they could be impacted by boat operation and underwater sound associated with construction activities. However, the Proposed Action would be conducted in accordance with the Standard Manatee Conditions for In-Water Activities (USFWS 2023c) (Appendix D). Therefore, the Proposed Action would have a negligible to minor short-term impact on marine mammals if they were to occur within the project area. In the long-term, the Proposed Action would have a negligible impact on marine mammals because the Proposed Action would not appreciably change the quantity or quality of potential habitat for marine mammals within the project area.

4.12. Cultural Resources

The National Historic Preservation Act (NHPA) of 1966 is the principal federal policy outlining the role of the federal government in protecting both designated and potentially designated places of historic or cultural significance. In accordance with Section 106 of the NHPA, as amended and implemented by 36 CFR Part 800, federal agencies must consider the effects of a federally funded or assisted project (“an undertaking”) on historic properties prior to engaging in any undertaking.

To fulfill its Section 106 responsibilities, FEMA initiated consultation on this project in accordance with the “Programmatic Agreement Among the Federal Emergency Management Agency, the Louisiana State Historic Preservation Officer, the Governor’s Office of Homeland Security and Emergency Preparedness, and Participating Tribes” executed on December 21, 2016, and amended in 2020 (Statewide Programmatic Agreement).

A *historic property* (or *historic resource*) is defined in the NHPA [54 U.S.C. § 300308] as any “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource,” collectively referred to as cultural resources. Under NHPA [54 U.S.C. § 302706], properties of traditional religious or cultural importance to an Indian tribe may be determined to be eligible for inclusion on the NRHP and federal agencies shall consult with any Indian tribe that attaches religious and cultural significance to a property. Eligibility criteria for listing a property on the National Register of Historic Places (NRHP) are detailed in 36 CFR Part 60.

4.12.1. IDENTIFICATION OF AREA OF POTENTIAL EFFECT

The Section 106 process requires the identification of historic properties that may be affected by the Proposed Action or alternatives within the project’s Area of Potential Effects (APE). Pursuant to 36 CFR 800.4(a)(1), the APE is defined as the geographic area(s) within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. Within the APE, effects on cultural resources are evaluated prior to the undertaking for both standing structures (aboveground resources) and archaeology (belowground resources). The APE for the Proposed Action (the undertaking) includes the footprint of the project limits of

disturbance as well as the viewshed from the proposed pumping station, and is inclusive of both direct (access, staging, ground disturbance) and indirect effects (visual). The APE includes the Heebe Canal between 23rd Street and Gretna Boulevard; the 25th Street Canal from Heebe Canal at Hero Drive to the Belle Chasse Highway; the blocks of Hero Drive, Claire Avenue, and Rose Drive between 23rd Street and Gretna Boulevard; White Boulevard between 27th Street and Gretna Boulevard; and Lafayette Street from 25th Street to Gretna Boulevard (Figure 4-2 below).

4.12.2. EXISTING CONDITIONS – HISTORIC STANDING STRUCTURES AND ARCHAEOLOGICAL SITES

During the week of April 18, 2023, FEMA consulted the Louisiana Office of Cultural Development's Cultural Resources National Register database, the Louisiana Cultural Resources Map, the Louisiana Division of Archaeology (DOA) website, and associated site files, photographs, maps, and FEMA's internal files to identify historic properties. There is one previously identified historic architectural resource within the Undertaking's APE located at 2520 Hero Drive. This house was surveyed in 2021 for a separate Section 106 undertaking and was assigned Louisiana Historic Resources Inventory (LHRI) number 26-02803. The house was assessed as ineligible for the NRHP, and the Louisiana State Historic Preservation Office (SHPO) concurred with that finding. On April 24, 2023, the Louisiana SHPO recommended a baseline historic resources survey of properties over 45 years of age within the portion of the APE that is within the viewshed of the proposed pumping station, to include background research into the Rose Park neighborhood. The purpose of the research and survey was to determine whether any NRHP-eligible properties are located within the portion of the APE that is within the viewshed of the proposed pumping station.

Richard Grubb & Associates, Inc. (RGA) conducted a baseline historic resources survey of the portion of the APE that is within the viewshed of the proposed pumping station on May 18, 2023. RGA recorded 54 resources that are 45 years of age or older with field notes and digital photography from the public right-of-way. RGA completed LHRI forms for each property. None of the individual resources nor the neighborhood were recommended to be NRHP eligible.

The Louisiana DOA's Cultural Resources Map indicated that no archaeological sites have previously been identified within the APE or within 1,000 feet of the APE. Furthermore, the APE is in a developed area that has been disturbed by the construction of houses, roads, and the 25th Street Canal. On April 4, 2023, FEMA contacted the DOA regarding the potential need for an archaeological survey within the APE. On April 18, 2023, the DOA responded that they would not recommend an archaeological survey for this project. While there is a small potential for the presence of archaeological sites, the creation of the canal and the development of the surrounding area would have most likely disturbed any intact archaeological deposits in the APE.

Affected Environment, Potential Impacts, and Mitigation

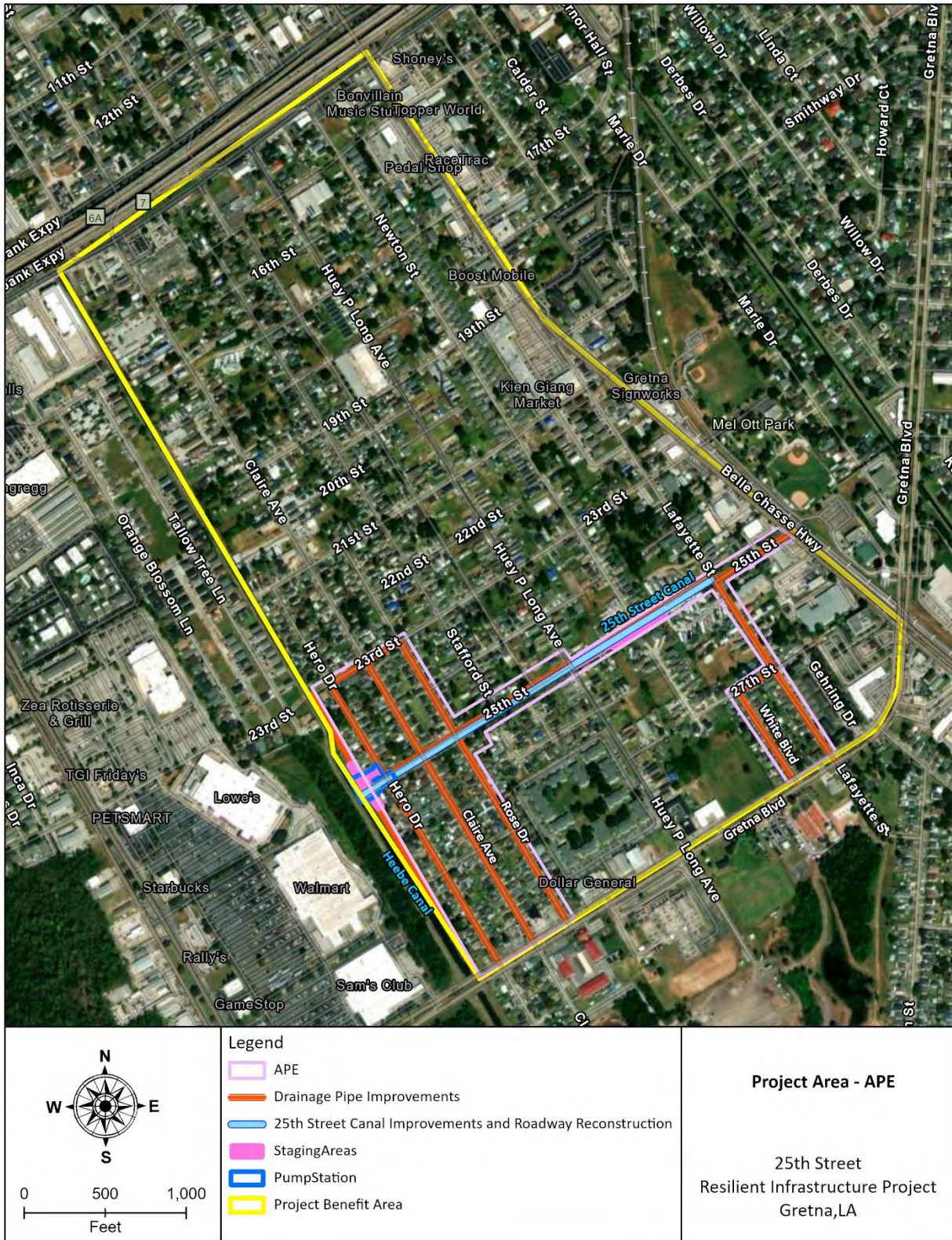


Figure 4-2. APE Map

4.12.3. NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no FEMA funding for the construction of flood risk reduction features along the 25th Street Canal Drainage Basin. With no change to the 25th Street Canal Drainage Basin, flooding within the surrounding residential area, including local roadways, would not be reduced and recurrent flooding would continue to result in damage to property and infrastructure. Because there are no historic properties within the APE, flooding within the project area would not affect cultural resources. However, without the proposed pump station construction and canal upgrades, the project benefit area would continue to flood resulting in repetitive damage to property and infrastructure, which may include above- and below-ground cultural resources. This flooding could cause decreased structural integrity of standing structures and intact archaeological deposits could be exposed if surface soils erode. In addition, the intensity and frequency of storms are increasing and severe rain events that result in flooding are also expected to increase in frequency and intensity, which would lead to more prolonged and damaging floods in the vicinity. Therefore, the No Action alternative would have a minor adverse effect on cultural resources depending on the extent and severity of flooding and the type and nature of the cultural resources in the flood zone.

4.12.4. PROPOSED ACTION

FEMA consulted with the Louisiana SHPO under Section 106 of the NHPA and the "Programmatic Agreement Among the Federal Emergency Management Agency, the Louisiana State Historic Preservation Officer, the Governor's Office of Homeland Security and Emergency Preparedness, and Participating Tribes" executed on December 21, 2016, and amended in 2020 (Statewide Programmatic Agreement). FEMA submitted its finding of No Historic Properties Affected for the proposed undertaking to the SHPO on June 8, 2023. On June 15, 2023, the SHPO concurred with FEMA's determination of No Historic Properties Affected within the APE.

The Heebe Canal and Gretna 25th Street Canal upgrades would reduce the risk of flooding in the surrounding neighborhood where undocumented or unassessed cultural resources may be located. There would be no construction-related effects to historic standing structures or archaeological sites as they are not present in the project area, but there could be minor long-term beneficial effects to historic structures and archaeological sites beyond the APE, as the surrounding area would have reduced exposure to flooding during storm events.

4.13. Environmental Justice

Environmental justice is defined by EO 12898 (59 Federal Register 7629) and CEQ guidance (1997). Under EO 12898, demographic information is used to determine whether minority, low-income, or tribal populations are present in the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the project alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations. EO 14096 amends and builds upon EO 12898 to renew the nation's commitment to environmental justice through providing meaningful engagement opportunities.

Affected Environment, Potential Impacts, and Mitigation

This environmental justice analysis is focused at the local (i.e., project benefit area) level. The area included in this analysis is where project-related impacts would occur, potentially causing an adverse and disproportionately high effect on burdened populations. For the purposes of this analysis, environmental justice populations are identified using demographic indicators and Environmental Justice Indexes. Demographic indicators are the percent of minority or low-income populations which are compared to the next larger geographic unit.

In accordance with the FEMA EO 12898 *Environmental Justice: Interim Guidance for FEMA EHP Reviewers*, environmental justice populations are defined as meeting either or both of the following criteria:

- The populations within the project benefit area contains a minority or low-income population that is equal to or exceeds 50 percent of the population.
- One or more Environmental Justice Index (e.g., air quality pollutants, traffic proximity and volume, proximity to hazardous waste sites) equals or exceeds the 80th percentile compared to the average of the state.

CEQ (1997) defines the term “minority” as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. Residents of areas with a high percentage of people living below the federal poverty level may be considered low-income populations. The EJ Indices combine environmental indicators with socioeconomic indicators to identify areas where there may be a disproportionate exposure to environmental pollution.

Tables 4.4 and 4.5 depict the demographic indicators and Environmental Justice Indices for the study area and the parish and identify if environmental justice populations are present based on the criteria described above (EPA 2023c).

Table 4.4. Environmental Justice Demographics

EJ Indicator/Index	Project Benefit Area	Jefferson Parish	Environmental Justice Population Present
Percent Minority Population	78%	50%	Yes
Percent Low-Income Population	45%	16%	No

Source: EPA 2023b, U.S. Census Bureau 2021, U.S. Census Bureau 2020

Table 4.5. Environmental Justice Indices

EJ Indicator/Index	Percentile of Project Benefit Area Compared to State	Environmental Justice Population Present
National Scale Air Toxics Assessment (NATA) Air Toxics Cancer Risk (lifetime risk per million)	83	Yes
National Scale Air Toxics Assessment (NATA) Respiratory Hazard Index	62	No
National Scale Air Toxics Assessment (NATA) Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	79	No
Particulate Matter 2.5 Micrometers and Smaller (PM 2.5) ($\mu\text{g}/\text{m}^3$)	10	No
Ozone (ppb)	75	No
Lead Paint Indicator (percent Pre-1960 Housing)	79	No
Traffic Proximity and Volume (daily traffic count/distance to road)	87	Yes
Proximity to Risk Management Plan (RMP) Sites (facility count/km distance)	96	Yes
Proximity to Treatment Storage and Disposal Facilities (facility count/km distance)	95	Yes
Proximity to National Priorities List Sites (site count/km distance)	80	Yes
Underground Storage Tanks (count/km ²)	83	Yes
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	52	No

Source: EPA 2023b

The project benefit area is composed of 78 percent minority persons. Therefore, the project benefit area is considered to contain an environmental justice minority population when compared to the state. In addition, the project benefit area contains a larger minority population than Jefferson Parish (50 percent) (U.S. Census Bureau 2020).

The project benefit area is composed of 45 percent low-income persons. Therefore, the project benefit area is not considered to contain an environmental justice low-income population. However, because the project benefit area contains a larger low-income population than Jefferson Parish (16 percent low-income) (U.S. Census Bureau 2021), there is the potential for disproportionate impacts related to socioeconomic conditions.

Environmental indices for the population within the project benefit area are equal to or above the 80th percentile for six environmental justice indices (i.e., air toxic cancer risk, traffic proximity, proximity to Risk Management Plan sites, proximity to treatment storage and disposal facilities, and proximity to National Priority List sites). Therefore, the population within the project benefit area is considered an environmental justice population because of proximity and disproportionate exposure to waste, air, and water toxins. Flooding within the project area has the potential to further increase the risk of exposure to waste, air, and water toxins.

4.13.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no construction would occur that could result in impacts on environmental justice populations, such as noise, temporary reductions of air quality, or closure of 25th Street. Therefore, there would be no short-term effect on environmental justice populations.

In the long term, the risk of flooding would not be reduced. All populations, including environmental justice populations, within the project benefit area would continue to be at risk of flooding. Repeated flooding could result in damage or loss of homes and property, resulting in repair costs which could disproportionately impact environmental justice populations who may have limited resources to recover. Flood damage would result in short-term temporary air pollutant emissions and noise impacts associated with repair activities. People may be required to abandon property from continued flood damage, which may worsen with increased precipitation from climate change (see Section 4.4). Flooding could damage hazardous material sites (Section 4.14), which could expose the local population to hazardous waste and air and water toxins. Increased exposure to pollutants may lead to additional health burdens that further undermine a community's ability to recover from disasters. Therefore, there would be a minor long-term impact on environmental justice from the repeated risk of flooding. Disproportionately high and adverse effects on environmental justice populations could occur in the long-term depending on the frequency and extent of flooding.

4.13.2. PROPOSED ACTION

Under the Proposed Action, no residential or commercial displacement would occur. Construction activities would result in temporary impacts including increased air pollutant emissions and noise, as well as potentially disrupting transportation routes and public utilities. Potential impacts would be minimized as follows: 1) air pollutant emissions would be minimized by following EPA standards for construction equipment; 2) noise impacts would be minimized through construction time-of-day restrictions and monitoring of construction equipment; 3) roadway detours would be provided during 25th Street reconstruction; 4) utility disruptions would be minimized to the extent feasible and impacted properties would be notified three days in advance of any outages. Minor short-term adverse effects would occur for all populations, including environmental justice populations. See Section 4.3, Section 4.15, Section 4.16, and Section 4.17, respectively for details on these short-term impacts. Therefore, short-term disproportionately high and adverse impacts on environmental justice populations would not occur.

In the long term, the risk of flooding and associated impacts, such as damage to homes and property, increased air pollutant emissions from repair activities, road detours, and potential increased exposure to hazardous materials would be reduced. The reduced risk of flooding and associated impacts would benefit all populations, including environmental justice populations, in the project benefit area. Therefore, there would be a minor long-term beneficial effect on all populations, including environmental justice populations and the Proposed Action would not have a disproportionately high and adverse impact on environmental justice populations.

4.14. Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or to the environment when released or otherwise improperly managed. LDEQ regulates and permits owners and operators of all facilities that generate, transport, treat, store, or dispose of hazardous waste.

Hazardous materials may be encountered in the course of a project or they may be generated by project activities. To determine whether any hazardous waste facilities exist in the vicinity or upgradient of the project benefit area or whether there is a known and documented environmental issue or concern that could affect the project benefit area, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multiactivity sites was conducted using EPA's NEPA Assist website (EPA 2023d). According to the database, 20 hazardous waste sites and three industrial water discharge sites are located within the project benefit area. However, no sites are located in or adjacent to the project area.

4.14.1. NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no construction of flood reduction measures that could generate construction-related hazardous materials, such as equipment fuel, oil, and lubricants, or expose contaminated materials through ground-disturbing activities. Therefore, there would be no short-term impact from hazardous materials. In the long term, the risk of flooding would not be reduced. Continued flooding could result in damage to structures and properties. Equipment used for flood-related repairs could result in accidental leakage of fuels and oils. Floodwaters could inundate or damage hazardous materials sites in the project benefit area, thus increasing the potential for the release of and exposure to hazardous substances within the benefit area. Receding floodwaters could also carry hazardous substances into the Heebe Canal or the 25th Street Canal. Therefore, there could be a minor to moderate long-term adverse impact due to the risk of increased exposure to hazardous materials from periodic flooding and flood-related repairs.

4.14.2. PROPOSED ACTION

The Proposed Action would include the use of mechanical equipment, which could release fuels, oils, and lubricants through inadvertent leaks and spills. Construction activities would be temporary, and the use of equipment in good condition, while following BMPs and conditions specified in the CWA permit, would reduce the threat of leaks and spills. The Proposed Action would not include construction in or near hazardous materials sites identified in the project benefit area. Although subsurface hazardous materials are not anticipated to be present, excavation activities could expose or otherwise affect previously undetected subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the Proposed Action would be disposed of and handled by the Parish in accordance with applicable federal, LDEQ, and local regulations. Therefore, there would be a negligible short-term adverse effect from the use of vehicles and equipment and the associated risk of leaks, spills, or exposure.

In the long term, the Proposed Action would reduce the risk of flooding and associated risk that hazardous materials could be transported by floodwaters or generated by flood-related repairs. Therefore, there would be a minor long-term beneficial effect from the reduced risk of flooding and associated risk of exposure to hazardous materials.

4.15. Noise

EPA developed federal noise emission standards in accordance with the Noise Control Act of 1972. EPA identified major sources of noise and determined appropriate noise levels for activities that would infringe on public health and welfare in accordance with the law. EPA identifies a 24-hour exposure level of 70 decibels as the level of environmental noise that would prevent any measurable hearing loss over a lifetime (EPA 1974). Noise levels of 55 decibels outdoors and 45 decibels indoors are identified as “preventing activity interference and annoyance” (EPA 1974). The Federal Highway Administration (FHWA) identified typical noise levels and ranges for construction equipment (FHWA 2006) and the Occupational Safety and Health Administration established thresholds for occupational noise exposure to protect the health and safety of workers (29 CFR 1926.52).

Article V of the City of Gretna municipal code limits construction noise levels to 75 decibels during all hours of the day (Gretna 2023a). Further, construction equipment use is limited to the hours of 7:00 am to 7:00 pm on weekdays and 9:00 am to 7:00 pm on weekends and holidays (Gretna 2023a).

Assessment of noise impacts includes consideration of the proximity of the Proposed Action to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, and libraries. The project benefit area is a primarily residential area, with homes located immediately adjacent to project activities (i.e., within 50 feet). Two schools are located adjacent to project activities, Johnson Gretna Park Elementary and Gretna Middle School, both located on Gretna Boulevard between Weyer Street and Claire Avenue. The closest church is the Westbank Christian Center at the intersection of Claire Street and 21st Street, located approximately 800 feet from project activities. Gretna Park is located at the intersection of Gretna

Boulevard and Huey P Long Avenue, approximately 260 feet from the nearest proposed drainage pipeline replacements. No hospitals, nursing homes, or libraries are located within the project benefit area. The project is located in an urban area with typical noise sources including traffic, yard work, and social activities. Areas along the north and east edges of the project benefit area are expected to have higher ambient noise levels than other parts of the project area because of the proximity of high-volume highways along those boundaries.

4.15.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no construction for flood mitigation would occur that would generate noise from the use of equipment. Therefore, there would be no short-term impact on noise. In the long term, the risk of flooding would not be reduced. Vehicles and equipment used for flood-related repairs would temporarily increase noise levels in the immediate vicinity of the work, but would comply with federal, state, and local regulations, including time-of-day restrictions. Therefore, there would be a negligible long-term recurring effect because of the noise associated with flood-related repair activities.

4.15.2. PROPOSED ACTION

Under the Proposed Action, construction activities would increase noise levels in the project vicinity but would not exceed EPA standards or thresholds established by the Occupational Safety and Health Administration and the City of Gretna. Adherence with these standards would minimize sound exposure and ensure noise levels would not cause hearing impairment or permanent damage to workers. Further, based on the type of construction equipment proposed for use, construction noise would be expected to attenuate with distance to the background noise levels expected in an urban area within 500 feet of the equipment.

Sensitive receptors are present within the project vicinity (i.e., within 500 feet of project activities) and in some places, as close to 50 feet from project activities. Increased noise levels would be temporary at any one location and diminish with increasing distance from project activities and would comply with the City of Gretna Noise ordinances (Gretna 2023a). Therefore, there would be a minor short-term impact on noise levels during construction.

In the long term, the pump station would increase noise levels while in use during rain events. Increased noise levels associated with the pump station would be intermittent and diminish with increasing distance. In addition, the pumps and generator would be housed inside a structure that would attenuate noise levels at receptors outside of the structure. The risk of flooding would also be reduced, thereby reducing noise associated with flood-related repairs. Thus, there would be a minor long-term impact on noise during use of the pump station and a minor long-term benefit from the reduced risk of noise associated with flood-related repairs.

4.16. Transportation

The project is located within the urban City of Gretna. The project benefit area is bounded by three primary roads: U.S. Highway 90 to the north, Gretna Boulevard to the south, and Belle Chasse

Highway (U.S. 23) to the east. The project benefit area encompasses a grid-like street network with local roadways providing north-south and east-west access, including access to the project area. The project area encompasses 25th Street, an east-west corridor through the project benefit area. Bus service is provided by Jefferson Parish Transit and includes three routes adjacent to the project benefit area: namely, W2 Westbank Expressway, W3 Lapalco, and W6 Gretna Local (Jefferson Parish Transit 2023). Transit stops are located at the northern extent of the project benefit area, adjacent to U.S. Highway 90. No streetcar service is provided in the City of Gretna and the closest ferry service is approximately 2.5 miles north of the impact area at Algiers Point (New Orleans Regional Transit Authority 2023).

4.16.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no flood reduction construction would occur within the project benefit area that would require street or sidewalk closures. Therefore, there would be no short-term impact on transportation. In the long term, flooding would continue to periodically inundate the project benefit area, potentially resulting in road and sidewalk closures that could impact access to, or service of, public transit routes located in the area. Construction for flood-related repairs may result in temporary increases in traffic and road closures that could also disrupt transit service. Therefore, flood-related construction activities would have a minor reoccurring long-term impact on transportation.

4.16.2. PROPOSED ACTION

Under the Proposed Action, construction equipment and personnel would access the project area using existing roads, resulting in additional traffic. Staging of vehicles and equipment would occur in designated off-street areas, west of the 25th Street and Hero Drive intersection and east of the 25th Street and Huey P. Long Avenue intersection. 25th Street would be temporarily closed during construction for canal improvements and roadway reconstruction; traffic would be accommodated on adjacent streets. Lane closures may be required for drainage pipe improvements. Therefore, there would be a minor short-term impact on transportation resulting from additional traffic as well as road and potential lane closures during construction.

In the long term, the risk of flooding would be reduced, thereby reducing the need for closures, detours, or disruptions of public transit when roads become inundated, damaged, or both. The reduced risk of flooding would reduce the need for flood-related repairs and associated increases in traffic from repair vehicles and equipment. Therefore, there would be a minor long-term benefit to transportation from the reduced risk of flooding and flood-related repairs.

4.17. Utilities and Public Services

The project is in an urban area with utilities and public services provided via both overhead and underground infrastructure. Electrical services are provided by Entergy Louisiana via overhead power lines (Entergy 2023). Gas services are provided by Atmos Energy via underground pipelines (Atmos Energy 2023). Water and wastewater services are provided by the City of Gretna Public Utilities

Department via underground pipelines (Gretna 2023b). The stormwater drainage infrastructure in the project benefit area was built primarily in the 1950s, with minor updates and improvement work. As described in Section 1.2, existing stormwater drainage infrastructure does not provide adequate drainage during rain events.

4.17.1. NO ACTION ALTERNATIVE

Under the No Action alternative, construction of flood reduction measures would not occur that could disrupt or increase demand on public services and utilities in the project benefit area in the short term. In the long term, flooding could damage utilities affecting service in the project benefit area. However, outages resulting from flooding within the project benefit area would be localized to the neighborhoods within the project benefit area because the utilities' primary production facilities (e.g., power plant, substation, and water treatment or storage) are located outside of the project benefit area. Potential road closures related to flooding could restrict utility providers from accessing utilities for repairs after flood events. Therefore, there would be a minor reoccurring long-term impact on public services and utilities, depending on the extent and frequency of flooding.

4.17.2. PROPOSED ACTION

Under the Proposed Action, construction would require utility relocation (i.e., gas, water, sewer) for pipeline replacement. Utility relocations would be coordinated with Louisiana One Call, the dig safe hotline, and the City of Gretna Public Works Department. Notification would be provided to residents and businesses three days in advance of any anticipated service disruption. Utility disruptions would be short term. Therefore, there would be a minor short-term impact on public services and utilities because of utility relocations required for construction.

In the long term, stormwater infrastructure would be modified to provide adequate drainage during rain events. Use of the pump station during rain events would increase demand on electrical services, or natural gas services should the generator be used. However, increased demand on electrical and/or natural gas services is not expected to impact services to homes and other facilities in the project benefit area. Thus, there would be no long-term impact on public services and utilities from use of the pump station. The reduced risk of flooding would result in reduced flood-related impacts on utility services in the project benefit area. Therefore, there would be a minor long-term beneficial effect from the reduced risk of flooding and associated potential for utility disruptions.

4.18. Public Health and Safety

Police services are provided by the Gretna Police Department located at 200 5th Street, north of the project benefit area. The Gretna Police Department contains an Emergency Medical Services Division equipped with ambulances, medical technicians, and first responders (Gretna Police Department 2023). Emergency medical services are also provided by AMED Ambulance Services located at 1800 Monroe Street, northeast of the project benefit area (AMED Ambulance Services 2023). The closest hospital is Ochsner Medical Center, located on Belle Chasse Highway, southeast of the project benefit area. Fire services are provided by the David Crockett Steam Fire Company (David Crockett

Steam Fire Company 2023). There are two fire stations in the City of Gretna, one northeast of the project benefit area on Lafayette Street, the second at the southeast corner of the project benefit area, on Gretna Boulevard directly adjacent to a proposed pipeline replacement (Figure 4-3 below).

4.18.1. NO ACTION ALTERNATIVE

Under the No Action alternative, no construction of flood reduction measures would occur that could require road closures or detours that could impact emergency response times or access to emergency facilities. No impact on air quality would occur as a result of construction that could impact human health (Section 4.4). Therefore, there would be no short-term impact on public health and safety. In the long term, flooding and flood-related repairs could continue to result in road closures and detours, which could increase emergency response times, cause utility disruptions, or increase the potential for exposure to hazardous materials (see Section 4.14). Therefore, there would be a minor recurring long-term impact on public health and safety, depending on the frequency and extent of flooding and flood repairs.

4.18.2. PROPOSED ACTION

Under the Proposed Action, construction activities would require the temporary closure of 25th Street and potential lane closures for pipeline replacement (Section 4.17). Alternative roads would remain open for emergency response and access to emergency facilities. Construction activities would have a negligible short-term impact on air quality that could impact human health, as described in Section 4.4. Therefore, the Proposed Action would have a negligible impact on public health and safety resulting from construction and associated transportation and air quality impacts.

In the long term, the reduced risk of flooding would reduce the need for flood-related repair activities that could impact air quality that could impact human health, the potential for floodwaters to increase exposure to hazardous materials, and flood-related road closures and detours that could impact emergency response times (see Section 4.4, Section 4.15, and Section 4.17 respectively). Therefore, there would be a minor long-term beneficial effect from the reduced risk of flooding and associated impacts on public health and safety.

Affected Environment, Potential Impacts, and Mitigation



Figure 4-3. Public Service Facility Locations

4.19. Summary of Effects and Mitigation

Table 4.5 provides a summary of the potential environmental effects from the implementation of the proposed action, any required agency coordination efforts or permits, and any applicable proposed mitigation or BMPs.

Table 4.6. Summary of Impacts and Mitigation

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Soils and Topography	Negligible short-term impact on soils; no short-term impact on topography. Negligible to minor long-term beneficial effect on soils, by reducing the risk of flooding; minor long-term impact on topography.	N/A	<ul style="list-style-type: none"> BMPs to avoid and minimize ground disturbance would be used, in accordance with required water resources permits.
Air Quality and Climate	Negligible, short-term impacts from vehicle and equipment use; negligible reoccurring long-term benefit from reduced flood-related repairs and road detours.	N/A	<ul style="list-style-type: none"> Construction equipment would meet current EPA emissions standards
Climate Change	Negligible short-term impact on climate change; negligible long-term impact on climate change from generator use, minor long-term beneficial effect from reduced risk of flooding.	N/A	N/A
Surface Waters and Water Quality	Minor short-term impact from construction activities; minor long-term beneficial effect by reducing the risk of flooding and associated sedimentation and pollutants.	Nationwide Permit (Section 404 of CWA) Jefferson Parish NPDES Permit	<ul style="list-style-type: none"> CWA permits and associated BMPs and conditions

Affected Environment, Potential Impacts, and Mitigation

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Wetlands	Negligible short-term impact; negligible long-term beneficial effect by reducing the risk of flooding and associated vegetation loss and pollutants.	N/A	<ul style="list-style-type: none"> N/A
Floodplains	Minor short-term impact from construction-related ground disturbance; minor long-term beneficial effect from reduced risk of flooding.	N/A	<ul style="list-style-type: none"> CWA permits and associated BMPs and conditions BMPs from coordination with the Local Floodplain Manager
Coastal Resources	Negligible short-term impact from construction located in the coastal zone; minor long-term beneficial effect from reduced risk of flood damage to coastal resources.	Coastal Use Permit	<ul style="list-style-type: none"> BMPs and conditions as specified in consistency determination
Vegetation	Minor adverse short- and long-term impacts from vegetation and tree removal associated with construction activities. Long-term beneficial effect from a reduction in the spread of invasive plants during flooding and the establishment of planted native species along the 25 th Street Canal in place of existing invasive species.	N/A	<ul style="list-style-type: none"> Native plantings along the 25th Street Canal.
Fish and Wildlife	Minor, short-term, adverse impacts and minor long-term beneficial effects from a reduction in the spread of invasive plants during flooding and the establishment of planted native species along the 25 th Street Canal in place of existing invasive species.	N/A	<ul style="list-style-type: none"> CWA permits and associated BMPs and conditions

Affected Environment, Potential Impacts, and Mitigation

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Threatened and Endangered Species	<p>The Proposed Action may affect but would not likely adversely affect the West Indian manatee.</p> <p>The Proposed Action would not jeopardize the continued existence of the proposed threatened alligator snapping turtle. If the species becomes listed before project implementation, the Proposed Action may affect but would not adversely affect the species.</p>	N/A	<ul style="list-style-type: none"> Standard Manatee Conditions for In-Water Activities (USFWS 2023c)
Cultural Resources	No Historic Properties Affected	SHPO	<ul style="list-style-type: none"> In the event that any archeological resources are discovered during project implementation, work would immediately cease, the area would be secured, and the Parish would notify the SHPO and FEMA for further evaluation. If human remains or unmarked graves are discovered, the Parish will immediately cease work, secure the area, and contact law enforcement, FEMA, and the Louisiana Division of Archaeology.
Environmental Justice	<p>Minor short-term impact from construction; minor long-term beneficial effect from reduced risk of flood damage.</p> <p>No disproportionately high and adverse impact on environmental justice populations.</p>	N/A	N/A
Hazardous Materials	Negligible short-term contamination threat from vehicle and equipment use; minor long-term beneficial effect from reduced risk of floodwaters exposing contaminants.	N/A	<ul style="list-style-type: none"> CWA permits and associated BMPs and conditions

Affected Environment, Potential Impacts, and Mitigation

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Noise	Minor short-term impact from increased noise associated with construction; minor long-term impact during use of pump station; minor long-term beneficial effect from reduced noise associated with flood-related repairs.	N/A	<ul style="list-style-type: none"> Construction noise levels would be limited to 75 decibels during all hours of the day. Construction equipment use would be limited to the hours of 7:00 am to 7:00 pm on weekdays and 9:00 am to 7:00 pm on weekends and holidays
Transportation	Minor short-term impact from construction-related traffic and road closure; minor long-term beneficial effect by reducing the risk of flooding.	N/A	N/A
Utilities	Minor short-term impact from temporary utility disruptions; minor long-term beneficial effect from reduced risk of flood-related utility disruptions.	N/A	Residents and businesses would be notified three days in advance of any utility disruptions.
Public Health and Safety	Negligible short-term impact; moderate long-term beneficial effect by reducing the risk of flooding.	N/A	N/A

5. Cumulative Impacts

This section addresses the potential cumulative impacts associated with the implementation of the proposed action. Cumulative effects represent the impact on the environment, which results from the incremental impact of the action when added to other reasonably foreseeable actions. This EA reviews the potential for other drainage improvements or local construction projects to create cumulative effects in and near the project areas. Other statutes require federal agencies to consider cumulative effects. These include the CWA Section 404(b)(1) guidelines, the regulations implementing the conformity provisions of the Clean Air Act, the regulations implementing Section 106 of the NHPA, and the regulations implementing Section 7 of the ESA.

As stated in Section 1.2, the Proposed Action is one of two projects within the Gretna Resiliency District, which was established in 2017 to support community-wide flood risk reduction through improvements to the 25th Street Canal and the Gretna City Park (Figure 5-1) (Gretna 2022). The Proposed Action would be the second project in the district, with the Gretna City Park project completed in early 2023 (NOLA.com 2023). The Gretna City Park project consists of the following elements (Gretna 2022):

- Increased stormwater storage within two existing ponds by deepening and widening them and connecting them via a new channel. A new lagoon was also constructed to the west of, and adjacent to, the two ponds, and the lagoon was connected via a channel from the northern edge of the southern pond. This increased the stormwater storage capacity within the waterbodies by 6.5 million gallons.
- A new sunken meadow north of and adjacent to the lagoon that serves as a dry basin and provides excess water storage.
- Park access improvements that include new entrances, pathways, tree and other vegetation plantings, pavilions, and water access elements such as kayak launches and fishing piers.

5.1. Conclusion

The project described above, in combination with the Proposed Action, would have no additional short-term, construction-related impacts because work for the Gretna City Park project is complete. In the long term, the addition of the Proposed Action with the Gretna City Park project would provide an additional increase in flood mitigation through the increased stormwater storage. This would have a minor increased benefit from reduced flooding within the Gretna Resiliency District. There would be no other expected long-term impacts on the natural or human environment.



Figure 5-1. Gretna Resiliency District Map

6. Agency Coordination, Public Involvement, and Permits

This section provides a summary of the agency coordination efforts and public involvement process for the Proposed Action. In addition, an overview of the permits that would be required under the proposed action is included.

6.1. Agency Coordination

- A solicitation of views (SOV) request was submitted to the following agencies on July 12, 2023: EPA, LDEQ, LDNR, the Louisiana Department of Wildlife and Fisheries, USDA, and USACE. Responses were received by three agencies (Appendix D):
 - The Louisiana Department of Wildlife and Fisheries responded on July 21, 2023, stating no impacts on rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state wildlife refuges, or wildlife management areas are known to occur at the specified site within Louisiana's boundaries.
 - LDNR confirmed receipt of the SOV on July 14, 2023, and described the application process. On July 17, 2023, LDNR confirmed that the SOV response is administratively complete and the review by the state for compliance with the LCRP has begun (CUP20230581).
 - USDA responded on July 13, 2023, that the proposed construction areas related to the project are in an urban area, and therefore, are exempt from the rules and regulations of the Farmland Protection Policy Act.
 - LDEQ responded on September 8, 2023, that the Department had no objections and offered general comments.
- FEMA initiated consultation under Section 106 of the NHPA on this project in accordance with the "Programmatic Agreement Among the Federal Emergency Management Agency, the Louisiana State Historic Preservation Officer, the Governor's Office of Homeland Security and Emergency Preparedness, and Participating Tribes" executed on December 21, 2016, and amended in 2020 (Statewide Programmatic Agreement). FEMA submitted its finding of No Historic Properties Affected for the proposed undertaking to the SHPO on June 8, 2023. On June 15, 2023, the SHPO concurred with FEMA's recommendation of No Historic Properties Affected within the APE.

6.2. Public Participation

In accordance with NEPA, this draft EA will be released to the public and resource agencies for a 30-day public review and comment period. This draft EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period and public

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meeting to inform the final decision regarding grant approval and project implementation. If no substantive comments are received from the public or agency reviewers, this draft EA and draft FONSI will become final.

Jefferson Parish will make the draft EA available on its website at [web address]. The draft EA also will be available on FEMA's website at <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository>. A hard copy of the draft EA will be made available at [ADDRESS]. To satisfy step 7 of the 8-step process, Jefferson Parish is required to host a public meeting during the Notice of Availability public comment period. This public meeting will discuss the purpose and need for this project, alternatives considered, floodplain impacts, water surface elevation increases, and provide design plans and maps. The comment period for the draft EA will start when the public notice of EA availability is published and will extend for 30 days. Comments on the draft EA may be submitted to fema-liro-ndg-bric-fema-ehp@fema.dhs.gov Subject line: Gretna 25th Street Canal and Heebe Canal Improvements. Comments also may be submitted via mail to:

Attn: EHP Department
Louisiana Integration and Recovery Office (LIRO)
1500 Main Street
Baton Rouge, LA 70802

FEMA presently finds that the Proposed Action meets the requirements for a FONSI under NEPA, and the preparation of an Environmental Impact Statement would likely not be required (Appendix E). If new information is received that indicates there may be significant adverse effects, FEMA would then revise the findings and issue a second public notice, for additional comments.

Based upon the studies and consultations undertaken in this EA, and given the precautionary and mitigating measures, there do not appear to be any significant environmental impacts associated with the Gretna 25th Street Canal and Heebe Canal Improvements – Flood Mitigation Assistance Proposal.

6.3. Project Conditions

Based upon the studies and consultations undertaken in this EA, several conditions and mitigation measures must be taken by the Sub-recipient prior to and during project implementation. The following conditions must be met as part of the implementation of the project. Failure to comply with these conditions may jeopardize federal funds. The Sub-recipient is required to comply with all federal, state, and local laws, E.O.s, and regulations, and is responsible for obtaining any necessary local, state, or federal permits needed to conduct the proposed work and providing documentation of compliance to GOHSEP and FEMA.

- The Sub-recipient is required to obtain and comply with all local, state, and federal permits, approvals, and requirements prior to initiating work on this project.
- All construction equipment would be required to meet current Environmental Protection Agency (EPA) emission standards.

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- If fill is stored on site, the contractor would be required to appropriately cover it.
- Vehicle operation times would be kept to a minimum. Area soils must be covered and/or wetted during construction to avoid generating airborne dust (i.e., particulate air emissions).
- To reduce potential short-term effects to air quality from construction-related activities, the contractor would be responsible for using best management practices (BMP) to reduce fugitive dust generation and diesel emissions. Emissions from the burning of fuel by internal combustion engines would temporarily increase the levels of some of the criteria pollutants, including carbon dioxide (CO₂), nitrogen dioxide (NO₂), Ozone (O₃), and particulate matter less than 10 microns in diameter (PM₁₀), and non-criteria pollutants such as Volatile Organic Compounds (VOCs). To reduce these emissions, running times for fuel-burning equipment should be kept to a minimum and engines should be properly maintained.
- If any change to the scope of work is located in wetlands or other areas subject to the jurisdiction of the U. S. Army Corps of Engineers (USACE), the Sub-recipient should contact the USACE directly regarding permitting issues. If a USACE permit is required, part of the application process may involve a water quality certification from the Louisiana Department of Environmental Quality (LDEQ).
- Proper signage is required to clearly identify the adjacent wetland boundaries to avoid potentially adverse impacts from construction vehicles/equipment/supplies that accidentally leave the boundaries of the approved rights-of-way (ROW).
- Any adverse impacts to adjacent wetlands resulting from the construction of this project would jeopardize receipt of federal funding. This includes equipment storage and staging of construction to ensure that wetlands are not adversely impacted per the Clean Water Act (CWA) and Executive Order (EO) 11990.
- All fill would consist of clean uncontaminated fill material and shall be stored and stockpiled within upland locations.
- Any changes or modifications to the proposed project would require a revised wetland jurisdictional determination.
- The Sub-recipient is responsible for coordinating with and obtaining any required permits from the USACE and/or and permits from the State prior to initiating work. The Sub-recipient must obtain a Nationwide permit authorization or individual permit in accordance with Section 404 of the CWA, or provide documentation that one is not required for this project. The Sub-recipient must comply with all conditions of the required permit(s).
- The Sub-recipient is responsible for coordinating with and obtaining any required permit(s) from the Louisiana Department of Natural Resources' (LDNR) Office of Coastal Management (OCM) prior to initiating work. Sub-recipient must comply with all conditions of the required permits. It is recommended that Jefferson Parish contact Emily Eley at LDNR at (225) 342-7942 or Emily.Eley@la.gov.
- To satisfy step 7 of the 8-step process, Jefferson Parish is required to host a public meeting during the Notice of Availability public comment period. This public meeting will discuss the purpose and need for this project, alternatives considered, floodplain impacts, water surface elevation increases, and provide design plans and maps. Jefferson Parish is required to coordinate with the local floodplain manager prior to construction.

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- The Sub-recipient is required to coordinate with the local floodplain administrator, obtain required permits prior to initiating work, and comply with any conditions of the permit to ensure harm to and from the floodplain is minimized.
- Obtain permits for construction within the floodplain per Gretna Unified Development Code Article IV, Division 11 section 58-287.
- Per 44 CFR 9.11(d), mitigation or minimization standards must be applied, where possible.
- Per 44 CFR 9.11(d)(4), there shall be no encroachments, including fill, new construction, substantial improvements of structures or facilities, or other development within a designated regulatory floodway that would result in any increase in flood levels within the community during the occurrence of the base flood discharge. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the base floodplain unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation (WSE) of the base flood more than one (1) ft. at any point within the community.
- Per 44 CFR 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the National Flood Insurance Program (NFIP).
- Per 44 CFR 9.11(d)(9), for the replacement of building contents, materials, and equipment, where possible disaster-proofing of the building and/or elimination of such future losses should occur by relocation of those building contents, materials, and equipment outside or above the base floodplain.
- Should the site plans (including drainage design) change, the Sub-recipient must submit changes to the FEMA Environmental and Historic Preservation (EHP) for review and approval prior to the start of construction.
- New construction must be compliant with current codes and standards.
- The Sub-recipient must comply 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/or stormwater from the site.
- Obtain and comply with the Jefferson Parish National Pollutant Discharge Elimination System (NPDES) permit and stormwater pollution prevention plan.
- If the project results in a discharge to waters of the State, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.
- All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has stormwater general permits for construction areas greater than or equal to one (1) acre. The Sub-recipient must contact the LDEQ Water Permits Division at 225-219-9371 to determine if the proposed project requires a permit.**
- 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 additional wastewater.

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- If the project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit is required. An application of 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: (<https://deq.louisiana.gov/page/sewage-biosolids>) or by contacting the LDEQ Water Permits Division at 225-219-3590.
- Water softeners generate wastewaters that may require special limitations depending on local water quality considerations. If water system improvements include water softeners, contact LDEQ Water Permits to determine if special water quality-based limitations will be necessary.
- If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at 225-219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.
- All precautions should be observed to protect the groundwater of the region. BMPs should be implemented to ensure groundwater is protected.
- If the project concerns flood control in residential and business areas that modify infrastructure and/or drainage:
 - Modeling for areas of interest, as well as both upstream and downstream connecting waterways, is preferred to evaluate potential impacts of increased flow on up/downstream flooding, hydrology, and water quality.
 - Receiving channels should be designed and sized with consideration of natural channel design methodologies and principles, as improper design can result in increased velocities and channel degradation (scouring), erosion, bank instability, and water quality degradation.
 - Increased stream velocities can jeopardize residential properties, pipelines, bridges, and other infrastructure, and may cause increased pollutant loads (e.g., sediment, metals, low oxygen levels) to waterways through channel(s) realignment and reestablishment of naturally vegetated banks, meanders, and original lengths and slopes for stabilization.
 - Nature-based solutions should be considered to address these, and storm water issues, before entry to downstream waters.
 - <https://watershed.la.gov/nature-based-solutions>
 - <https://www.epa.gov/green-infrastructure/green-infrastructure-design-and-implementation>
 - Detention pond design and operating practices, including but not limited to high flow releases, can affect channels as described above.
 - Flood control projects should be evaluated in combination with other flood mitigation projects proposed or ongoing in the watershed.

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- If the project involves bridge and/or lateral/inline structures (e.g., culverts, weirs, sluice/lift gates):
 - Design to allow water to flow freely at the structure without restrictions during all flow regimes to preserve the natural functions of the stream channels, maintain appropriate channel dimensions, and flow regimes.
 - Consequences of improper design and maintenance can lead to debris build-up against structures restricting flow, leading to decreases in velocity, reaeration, and dissolved oxygen levels
 - The applicant must follow regional/local permitting requirements for sewage and storm water management.
- The proposed project is located in LDEQ water unit LA020601. According to the 2022 Louisiana Water Quality Integrated Report, this water unit is impaired for bacterial contaminants (*Enterococcus*). Control of nonpoint source pollution from construction should follow (**) above.
- It seems that this project involves new construction in an urban area, that extensive excavation may be needed to complete the project, and historic land use has not been identified in the submittal. It is therefore advised that a site-specific environmental assessment be performed on project areas to address specific environmental concerns, and provide for worker safety.
- If the project will involve the removal or disturbance of any soils which may have contaminant concentrations that exceed the Screening Option Standards established by the LDEQ Risk Evaluation/Corrective Action Program (RECAP) Regulation, these materials may be considered a waste and disposed of at a permitted facility, or might be managed as part of a Solid Waste Beneficial Use or Soil Reuse Plan in accordance with Louisiana Administrative Code (LAC) 33:VII.Chapter 11. Alternately, a site-specific RECAP Evaluation might be conducted and submitted to the LDEQ.
- If any underground storage tanks are encountered during the project, they must be in compliance with the regulations found in LAC 33:XI of the Environmental Regulatory Code. If any contaminated soil or groundwater is encountered, the findings should be reported to LDEQ.
- To ensure continued Endangered Species Act (ESA) compliance, the Sub-recipient must stop work and contact the FEMA EHP if 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat, 3) the action is modified in a manner that causes effects to listed species or designated critical habitat, or 4) a new species is listed, or critical habitat designated. Additional consultation as a result of any of the above conditions or if the scope or location of the proposed project is changed, coordination should occur as soon as changes are made, and the FEMA should be notified for further coordination with the U.S. Fish and Wildlife Service (USFWS).
- The Sub-recipient will ensure that the following AST avoidance and minimization measures are implemented during work.
 - To minimize effect on AST habitat:

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- Limit work to deepest part of channels
 - Limit work to areas previously disturbed or lacking snags, submerged logs or other cover used by AST
 - Use floating work platform instead of ground-based equipment
 - Relocate woody debris to streamside instead of removing completely
 - Minimize removal of trees and brush on bank adjacent to waterbodies
 - Avoid the use of concrete or other bank hardening methods
- To minimize effect on individuals:
 - Limit work to areas unlikely to be occupied by adult or juvenile AST or live AST nests
 - Use floating work platform instead of ground-based equipment
 - If removing snags is necessary, pull up from above water instead of digging out
 - Avoid work on streamside from the water's edge to 200 meters away during times of the year when nesting/hatching are occurring
 - Limit work to deepest part of main channels except during the hottest times of the year
- Per LAC 1-315 B.6, the Sub-recipient is required to protect existing individual trees through project design and implementation. If tree removal is unavoidable, the Sub-recipient is required to plant two new trees for every tree removed.
- Comply with all USFWS "Standard Manatee Conditions for In-Water Activities" (Appendix C).
- If at any time LDWF's Wildlife Diversity Program (WDP) tracked species are encountered within the project area, contact the WDP Data Manager at 225-763-3554.
- If the Federal Action may impact bald or golden eagles, additional coordination with the USFWS under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) may be required. Contact Ulgonde Kirkpatrick at 321-972-9089 or ulgonde_kirkpatrick@fws.gov for any questions regarding potential impacts to bald or golden eagles.
- Extreme care must be taken during the construction process through the appropriate use and maintenance of BMPs.
- If human bone or unmarked grave(s) are present within the project area, compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (Revised Statute [RS] 8:671, et seq.) is required. The Sub-recipient shall notify the law enforcement agency of the jurisdiction where the remains are located within 24 hours of the discovery. The Sub-recipient shall also notify FEMA and the Louisiana Division of Archaeology (LDOA) at 225-342-8170 within 72 hours of the discovery (Louisiana Unmarked Human Burial Sites Preservation Act).
- 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 Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) State Applicant Liaison and Hazard Mitigation Assistance contacts at FEMA, who will in turn contact FEMA Historical Preservation (HP) staff. The Sub-recipient will not proceed with work until FEMA HP completes consultation with the State Historic Preservation Office (SHPO), and others as appropriate (Inadvertent Discovery Clause).

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- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Sub-recipient must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a sub-recipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout.
- During construction, the contractor would be expected to take all reasonable precautions to control site access. Impacts to public safety and security would be minimized with mitigation measures, including following Occupational Safety and Health Act/Administration (OSHA) regulations.
- The contractor must place fencing around the work area perimeters to prevent access and protect nearby residents from vehicular traffic.
- To minimize worker and public health and safety risks from project construction and closure, all construction and closure work must be done using qualified personnel trained in the proper use of construction equipment, including all appropriate safety precautions. Additionally, all activities must be conducted in a safe manner in accordance with the standards specified in OSHA regulations and the USACE safety manual.
- The contractor must post appropriate signage and fencing to minimize potential adverse public safety concerns.
- Project construction activities would be limited to normal working hours, which would not include evening and nighttime hours, and would not be expected to adversely affect residents.
- Mitigation and abatement measures would be required to reduce the noise levels to a range that would be considered acceptable.
- The Sub-recipient must comply with any applicable local noise ordinances.
- Construction noise would be limited to 75 decibels during the hours of 7:00 am to 7:00 pm on weekdays and 9:00 am to 7:00 pm on weekends per Article V of the City of Gretna municipal code.
- Appropriate signage and barriers should be in place prior to construction activities in order to alert pedestrians and motorists of project activities and traffic pattern changes (e.g., detours or lanes dedicated for construction equipment egress).
- The contractor should implement traffic control measures, as necessary.
- Unusable equipment, debris and material shall be disposed of in an approved manner and location. In the event significant items (or evidence thereof) are discovered during implementation of the project, the Sub-recipient shall handle, manage, and dispose of

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petroleum products, hazardous materials and toxic waste in accordance to the requirements and to the satisfaction of the governing local, state and federal agencies.

- All debris would be disposed of at a permitted landfill.
- The construction contractor shall comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substance release reporting requirements, if an applicable release should occur.
- If an oil discharge to water occurs, the construction contractor must notify the National Response Center (NRC) at 800-424-8802.
- Any renovation or remodeling must comply with LAC 33:III.Chapter 28, Lead-Based Paint Activities; LAC 33:III.Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes all training and accreditation); and LAC 33:III.5151, Emission Standard for Asbestos for any renovations or demolitions.
- If hazardous materials are unexpectedly encountered in the project area during the proposed construction operations, appropriate measures for the proper assessment, remediation, management and disposal of the contamination would be initiated in accordance with applicable federal, state, and local regulations. The contractor would be required to take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction area.
- The Louisiana Department of Natural Resources (LDNR) Office of Conservation should be contacted at 225-342-5540 if any unregistered wells of any type are encountered during construction work.
- Louisiana One Call should be contacted at 800-272-3020 at least 48 hours prior to commencing any subsurface operations.
- The Sub-recipient must notify residents and businesses three days in advance of any utility disruptions.
- The Sub-recipient must take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.

All coordination pertaining to these activities and Sub-recipient compliance with any conditions should be documented and copies forwarded to correspondence to the GOHSEP and the FEMA as part of the permanent project files.

7. List of Preparers

The following is a list of preparers who contributed to the development of the Gretna 25th Street Community Flood Mitigation Project draft EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others contributed, including senior managers, administrative support personnel, and technical staff, and their efforts in developing this EA are appreciated.

CDM Smith

Agency Coordination, Public Involvement, and Permits

Preparers	Experience and Expertise	Role in Preparation
Weddle, Annamarie	Environmental Planner	NEPA Documentation
Egge, Matt	Environmental Planner	NEPA Documentation
Fogler, Wilson	Biologist	NEPA Documentation
Bankston, Samuel	Biologist	NEPA Documentation
Bevin, Debbie (RGA)	Historic Preservation	NEPA Documentation and NHPA Consultation
Sorensen-Mutchie, Nichole (RGA)	Historic Preservation	NEPA Documentation and NHPA Consultation
Nelson, Tracy	Senior Cultural Resource Specialist, SOI Qualified Reviewer	NEPA Documentation and NHPA Consultation
Jadhav, Ajay	GIS Specialist	GIS
Webb, Brandon	Environmental Lead	Project Lead, Technical Review
Stenberg, Kate	PhD, Senior Biologist, Senior Planner	Project Manager, Quality Assurance/Quality Control Review

Federal Emergency Management Agency

Reviewers	Role in Preparation
Carroll, Annette	Technical Review
Spann-Winfield, Tiffany	EHP Technical Review
Crockett, Jakob	NHPA Review
Schexnayder, Jamie	Environmental Review

This document was prepared by CDM Smith under Contract No.: 70FA6020D00000002, Task Order: 70FA6021F00000053.

8. References

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