

Draft Environmental Assessment/Finding of No Significant Impact

Highway 90 Section Restore Biloxi Program

Biloxi, Harrison County, Mississippi

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FEMA

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BFE	Base Flood Elevation
BMP	Best Management Practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibel
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EO	Executive Order
EPA	U. S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
MDAH	Mississippi Department of Archives and History
MDEQ	Mississippi Department of Environmental Quality
MDMR	Mississippi Department of Marine Resources
MDOT	Mississippi Department of Transportation
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGVD29	National Geodetic Vertical Datum of 1929
NHPA	National Historic Preservation Act
NISTAC	Nationwide Infrastructure Support Technical Assistance Consultants
NO ₂	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O ₃	Ozone
Pb	Lead
PM _{2.5/10}	Particulate Matter less than/equal to 2.5 microns/greater than 2.5 and less than 10

ACRONYMS AND ABBREVIATIONS

SHPO	State Historic Preservation Office
SO ₂	Sulfur Dioxide
STP	Shovel Test Pit
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
USACE	U. S. Army Corps of Engineers
USCB	U. S. Census Bureau
USDA	U. S. Department of Agriculture
USFWS	U. S. Fish and Wildlife Service
USGS	U. S. Geological Survey
WOUS	Waters of the United States

1.0 INTRODUCTION

On August 29, 2005, Hurricane Katrina struck the Mississippi Gulf Coast, causing extensive damage. Subsequently, Presidential Disaster Declaration FEMA-1604-DR-MS made 81 of the 82 counties in Mississippi eligible for Public Assistance funds distributed by the Federal Emergency Management Agency (FEMA) to state and local governments and certain nonprofit organizations for the repair or replacement of disaster-damaged facilities.

The storm surge from Hurricane Katrina inundated much of the City of Biloxi, damaging a large portion of the City's water distribution, sewerage and stormwater drainage systems, including a number of lift stations. As a result, the Restore Biloxi Infrastructure Program was initiated to restore the City's infrastructure (sanitary sewer lines, water lines, stormwater drainage and lift stations to pre-Katrina conditions. The Restore Biloxi Program is a coordinated effort of the City of Biloxi in partnership with the Mississippi Emergency Management Agency (MEMA) and FEMA.

As part of the Restore Biloxi Program, FEMA has agreed to fund the acquisition of easements needed to replace the utilities located along U. S. Highway 90 (US 90). The Mississippi Department of Transportation (MDOT) has a long-standing policy that precludes the City from constructing or maintaining underground utilities either parallel to Highway 90 within the existing right-of-way or beneath the paved surface of the road. Therefore, it will be necessary to obtain easements parallel to the existing Highway 90 right-of-way in order to construct new water mains, sanitary sewers and storm drains. This Environmental Assessment (EA) covers the portion of the Restore Biloxi project located along Highway 90. Other portions of the Restore Biloxi Program have been covered in a separate EA.

In accordance with the *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (PL 93-288), as amended, and implementing regulations contained in Title 44, Part 206 of the Code of Federal Regulations (44 CFR 206), FEMA is required to review the environmental effects of a proposed action prior to making a funding decision. This EA has been prepared in accordance with FEMA regulations adopted pursuant to the *National Environmental Policy Act* (NEPA) (see 44 CFR 10).

2.0 PURPOSE AND NEED

Storm surge from Hurricane Katrina damaged a large portion of the City's water distribution, sewerage and stormwater drainage collection systems, including a number of lift stations. The Restore Biloxi Infrastructure Program was designed to repair or replace damaged water, sewer and drainage facilities in order to restore the City's infrastructure to pre-Katrina conditions. The program would improve the efficiency of water, sewer and drainage systems while reducing the potential for future storm impacts. Some existing sewer lift stations would be eliminated and the affected flows consolidated into new gravity sanitary sewers, which are less susceptible to future storm-related damage.

3.0 ALTERNATIVES

This section describes the alternatives that were considered to address the purpose and need stated in Section 2. Two alternatives are evaluated in this EA: the No Action Alternative and the Proposed Action Alternative.

3.1 Alternative 1: No Action

Under the No Action Alternative, no sanitary sewer lines, water lines, stormwater drainage or lift stations would be repaired or replaced in the project area and Biloxi would continue to rely on deteriorated and damaged infrastructure.

3.2 Alternative 2: Repair/Replacement of Infrastructure (Proposed Action)

Under the Proposed Action Alternative, the City of Biloxi would repair/replace sanitary sewer lines, water lines, stormwater drainage and lift stations, and perform associated minor roadway rehabilitation work within a corridor extending approximately 8.5 miles east and west along Highway 90 (see Figure 1 in Appendix A). All improvements would be made on the north side of Highway 90 in the area immediately adjacent to the route.

The project area includes MDOT-maintained right-of-way occupied by Highway 90 frontage roads, as well as sidewalks, parking lots, and vegetated portions of private, commercial and municipal properties adjacent to US 90 and is divided into ten sections (from west to east): BEA1, BEA2, BEA3, ROD9, BVW1, BVW2, BVE1, BVE2, STM1, and STM2 (see Figure 2 in Appendix A). The terrain is relatively flat with a slight slope from north to south. The entire project would be located within the 100-year floodplain in zones AE (base floodplain) and VE (base floodplain with additional velocity hazard due to wave action). Photographs of representative sites in the project area are presented in Appendix B.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

The potential impacts of the Proposed Action Alternative, and mitigation measures to offset those impacts, are summarized in Table 1. The summary table is followed by more detailed consideration of the affected environment for which potential impacts were identified.

Table 1: POTENTIAL IMPACTS AND MITIGATION MEASURES

Affected Environment	Impacts	Mitigation
Geology and Soils	No impacts to geology would occur. Minor temporary impacts to soils may occur during construction. No permanent impacts to soils are anticipated.	Appropriate Best Management Practices (BMPs), such as installing silt fences, vegetating bare soils and implementing other temporary soil stabilization measures during construction, would minimize soil erosion.
Air Quality	Temporary impacts to air quality could occur during the construction period.	Construction contractors would be required to water down construction areas when necessary to minimize dust; fuel-burning equipment running times would be kept to a minimum; and engines would be properly maintained.
Surface Water	Minor temporary impacts to surface water may occur during construction due to stormwater runoff. There would be no permanent impacts to surface waters as a result of this project.	The applicant will prepare a Stormwater Pollution Prevention Plan (SWPPP) and obtain a National Pollutant Discharge Elimination System (NPDES) permit for the project. Appropriate BMPs, such as installing silt fences, vegetating bare soils and implementing other temporary soil stabilization measures during construction, would minimize runoff.
Groundwater	No impacts to groundwater are anticipated.	None required.
Wetlands	There will be no direct impacts to wetlands, because none exist in the project area. Minor temporary impacts to adjacent wetlands and waterways may occur from sediment transport during construction.	The applicant will prepare a SWPPP and obtain a NPDES permit for the project. Appropriate BMPs, such as installing silt fences, vegetating bare soils and implementing other temporary soil stabilization measures during construction, would minimize runoff to off-site wetlands and waterways.
Floodplains	There would be minimal impact to floodplains, because most of the infrastructure that is to be replaced or rehabilitated is below ground. Five existing pump stations (with elevated platforms for electrical equipment and above-grade components) would be rehabilitated, and 13 existing lift stations would be removed.	Lift station controls and generators will be located on elevated structures at or above the base flood elevation (BFE).

Affected Environment	Impacts	Mitigation
Coastal Resources	There would be minimal temporary impacts to coastal resources during construction. Minor temporary impacts to adjacent wetlands and waterways may result from sediment transport during construction. By letter dated August 21, 2012, the Department of Marine Resources provided comments on the project.	The applicant will prepare a SWPPP and obtain a NPDES permit for the project. Appropriate BMPs, such as installing silt fences, vegetating bare soils, and implementing other temporary soil stabilization measures during construction, would minimize runoff to off-site wetlands and waterways.
Threatened and Endangered Species and Critical Habitat	No impacts to threatened or endangered species or critical plant or animal habitat are anticipated. By letter of August 13, 2012, the U.S. Fish and Wildlife Service indicated that the project will not adversely affect threatened or endangered species or their habitats.	None required.
Historic Properties	A cultural resources survey conducted by Coastal Environments, Inc. indicated that several historically significant properties are located within the project area.	Formal consultation with the Mississippi Department of Archives and History (MDAH) has been conducted. Phase II testing will be conducted at four sites which are potentially eligible for listing in the National Register of Historic Places (NRHP) prior to construction in order to determine eligibility. Monitoring during construction will be conducted at two sites which are eligible for listing in the NRHP. In addition, should unrecorded cultural resources be encountered during the project, all construction activities would cease and MDAH would be contacted immediately in order to afford the opportunity for appropriate comments in accordance with 36 CFR 800.13.

Affected Environment	Impacts	Mitigation
American Indian Cultural/Religious Sites	No impacts to American Indian cultural/religious sites are anticipated. The Mississippi Band of Choctaw Indians was contacted by letter dated June 15, 2012 regarding the project. The failure of the Tribal Historic Preservation Officer (Ken Carleton) to respond has resulted in a determination of concurrence by default.	During construction, if any cultural resources are encountered, construction activities would cease and the Mississippi Band of Choctaw Indians would be contacted for consultation.
Environmental Justice	No disproportionately high or adverse impact on minority or low-income populations is anticipated. All populations would benefit from the repair or replacement of sanitary sewer lines, water lines, stormwater drainage facilities and lift stations damaged by Hurricane Katrina.	None required.
Noise	Temporary noise impacts would occur at the project site during the construction period.	Construction would occur during normal business hours and equipment would meet all local, state, and Federal noise regulations.
Traffic	There would be a minor temporary increase in the volume of traffic on roads in the immediate vicinity of the project due to the additional vehicular trips generated by construction-related activity.	Construction vehicles and equipment would be stored on-site during project construction, and appropriate signage would be posted on affected roadways.
Public Health and Safety	There would be no temporary or permanent adverse impacts on public health and safety as a result of this project. Public health and safety would be improved by the repair and replacement of sanitary sewer lines, water lines, and stormwater drainage facilities	All construction activities would be performed using qualified personnel and in accordance with applicable standards specified in regulations promulgated by the Occupational Safety and Health Administration (OSHA). Appropriate signage and barriers would be in place prior to the initiation of construction in order to alert pedestrians and motorists to possible health and safety hazards.

4.1 Geology and Soils

The project site lies within the East Gulf Coastal Plain. This broad physiographic designation extends from the Gulf of Mexico to northern Tennessee, and from eastern Louisiana to western Florida, and is comprised of coastal marine deposits (USGS, 2007). The project site is located within the Coastal Flatwoods ecological region of the East Gulf Coastal Plain, an area approximately 10 to 15 miles wide that parallels the Gulf Coast. Coastal Flatwoods are characterized by level terraces and clays, sands, and gravels. Saltwater marshes lie along the southern boundary of the Coastal Flatwoods. According to the U. S. Geological Survey (USGS) 1992 7.5-minute topographic quadrangle maps for Biloxi and Ocean Springs, the elevation of the project site ranges from 6 to 20 feet National Geodetic Vertical Datum of 1929 (NGVD29).

The lowest elevations are in the eastern portion of the project corridor between I-110 and Point Cadet. The highest elevations are in the portion of the proposed project corridor between Caldwell Avenue and Azalea Drive, 0.6 to 0.9 mile west of I-110.

The soils at the project site consist predominantly of Lakeland fine sand and Latonia loamy sand. From just west of Oak Street eastward to the Biloxi Bay, the soils in the project area are mapped as Eustis loamy sand, 0 to 5 percent slopes. There are two small areas along the project corridor that are mapped as sulfaquepts (between Reynoir Street and Bellman Street). Soils located in the unnamed drainage ditch on the Beauvoir property, just west of Brady Drive, are mapped as Plummer loamy sand (U. S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS), 2012c). The Lakeland series consists of very deep, excessively drained, rapid to very rapidly permeable soils on uplands. The Latonia series consists of deep, well-drained, moderately rapidly permeable soils. The Eustis series consists of deep, somewhat excessively drained soils. The Plummer series consists of poorly or very poorly drained soils (USDA/NRCS, 2012b).

The Farmland Protection Policy Act (FPPA) states that Federal agencies must “minimize the extent to which Federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses....” Soils that are located within city limits are not considered prime or unique farmland (USDA/NRCS, 2011c); therefore, because the project site is within the city limits of Biloxi, the FPPA does not apply, and a farmland conversion impact rating form is not required. By letter of August 29, 2012, the USDA/NRCS indicated that no FPPA determination is required for this project.

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts to geology or soils.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to geology would occur because construction activities would not occur deep enough to affect geological resources. A Neel-Schaffer geologist conducted a site visit on August 10, 2012, and found that on-site soils had previously been disturbed. Clearing and grading activities would disturb relatively shallow soils at the project site; however, because the site is almost level, disturbance would be minimal. Implementation of appropriate BMPs

would be required at the construction site, including the installation of silt fences and the revegetation of soils to minimize soil erosion.

4.2 Water Resources

4.2.1 Surface Water

The *Clean Water Act* (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into surface water resources.

As noted above (under “Geology and Soils”), the USGS topographic maps for Biloxi and Ocean Springs indicate that the elevation of the project site ranges from 6 to 20 feet NGVD29, with the lowest elevations located east of I-110 and the highest located a little less than a mile west of I-110. The project site itself is adjacent to U. S. Highway 90 (Beach Boulevard), immediately north of the state-maintained right-of-way. The Mississippi Sound lies from 240 to 750 feet south of the project site; the Bay of Biloxi is less than 100 feet east of the eastern end of the project site.

There is an unnamed drainage feature (the southern end of which is located approximately 17.5 feet north of the project site) located on the Beauvoir property west of Brady Drive. The unnamed drainage feature flows southward from Oyster Bayou into a reinforced concrete pipe. The pipe extends beneath Highway 90 and discharges excess water from the bayou into the Mississippi Sound.

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts to surface water resources.

Proposed Action Alternative – Under the Proposed Action Alternative, temporary minor impacts on off-site surface waters, including the unnamed drainage feature located on the Beauvoir property, could occur during construction due to soil erosion resulting from ground-disturbing activities. Prior to construction, the applicant would prepare a SWPPP and obtain a NPDES permit from the Mississippi Department of Environmental Quality (MDEQ). The SWPPP would specify BMPs that would be employed in order to minimize the erosion of soil from the construction area and to reduce off-site sediment transport.

On August 7, 2012, letters requesting project review were sent to the U.S. Environmental Protection Agency (EPA) Water Protection District, the MDEQ Office of Pollution Control, and the Mississippi Soil and Water Conservation Commission (MSWCC) (see Appendix C). By correspondence dated August 9, 2012, MDEQ responded with a list of sites within Harrison County that have potential contamination issues related to them. None of the sites are located along the project corridor. There are 23 registered underground storage tank (UST) facilities (active and inactive) located along the project corridor. Twelve of these facilities have reported releases; however, all of the facilities with reported releases have

received letters of “No Further Action required” (NFA) from the MDEQ. No responses from EPA or MSWCC have been received to date.

4.2.2 Floodplains

Executive Order (EO) 11988 (“Floodplain Management”) requires Federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. Consistent with the EO 11988 mandate, Flood Insurance Rate Maps (FIRMs) were examined during the preparation of this EA. The entire project site is located in the 100-year floodplain, within Zone AE (elevations 18, 19, and 20) and within Zone VE (elevations 19, 20, 21 and 22) which includes the additional hazard of water velocity (wave action) associated with storm surge (FEMA, 2009; FIRMs Number 28047C0288G, 28047C0289G, 28047C0293G, 28047C0294G, and 28047C0313G) (see Figure 3 in Appendix A).

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts to the floodplain.

Proposed Action Alternative – Under the Proposed Action Alternative, impacts to the floodplain would be minimal. Although the proposed project would occur entirely within the 100-year floodplain, the majority of the infrastructure improvements (sanitary sewer lines, water lines, and stormwater drainage facilities) would be constructed below ground. Thirteen existing pump stations would be removed, and five existing pump stations would be rehabilitated (at the following locations):

- North side of Highway 90 at the Edgewater Mall between Eisenhower Drive and Edgewater Drive;
- Northwest corner of Highway 90 and Beauvoir Road;
- Southwest of the intersection of Highway 90 and Rodenberg Avenue;
- North of Highway 90 immediately east of I-110 in the Beau Rivage employee parking lot; and
- Northwest corner of Highway 90 and Chalmers Drive.

The elevations for the controls, platforms and equipment associated with the pump stations would be constructed at or above the base flood elevation (BFE) determined in consultation with the City of Biloxi Floodplain Manager. All appropriate measures would be taken to minimize floodplain impacts in order to preserve the functionality of the floodplain. This would be done in compliance with Section 3(b) of EO 11988 which says, "To achieve flood protection, agencies shall, wherever practicable, elevate structures above the base flood level rather than filling in land."

There will be minimal placement of above-ground fill material in the floodplain where necessary to facilitate proper drainage. Flooding in the Biloxi area is predominantly caused by inadequate drainage due to the flat topography, as well as occasional tidal storm surge. Among the indirect impacts of the project include supporting the ongoing occupancy of the floodplain by the restoration of drainage facilities damaged or

destroyed by Hurricane Katrina. Although the project would not encourage additional development in the floodplain, it would provide improved infrastructure to support residential and commercial land uses in the 100-year floodplain. In accordance with EO 11988, FEMA’s Eight-Step Planning Process for Floodplains was completed to identify, minimize, and mitigate potential floodplain impacts (see Appendix D).

4.2.3 Groundwater

The EPA defines a sole source aquifer as an underground water source that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend on the aquifer for drinking water. The Sole Source Aquifer Program (40 CFR 149) is authorized by Section 1424(e) of the *Safe Drinking Water Act* of 1974. Designation of an aquifer as a sole source aquifer provides EPA with the authority to review all proposed projects receiving Federal funds to ensure that they do not endanger the water source.

The proposed project is in compliance with the requirements of the Sole Source Aquifer Program. The project site is in Biloxi, in the southeastern part of Harrison County, which is outside of the stream flow and recharge source zones of the Southern Hills Regional Aquifer, the closest designated sole-source aquifer. The aquifer is located to the west of the Pearl River, approximately 40 miles from the project area.

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts to groundwater resources or to a sole source aquifer.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to groundwater resources or any sole source aquifer are anticipated. The depth of the proposed construction would not be deep enough to affect the potable aquifer. Moreover, the proposed project is located outside of the stream flow and recharge source zones of the nearest designated sole-source aquifer.

4.2.4 Waters of the U.S. Including Wetlands

The U. S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into Waters of the United States (WOUS), including wetlands, pursuant to Section 404 of the CWA. EO 11990 (“Protection of Wetlands”) requires Federal agencies to avoid, to the extent possible, adverse impacts to wetlands. According to the National Wetlands Inventory (NWI) maps, no wetlands are located within the project site (see figures 4A – 4I in Appendix A).

The *Coastal Zone Management Act* (CZMA) encouraged and assisted coastal states, including Mississippi, to designate coastal zone boundaries and to develop coastal zone management programs to improve protection of sensitive shoreline resources and to guide sustainable use of coastal areas. According to the National Oceanic and Atmospheric Administration (NOAA), the project site is located within the Mississippi Coastal Zone

(NOAA, 2004).

On July 10, 2012, letters requesting project review were sent to the Mississippi Department of Marine Resources (MDMR) Bureau of Wetlands Permitting and the USACE Mobile District. The MDMR response dated September 16, 2011, stated that if coastal wetland impacts are anticipated, an application should be submitted to MDMR for review (see Appendix C). The USACE response dated July 18, 2012, stated that the project had been assigned project number SAM-2-12-00880-PAH. Mr. Philip Hegji, representing the USACE Mobile District, visited the project site with Neel-Schaffer, Inc. personnel representing the City of Biloxi on July 31, 2012. The joint survey team identified jurisdictional wetlands in a drainage ditch to the north of the project area, on the Beauvoir property just west of Brady Drive. Neel-Schaffer representatives provided the USACE Mobile District with additional project construction details for this area on August 3, 2012. After review of the material submitted, the USACE indicated by letter dated August 6, 2012, that a Department of the Army permit pursuant to Section 404 of the CWA or Section 10 of the *Rivers and Harbors Act* would not be required for the proposed project.

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts to WOUS, including wetlands, or the Mississippi Coastal Zone.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to WOUS, including wetlands, would be anticipated to occur. Temporary minor impacts to off-site surface waters, including the unnamed drainage feature on the Beauvoir property north of the project area, the Mississippi Sound south of the project area, and Biloxi Bay east of the project area, could occur during project construction. These transitory impacts would primarily result from soil erosion during ground-disturbing activities. Because the proposed project construction site collectively comprises more than 5 acres, the design engineers would be required to prepare a SWPPP. The SWPPP would call for the use of appropriate BMPs designed to minimize soil erosion and reduce off-site sediment transport. BMPs required at the construction site would include the installation of silt fences and the revegetation of soils to minimize soil erosion. The design engineers would also be required to apply to MDEQ for a NPDES permit for construction activities.

The proposed project would replace damaged infrastructure already located within the Mississippi Coastal Zone and is not anticipated to directly encourage population growth or additional development within the Coastal Zone Management Area.

4.3 Transportation

The project site is located primarily north of, adjacent and parallel to Highway 90, with two deviations: a 450-foot segment west of Seal Avenue that extends northward from Highway 90 to a lift station, and a 630-foot segment, located roughly 180-290 feet north of Highway 90, that

runs east to west from the Beau Rivage parking lot at Reynoir Street to the parking lot west of Caillavet Street. Highway 90 is functionally classified as a principal arterial with limited control of access. According to the Federal Highway Administration (FHWA) *Functional Classification Guidelines* (revised in 1989), the principal arterial system should carry the major portion of trips entering and leaving the urban area, as well as the majority of through-movements bypassing the central city. In addition, significant intra-area travel, such as trips between central business districts and outlying residential areas, between major inner-city communities, or between major suburban centers, should be served by this system. Frequently the principal arterial system will carry important intraurban as well as intercity bus routes. Finally, this system in small urban and urbanized areas should provide continuity for all rural arterials which intercept the urban boundary.

No Action Alternative – Under the No Action Alternative, no changes to transportation would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, short-term impacts to transportation, and especially site access, are anticipated during the construction of the proposed project. There would be a minor temporary increase in the volume of traffic on roads in the immediate vicinity of the project site, resulting from the addition of construction vehicles to the usual flow, which could potentially result in slower travel for the duration of the construction phase. To mitigate potential delays, construction vehicles and equipment would be stored on-site during project activities, and appropriate signage would be posted on affected roadways. Post-construction traffic volumes in the vicinity of the project site would return to normal levels. On August 7, 2012, a letter requesting project review was sent to MDOT (see Appendix C). No response has been received to date.

4.4 Environmental Justice

EO 12898 (“Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”) mandates that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were reviewed to determine if the proposed project would have a disproportionate impact on minority or low-income persons.

The project site is located in the City of Biloxi, Harrison County, Mississippi. The City of Biloxi has a slightly higher percentage of persons with income below the poverty level compared to Harrison County and a lower percentage than the State of Mississippi (U.S. Census Bureau, 2010). Biloxi has a minority population that is proportionately lower than Harrison County and much lower than the State of Mississippi (see Table 2).

**Table 2: COMPARATIVE DEMOGRAPHIC DATA FOR THE CITY OF BILOXI,
HARRISON COUNTY AND THE STATE OF MISSISSIPPI**

Demographic	State of Mississippi	Harrison County	City of Biloxi
Total population (2010)	2,967,297	187,105	44,054
Estimated median household income (2010)	\$37,813	\$42,523	\$41,655
Percent of persons below poverty level (2010)	22.29%	18.8%	19.6%
Percent minority population (2010)	39.3%	27.5%	26.8%
Percent Hispanic or Latino origin (2010)	2.7%	5.3%	8.7%
Percent of population over age 65 (2010)	12.8%	11.7%	12.1%

Source: U. S. Census Bureau (2010).

No Action Alternative – Under the No Action Alternative, there would be no disproportionately high or adverse effect on minority or low-income populations; since all population groups would be adversely affected by the deteriorating condition of existing water, sewer and stormwater drainage infrastructure in Biloxi.

Proposed Action Alternative – The Proposed Action Alternative would not have a disproportionately high or adverse effect on minority or low-income populations, since the proposed project would restore the City’s infrastructure to pre-Katrina conditions by repair/replacement of sanitary sewer lines, water lines, stormwater drainage facilities and lift stations. Some existing sewer lift stations would be eliminated and the flows consolidated into new gravity sanitary sewers which would be less susceptible to future storm damage. All populations would benefit equally from the Proposed Action due to the improved efficiency of the overall system, and reduction of potential from future storm impacts.

4.5 Air Quality

The *Clean Air Act* (CAA) authorizes the EPA to promulgate National Ambient Air Quality Standards (NAAQS) for designated airborne pollutants and requires that a state not in compliance with the standards adopt a Statewide Implementation Plan (SIP) to achieve compliance. Under the CAA, the EPA establishes primary and secondary air quality standards. Primary standards are meant to protect the health of the public against potentially harmful levels of air pollution. The health of sensitive populations, such as people with asthma, children, and older adults, is of particular concern in setting the primary standards. Secondary air quality standards protect public welfare by promoting ecosystem health and preventing decreased

visibility and damage to crops and buildings. EPA has established NAAQS for the following six *criteria pollutants*:

- Ozone (O₃);
- Particulate matter less than 2.5 micrometers in size (PM_{2.5}) or greater than 2.5 but less than 10 micrometers in size (PM₁₀);
- Nitrogen dioxide (NO₂);
- Carbon monoxide (CO);
- Sulfur dioxide (SO₂); and
- Lead (Pb).

According to the MDEQ, the entire State of Mississippi is currently classified as being in *attainment* status, meaning that existing levels of criteria air pollutants do not exceed the NAAQS (MDEQ, 2009a).

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts on air quality.

Proposed Action Alternative – Under the Proposed Action Alternative, short-term minor impacts to air quality could occur during the construction period. Typical construction activities include grading, grubbing, and the addition of fill material to the project site, all of which would tend to heighten the levels of ozone and particulate matter in the air. To reduce temporary impacts to air quality, construction contractors would be required to water down construction areas when necessary and to maintain in proper condition vehicles used in transporting construction materials and other equipment used in performing construction activities.

Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some criteria pollutants including CO, NO₂, O₃ and PM₁₀, as well as other substances, such as volatile organic compounds (VOC), that contribute to the production of criteria pollutants. To reduce the emission of criteria pollutants, and other contributory substances, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained. No long-term impacts to air quality are anticipated.

4.6 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on an A-weighted scale which is the scale most similar to the range of sounds that the human ear can hear. The *Day-Night Average Sound Level* (DNL) is an average measure accepted by Federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. Guidelines adopted by EPA, the Federal Highway Administration (FHWA) and other Federal agencies state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses including residences,

schools and hospitals (EPA, 1974).

The project site is located immediately adjacent to Highway 90 in a primarily commercial corridor with some residences and numerous vacant land parcels that have been unoccupied since Hurricane Katrina.

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no changes in noise levels.

Proposed Action Alternative – Under the Proposed Action Alternative, short-term increases in noise levels would occur during the construction period. To reduce noise level impacts to adjacent residences, construction activities would be limited to normal daytime business hours. Equipment and machinery used at the project site would be required to meet all local, state, and Federal noise regulations. No long-term increases in noise levels are anticipated as a result of the proposed project.

4.7 Biological Resources

The proposed project consists of generally linear improvements in an area approximately 8.5 miles long by 20 feet wide north of and adjacent to Highway 90. The areas that will be affected include MDOT-maintained right-of-way occupied by Highway 90 frontage roads, as well as sidewalks, parking lots, and vegetated portions of private, commercial and municipal properties. Vegetation, where present, consists of grasses and other herbaceous plants, with scattered shrubs and trees. The U.S. Fish and Wildlife Service (USFWS) identifies the species listed in Table 3 as threatened or endangered species which are known or believed to occur in Harrison County (USFWS, July 2012). A Neel-Schaffer biologist conducted a site visit on August 13, 2012, and determined that the project site does not contain suitable habitat for any federally listed species; therefore, it is unlikely that any threatened or endangered species are present in the project vicinity.

On July 10, 2012, a letter requesting project review was sent to the USFWS. In a response dated August 13, 2012, the USFWS stated that the proposed project will have “no effect” on federally listed species or their habitats (see Appendix C).

No Action Alternative – Under the No Action Alternative, no construction would occur and there would be no impacts to biological resources.

Proposed Action Alternative – Under the Proposed Action Alternative, approximately 14,806 linear feet north of and adjacent to Highway 90 would be temporarily affected during construction of the proposed infrastructure improvements. Based on a site visit conducted by a Neel-Schaffer biologist on August 13, 2012, and information provided by USFWS, the project area does not contain habitat for any federally listed species and no impacts to threatened or endangered species are anticipated.

**Table 3: FEDERALLY LISTED THREATENED OR ENDANGERED SPECIES
POTENTIALLY OCCURRING IN HARRISON COUNTY**

Common Name	Scientific Name	Status
Louisiana black bear	<i>Ursus americanus luteolus</i>	T
West Indian manatee	<i>Trichechus manatus</i>	E
Dusky gopher frog	<i>Rana sevosa</i>	ECH
Red-cockaded woodpecker	<i>Picoides borealis</i>	E
Piping Plover	<i>Charadrius melodus</i>	TCH
Louisiana quillwort	<i>Useotus louisianensis</i>	E
Gopher tortoise	<i>Gopherus polyphemus</i>	T
Green sea turtle	<i>Chelonia mydas</i>	T
Leatherback sea turtle	<i>Dermochelys comacea</i>	E
Loggerhead sea turtle	<i>Caretta caretta</i>	T
Alabama red-belly turtle	<i>Pseudemys alabamensis</i>	E
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	E
Black pine snake	<i>Pituophis melanoleucus ssp. lodingi</i>	C
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	TCH
T = Threatened, E = Endangered, C = Candidate, ECH = Listed with Critical Habitat		

4.8 Cultural Resources

The *National Historic Preservation Act* (NHPA) of 1966 (PL 89-665; 16 USC 470 *et seq.*), as amended, established Federal policy to protect historic properties and promote historic preservation in cooperation with state, tribal and local governments, as well as other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Office (SHPO) as the entity responsible for administering state-level programs. The NHPA also created the Advisory Council on Historic Preservation (ACHP), the Federal agency responsible for overseeing the Section 106 process and providing commentary on Federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR 800) outline the procedures for federal agencies to follow in evaluating the probable effects of proposed actions on historic properties. The Section 106 process applies to any Federal undertaking that has the potential to affect historic properties, defined by the NHPA as those properties (archaeological sites, standing structures, or other historic resources) that are listed in or potentially eligible for listing in the NRHP. Although buildings and archaeological sites are most readily recognizable as historic properties, a diverse range of resources is listed in the NRHP, including roads, landscapes, and vehicles. Under Section 106, Federal agencies are responsible for identifying

historic properties within the Area of Potential Effect (APE) for an undertaking, assessing the effects of the undertaking on any historic properties present, and considering ways to avoid, minimize, and mitigate adverse effects. Because Section 106 of the NHPA defines a process by which the Federal government assesses the effects of its undertakings on historic properties, it is the primary regulatory framework used in the NEPA-mandated process to determine impacts on cultural resources.

By letters dated June 15, 2012, to the MDAH SHPO and the Mississippi Band of Choctaw Indians Tribal Historic Preservation Officer (THPO), Neel-Schaffer requested comments on the proposed project. No response from the THPO has been received to date, resulting in a default determination of concurrence. All correspondence is included in Appendix C.

A response from Mr. Greg Williamson, MDAH, on behalf of the SHPO (H.T. Holmes), was dated August 8, 2012. The letter (MDAH Log #06-139-12) indicated that due to the presence of several archaeological sites in some portions of the project area (22Hr510, 22Hr513, 22Hr529, 22Hr1026, 22Hr1027, 22Hr1042, 22Hr647, 22Hr999, 22Hr534, 22Hr911 and 22Hr591), a cultural resources survey should be performed by a qualified cultural resource professional in the project areas east of Azalea Drive.

Subsequently, the City of Biloxi contracted with Coastal Environments, Inc., to conduct a Cultural Resources Assessment of Existing and New Utility Easements in Harrison County, Mississippi, for the part of the proposed project east of Azalea Drive. The purpose of the survey was to accomplish the following: 1) locate and identify all cultural resources within the project tract; 2) determine the NRHP eligibility of cultural resources potentially affected by the proposed project; and 3) provide site-specific recommendations to mitigate adverse impacts to any eligible sites.

Work consisted of a visual survey, photographic documentation, and the excavation of shovel test pits (STPs). Shovel tests were intended to be conducted every 98 feet within each of the 34 segments. Although 171 shovel test locations were examined, only 75 were able to be excavated due to the presence of pavement, asphalt, water lines, or other impediments. Previously recorded sites within the project tract were visited and photographed, and an updated site card was submitted to MDAH. The report contained a recommendation that MDAH should be consulted to determine what action would be necessary regarding each identified resource.

By letter dated October 25, 2012, Mr. Greg Williamson of MDAH stated that sites 22Hr911 and 22Hr591 are eligible for listing in the NRHP and should be avoided, if possible. Mr. Williamson also indicated concurrence that 22Hr1026 and 22Hr1027 are potentially eligible for listing and that monitoring during construction should be performed. Furthermore, he indicated concurrence with Coastal Environments' conclusion that 22Hr510, 22Hr513, 22Hr1042, 22Hr1160 (a newly identified site), and 22HR999 are all potentially eligible for listing and should have further testing to determine eligibility if avoidance is not possible.

A telephone conference call was conducted on November 1, 2012, with Neel-Schaffer representatives, Coastal Environment Inc. representatives, and MDAH representatives. Neel-Schaffer representatives indicated that no construction work would be conducted in the areas of

22Hr1026, 22Hr1027, and 22HR1042; therefore, MDAH agreed that no monitoring during construction would be necessary in those areas. It was agreed by all parties that monitoring during construction will be conducted in the areas of 22Hr911 and 22Hr591 since those areas cannot be avoided. Work in those areas would be limited to the existing frontage road. Additional Phase II testing prior to construction would be conducted in 22Hr510, 22Hr513, 22Hr1042, 22Hr1160 (a newly identified site), and 22HR999 to determine whether or not these sites are eligible for listing in the NRHP.

No Action Alternative – Under the No Action Alternative, no construction would occur; therefore, there would be no effect on identified cultural resources.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to archaeological properties are anticipated. Monitoring during construction and additional Phase II testing of sites specified by MDAH will be conducted by a qualified cultural resource professional in coordination with MDAH. If unexpected discoveries are made and unrecorded cultural resources are encountered during the course of project execution, all work will cease and MDAH will be contacted immediately.

5.0 CUMULATIVE IMPACTS

According to the Council on Environmental Quality (CEQ) regulations, cumulative impacts represent the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).” In accordance with NEPA, and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the project site.

Post-Katrina recovery efforts along the entire Mississippi Gulf coast are nearing completion; Biloxi is the last city to initiate infrastructure repair and replacement. The recovery efforts along the coast have included demolition and construction, and most of the recovery projects have been completed. These projects and this proposed project may have a cumulative temporary impact on air quality in Biloxi by increasing criteria pollutants during construction activities. No other cumulative effects are anticipated.

6.0 PUBLIC INVOLVEMENT

FEMA is the lead Federal agency for conducting the NEPA compliance process for the proposed project in Biloxi, Mississippi. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA

provisions.

The City of Biloxi will notify the public of the availability of the draft EA through publication of a public notice in a local newspaper. FEMA will conduct an expedited 15-day public comment period commencing on the initial date of publication of the public notice.

7.0 AGENCY COORDINATION AND PERMITS

The following agencies and organizations were contacted by letter requesting project review during the preparation of this EA. These letters and responses received to date are included in Appendix C:

- U.S. Army Corps of Engineers, Mobile District, Regulatory Division
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Environmental Protection Agency, Region 4, Water Protection Division
- U.S. Fish and Wildlife Service, Jackson Field Office
- Mississippi Department of Agriculture and Commerce
- Mississippi Department of Archives and History (SHPO)
- Mississippi Band of Choctaw Indians (THPO)
- Mississippi Department of Environmental Quality, Office of Pollution Control, Environmental Permits Division
- Mississippi Department of Marine Resources, Bureau of Wetlands Permitting
- Mississippi Department of Transportation, Environmental Division
- Mississippi Soil and Water Conservation Commission

In accordance with applicable local, state and Federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the project site.

8.0 CONCLUSIONS

No impacts to geology, groundwater, cultural resources, environmental justice, or biological resources are anticipated under the Proposed Action Alternative. To ensure that adverse effects to cultural resources are avoided, monitoring during construction and additional Phase II testing of sites specified by MDAH will be conducted by a qualified cultural resource professional in coordination with MDAH. If unexpected discoveries are made and unrecorded cultural resources are encountered during the course of project execution, all work will cease and MDAH will be

contacted immediately.

During the construction period, short-term impacts to soils, surface water, transportation, air quality, and noise are anticipated. All short-term impacts will be mitigated using BMPs, such as silt fences and proper equipment maintenance.

Minor, long-term impacts to the 100-year floodplain would occur. There will be minimal placement of above-ground fill material in the floodplain where necessary to facilitate proper drainage. Although the proposed project would occur entirely in the 100-year floodplain, the majority of the infrastructure improvements (sanitary sewer lines, water lines, and stormwater drainage facilities) would be constructed below ground. The project would include the rehabilitation of five existing pump stations: Edgewater at Highway 90; Beauvoir Road at Highway 90; Rodenberg Avenue at Highway 90; Buena Vista (Beau Rivage employee parking lot immediately east of I-110); and northwest corner of Highway 90 and Chalmers Drive. The elevations for the controls, platforms, and other equipment associated with the pump stations, would be constructed at or above the base flood elevations (BFEs) in coordination with the City of Biloxi Floodplain Manager. All floodplain impacts would be minimized in order to preserve the function of the floodplain.

9.0 REFERENCES

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Appendix A
Figures

Figure 1
Topographic Map Depicting Project Location

Figure 2
Aerial Photographs Depicting Project Location
(prepared by the City of Biloxi)

Figure 3
FEMA Flood Insurance Rate Maps

Figure 4
National Wetland Inventory Maps

Appendix B
Photographs

Appendix C
Agency Coordination

Appendix D

Eight-Step Planning Process for Floodplains

Appendix E
Public Notice of Draft Environmental Assessment

