Appendix C – Environmental

Mary Rhodes Pump Station, TX

Section 14
Draft Integrated Detailed Project Report and Environmental Assessment

August 2022

US Army Corps of Engineers
Galveston District

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CONTENTS

AAHUs	Average Annual Habitat Units
AAEQ	Average Annual Equivalent
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
ADCIRC	Advanced CIRCulation
ADM	Agency Decision Milestone
ALU	High Aquatic Life Use; Water Quality Classification
AMM	Alternatives Milestone Meeting
AOC	Area of Concern
AOM	Assumption of Maintenance
APE	Area of Potential Effect
ATR	Agency Technical Review
BA	Biological Assessment
BCR	Benefit-to-Cost Ratio
BMP	Best Management Practice
BP	Before Present
BU	Beneficial Use
CAA	Clean Air Act
CBIA	Coastal Barrier Improvement Act
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CCAC	Coastal Coordination Advisory Committee
CCC	Coastal Coordination Council
CDF	Confined Disposal Facility
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNRA	Coastal Natural Resource Areas
CTR1	Coastal Texas Ecosystem Protection and Restoration, Texas, Feasibility Study, Region 1
CWA	Clean Water Act
CY	Cubic Yards
CZMA	Coastal Zone Management Act
DA	Department of Army

DIFR-EA	Draft Integrated Feasibility Report and Environmental Assessment
DMMP	Dredged Material Management Plan
DO	Dissolved Oxygen
DoD	Department of Defense
DSHS	Department of State Health Services
DWT	Dead Weight Tons
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental Justice
EM	Engineer Manual
EOP	Environmental Operating Principles
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EQ	Environmental Quality
ER	Engineer Regulation
ERL	Effects Range Low
ERM	Effects Range Meridian
ERDC	Engineer Research and Design Center
ESA	Endangered Species Act
ETL	Engineer Technical Letter
ºF	Degrees Fahrenheit
FCA	Flood Control Act
FCU	Fish Consumption Use; Water Quality Classification
FEMA	Federal Emergency Management Agency
FMC	Fishery Management Councils
FMP	Fishery Management Plan
FWCA	Fish and Wildlife Coordination Act
FWOP	Future Without-Project
FY	Fiscal Year
GC	General Conformity
GCD	General Conformity Determination
GIS	Geographic Information System
GMFMC	Gulf of Mexico Fishery Management Council

GNF	General Navigation Feature
GOM	Gulf of Mexico
GRBO	Gulf Regional Biological Opinion
GRP	Gross Regional Product
GU	General Use; Water Quality Classification
HHS	U.S. Department of Health and Human Services
HQ	Headquarters
HTRW	Hazardous, Toxic and Radioactive Waste
IEPR	Independent External Peer Review
ITA	Incidental Take Authorization
LERRs	Lands, Easements, Rights-of-Way, and Relocations
LERRDs	Lands, Easements, Rights-of-Way, and Relocations and Disposal Areas
LOA	Length Overall
LOOP	Offshore crude terminal
LRR	Limited Reevaluation Report
LSF	Local Service Facilities
MII or Mii	MII is the Second Generation of MCACES
MBTA	Migratory Bird Treaty Act
MCACES	Micro Computer Aided Cost Engineering System
Ug/kg	Microgram/kilogram
MCY	Million Cubic Yards
Mg/kg	Milligram/kilogram
MHW	Mean High Water
MLLW	Mean Lower Low Water
MLT	Mean Low Tide
MMPA	Marine Mammal Protection Act
MM/YR	Millimeters per Year
MOU	Memorandum of Understanding
MPRSA	Marine Protection, Research, and Sanctuaries Act
MSA	Metropolitan Statistical Area
MSC	Major Subordinate Command
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSL	Mean Sea Level

NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NED	National Economic Development
NEPA	National Environmental Policy Act
NFS	Non-Federal Sponsor
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO_x	Nitrogen Oxide
NPL	National Priorities List
O&M	Operations and Maintenance
ODMDS	Ocean Dredged Material Disposal Site
OSE	Other Social Effects
OWPR	Office of Water Project Review
OWU	Oyster Waters Use; Water Quality Classification
P&G	Principles and Guidelines
PA	Placement Area
PAH	Polycyclic Aromatic Hydrocarbons
PAL	Planning Aid Letter
PCB	Polychlorinated Biphenyls
PB	Planning Bulletin
PDT	Project Delivery Team
PED	Preconstruction Engineering and Design
P.L.	Public Law
PMP	Project Management Plan
PPT	Parts Per Trillion
PPTH	Parts Per Thousand
RCRA	Resource Conservation and Recovery Act
RECONS	USACE Online Regional Economic System
RED	Regional economic development
REP	Real Estate Plan
RFMC	Regional Fishery Management Councils

RGL	Regulatory Guidance Letter
RHA	Rivers and Harbors Act
ROD	Record of Decision
RSLC	Regional Sea Level Change
RU	Recreation Use; Water Quality Classification
S&A	State and Agency
SAV	Submerged Aquatic Vegetation
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMMP	Site Monitoring and Management Plan
SWD	Southwestern Division
T&E	Threatened and Endangered
TCEQ	Texas Commission on Environmental Quality
TCMP	Texas Coastal Management Program
TDSHS	Texas Department of State Health Services
TEU	Twenty-Foot Equivalent Units
TMDL	Total Maximum Daily Load
TPWD	Texas Parks and Wildlife Department
TSP	Tentatively Selected Plan
TWDB	Texas Water Development Board
TXGLO	Texas General Land Office
USACE	United States Army Corps of Engineers
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VLCC	Very Large Crude Carriers
VOC	Volatile Organic Compound
WIIN Act	Water Infrastructure Improvements for the Nation Act
WMA	Wildlife Management Area
WRDA	Water Resources Development Act
WRRDA	Water Resources Reform and Development Act

1.0 STUDY INFORMATION

This Environmental Appendix documents the preliminary environmental review for the features of the Mary Rhodes Pump Station (MRPS) Feasibility Study. It supports the viability of the Tentatively Selected Plan (TSP), which is presented in the MRPS Study Draft Integrated Feasibility Report–Environmental Assessment (DIFR-EA). This study is conducted under the authority of the USACE Continuing Authorities Program, Section 14 of the Flood Control Act of 1946, as amended, which provides authority for the USACE to provide emergency stream bank protection for public facilities and services. The primary purpose of the MRPS study is to develop a plan to protect the Mary Rhodes Pump Station near the City of Bay City, Texas from encroaching erosion along the Colorado Riverbank. This includes assessing opportunities, evaluating alternatives, and selecting a plan from those alternatives.

1.1 Description of Alternatives

This project includes the right bank of the Colorado River within Matagorda County as shown on Figure 1. Alternatives were formulated to address streambank erosion. The following are the alternatives that were investigated:

- Alternative 1 is the No Action alternative

- Alternative 5 consists of rebuilding the bank out, bank sloping and toe rip rap (longitudinal fill stone toe protection). The slope of this alternative will be set at a 3:1 (H:V). A major feature of this alternative consists of riprap tiebacks embedded under the top of the bank at approximately every 235 feet along the project length. This is estimated to be approximately 2,600 feet. This is estimated to be approximately 2,600 feet.

- Alternative 6 consists of rebuilding the bank out, bank sloping, slope riprap, and toe riprap (longitudinal fill stone toe protection). The slope of this alternative will also be set at a 3:1 (H:V). This alternative includes riprap up the slope to an elevation of approximately 46 feet, along the entire length of the project. This is estimated to be approximately 2,600 feet.

1.2 Selected TSP Alternative 5

The PDT plan selected the Alternative 5 - Bank Stabilization as the selected TSP. This plan was the most economically feasible and was most likely to solve the issues created by the erosion of the Colorado River streambank

2.0 EXISTING CONDITIONS

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing the proposed alternative in compliance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ), and 32 CFR 775 guidelines. The level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact. The project study area occurs along the Colorado River within Matagorda County, Texas. The project is located along the portion of the right streambank, upstream of the Texas State Highway 35 Bridge, which crosses over the Colorado River west of Bay City in Matagorda County.

2.1 Climate

The climate of the study area is humid subtropical with warm to hot summers and mild winters. The average annual high temperature is about 76 degrees Fahrenheit, with an average summer high of about 88 degrees for the months of June, July, and August, and an average annual winter low temperature of 66 degrees. Periods of freezing temperatures are infrequent and rainfall averages about 44 inches annually (National Weather Service 2020). Severe weather occurs periodically in the form of thunderstorms, tornadoes, tropical storms and hurricanes.

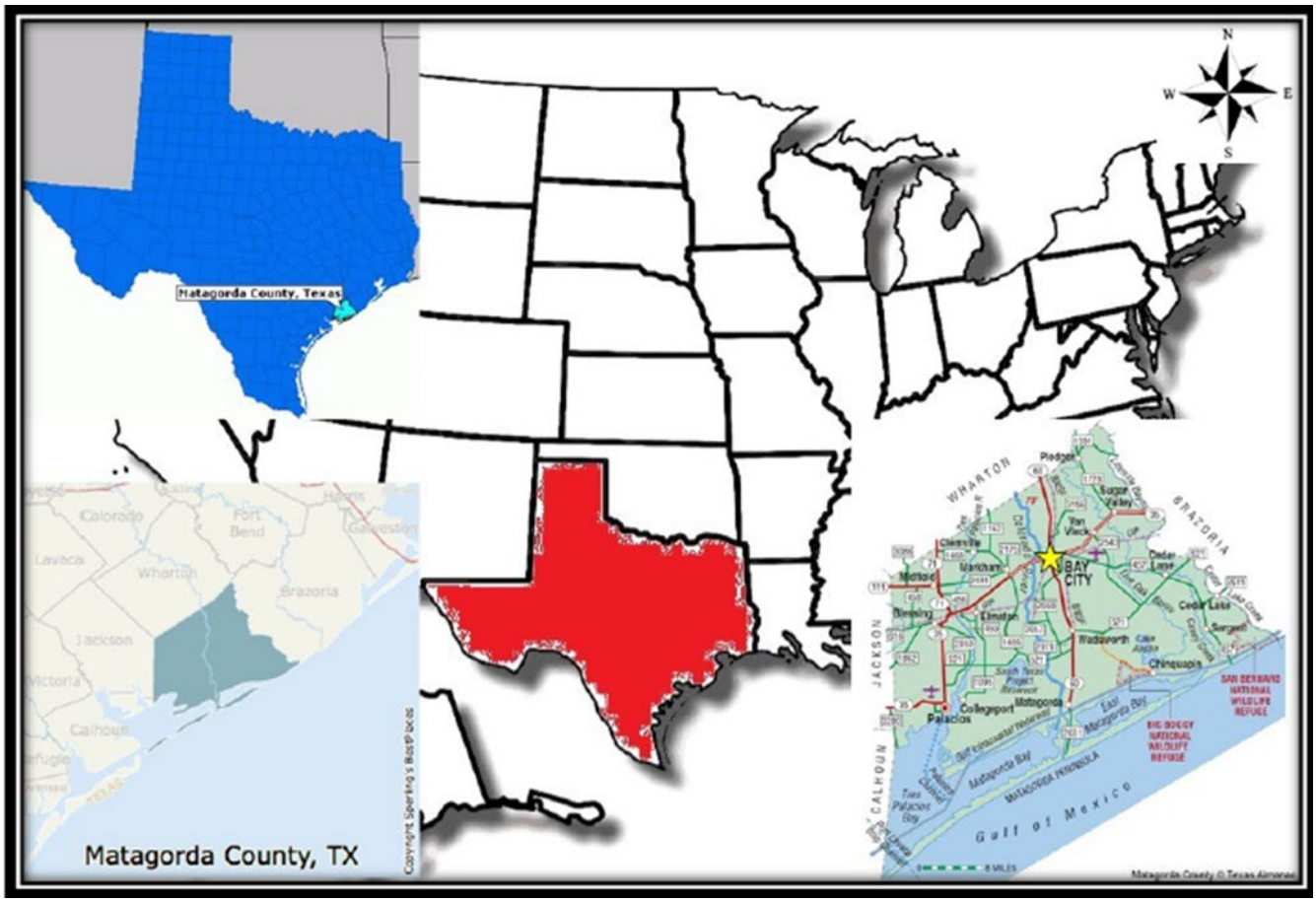

Figure 1: Mary Rhodes Intake Facility General Location

2.2 Geology

The project area is in a region known as the Gulf Coast Prairies and Marshes Ecoregion (Gould 1975). This region is a narrow band about 60 miles wide along the Texas coast bordering the Gulf of Mexico and stretching from the Sabine River to the Rio Grande. The region is generally flat and gradually slopes coastward from an elevation of approximately 245 feet (Diamond and Smeins 1984). It is comprised of shallow bays, estuaries, salt marshes, dunes, and tidal flats, as well as tallgrass coastal prairie, riparian forests, mottes, coastal woodlots, and dense brush habitats. The Beaumont rock formation of the Quaternary and Pleistocene underlie the study area with Holocene alluvial deposits located along the rivers and streams (Eifler et al. 1994). The unit is a sheet like body of Seguin sediment that varies in texture but is typically sandy within the study area (Gustavson and Holliday 1985). The floodplain deposits, including low terrace deposits 3-8 feet above floodplain, are subject to flooding. Soil composition consists mainly of clay, silt, sand, gravel, and organic matter.

2.3 Soils

The Farmland Protection Policy Act (FPPA) (Public Law 97-98, Title XV, Subtitle I, Section 1539-1549 requires federal actions to minimize unnecessary and irreversible conversion of farmland to nonagricultural uses, specifically prime farmlands. The Act defines prime farmlands as "…land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion…" The Natural Resources Conservation Service (NRCS) is responsible for designating soils as prime farmland soils. In addition, the Texas Department of Agriculture has designated soils that are of local importance for the production of food, feed, fiber, forage, or oilseed crops as soils of Statewide Importance. The proposed footprint of the project does not include land or soil suitable for agricultural activities. Based on the Soil Survey of Matagorda County, Texas (Soil Conservation Service, 1988), the majority of the project area is mapped within Clemville silty clay loam except for a small portion in the south, which is mapped as Norwood loam. Clemville soils are not considered prime farmland,. According to Soil Survey Geographic Database (SSURGO) information acquired from the Natural Resources Conservation Service (NRCS 2022), soils within the Clemville series are not considered prime farmlands, however the Norwood series soils are considered prime farmlands. Regardless of the Norwood series suitability, the current project is an existing water treatment facility and not used for agricultural purposes.

2.4 Surface Water

The headwaters of the Colorado River begin in eastern Dawson County and flow approximately 600 miles southeasterly across the state of Texas to the Gulf of Mexico near Matagorda, Texas. The total drainage area of the Colorado River Basin in Texas is 39,893 square miles. The riverbed is composed of sand and gravel, and the channel banks contain higher percentages of silt and clay.

2.5 Ground Water

Matagorda County contains portions of the Gulf Coast Aquifer (GCA) which contains formations that range in age from the Oligocene to Holocene. The GCA extends along an approximately 100-mile-wide band that runs from the Sabine River to the Rio Grande. The alluvium of the Colorado River is modeled by the Texas Water Development Board (TWDB) together with the underlying Gulf Coast Aquifer and is not treated as a distinct aquifer. In contrast, the alluvium of the Brazos River to the east has officially been designated as a 'minor aquifer' by TWDB. Water

from the Colorado River alluvium is typically found near the river and is used primarily for rural domestic and livestock uses.

2.6 Terrestrial and Aquatic Resources

The majority of the project area has been cleared of vegetation for use as a water treatment facility. Vegetation within the vicinity of the project area includes black willow (Salix nigra), green ash (Fraxinus pennsylvanica), soapberry (Sapindus drummondii), cedar elm (Ulmus crassifolia), hackberry (Celtis laevigata), sycamore (Platanus occidentalis), Bois d' arc (Maclura pomifera), side oats gramma (Bouteloua curtipendula), and ragweed (Ambrosia artemisiifolia). There is no aquatic vegetation in the immediate vicinity project area. The study area is disturbed from previous construction of the water treatment facility and also extensive erosion of the right bank of the Colorado River. Aquatic habitat in the area may include undercut banks, logs, root wads, and a sparse canopy of overhanging vegetation.

Due to the disturbed nature of the project area, habitat for terrestrial animals in the project area is extremely limited. Birds that have been observed in the area include barn swallows (Hirundo rustica), American robins (Turdus migratorius), cardinals (Cardinalis cardinalis), common grackles (Quiscalus quiscula), house sparrows (Passer domesticus), and mockingbirds (Mimuspolyglottos spp.). Herpetofauna include aquatic and terrestrial reptile and amphibian species. Common reptiles found in Matagorda County include the Texas rat snake (Elaphe obsoleta), patch-nosed snake (Salvadora grahamiae), northern fence lizard (Sceloperus undulatus), and ground skink (Scincella lateralis). Lower Colorado River Authority (LCRA) survey records indicate that 42 species of fish frequent the Colorado River. Some of the fish found in the river in that area include largemouth (Micropterus salmoides) and Guadalupe bass (Micropterus treculii), flathead (Pylodictis olivaris) and channel catfish (Ictalurus punctatus), bluegill (Lepomis macrochirus), long ear sunfish (Lepomis megalotis), common carp (Cyprinus carpio), blue sucker (Cycleptus elongates), stoneroller (Campostoma anomalum), gizzard shad (Dorosoma cepedianum), green striped topminnow (Fundulus notatus), mosquito fish (Gambusia spp.), and three species of darters (logperch (Percina caprodes), rainbow darter (Etheostoma caeruleum) and dusky darter (Percina sciera)). There were no fish or aquatic invertebrates observed within the immediate project area most likely due to poor habitat caused by heavy erosion.

2.7 Floodplains

The project location is within the 100-year floodplain of the Colorado River. Since the project site is located at an existing floodplain, locating the recommended action in the floodplain would be the only practicable alternative. As such, modifications to the river would be designed to minimize potential harm to or within the floodplain.

2.8 Critical Habitat

Terrestrial and aquatic habitat resources are fragmented within the study area. There is no critical habitat within the study area.

2.9 Threatened and Endangered Species

The corps identified the threatened or endangered species in Table C-1 as possibly occurring in Matagorda County. The Green sea turtle, Hawksbill sea turtle, Kemp's ridley sea turtle, Leatherback sea turtle, and the Loggerhead sea turtle are coastal species and do not occur within the project area. The two species of clams, the Texas Fawnsfoot and the Texas Pimpleback, and the Monarch Butterfly have a potential to occur within the project area.

Table C-1: Federally Listed Threatened and Endangered Species for Matagorda County, Texas

Common Name	Scientific Name	Listing Status[1]	
		USFWS[2]	NMFS[3]
Clams			
Texas Fawnsfoot	*Truncilla macrodon*	PT	NA
Texas Pimpleback	*Cyclonaias petrina*	PE	NA
Reptiles			
Green sea turtle	*Chelonia mydas*	T	T
Hawksbill sea turtle	*Eretmochelys imbricata*	E	E
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	E
Leatherback sea turtle	*Dermochelys coriacea*	E	E
Loggerhead sea turtle	*Caretta caretta*	T	T
Birds			
Northern Aplomado Falcon	*Falco femoralis septentrionalisi*	E	NA
Red knot	*Calidris canutus rufa*	T	NA

Piping plover	*Charadrius melodus*	T	NA
Eastern black rail	*Laterallus jamaicensis*	T	NA
Whooping Crane	*Grus americana*	E	NA
Insects			
Monarch Butterfly	*Danaus plexippus*	C	NA

[1]E = Endangered; T = Threatened; PE = Proposed Endangered; PT = Proposed Threatened; C = Candidate; NA = Not Applicable

[2]USFWS, 2021. https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=48321

[3]NOAA/NMFS, 2021. http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/Docu- ments/texas.pdf

2.10 Recreational Resources

With the exception of the use of the Colorado River by boaters and anglers, there are no recreational resources within the project area.

2.11 Socioeconomics

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly population, demographics, and economic development. Demographics entail population characteristics and include data pertaining to race, gender, income, housing, poverty status, and educational attainment. Economic development or activity typically includes employment, wages, business patterns, an area's industrial base, and its economic growth. The socio-economic characteristics of the City of Bay City, Texas, located near the project study area, compared to the rest of the state are presented in **Table C-2**. The City of Bay City had a population of 17,528 living in 8,304 households in 2017. The racial makeup of the city was 35.8 percent White, 14.5 percent African American, 0.4 percent Native American, 0.1 percent Asian, 0.1 percent other, and 1.6 percent from two or more races. Of the total population, 46.9 percent were of Hispanic or Latino origin. Approximately 27.1 percent of families in the City live below the poverty line compared to 14.7 percent in the state (CDM, 2020).

Table C-2. Population Data for Bay City, Texas

Population Metric	Bay City, Texas	Texas
Population		
Total Population	17,528	25,145,561
Total Households	8,304	9,977,436
Race and Ethnicity		

Population Metric	Bay City, Texas	Texas
White	35.8%	45.3%
Black or African American	14.5%	11.5%
Native American or Alaska Native	0.4%	0.3%
Asian	0.1%	3.5%
Native Hawaiian or Other Pacific Islander	0.1%	0.1%
Other Race	0.1%	0.1%
Two or More Races	1.6%	1.3%
Hispanic	46.9%	37.6%
Age		
Under 5 years	7.3%	15.3%
6 to 18 years	28.1%	15.0%
19 to 65 years	50.3%	62.7%
Over 65 years	14.3%	7.0%
Education		
High School Diploma	75.7%	80.0%
Bachelor's Degree or Higher	16.0%	25.8%
Household Income		
Median Household Income	$44,677	$59,206
Less than $14,999	9.5%	13.4%
$15,000 to $24,999	11.8%	11.4%
$25,00 to $49,999	39.8%	25.5%
$50,000 to $74,999	28.8%	18.1%
Greater than $75,000	11.06%	31.6%

USCB, 2020

2.12 Environmental Justice

In compliance with Executive Order (EO) 12898, Federal Action to Address Environmental Justice in Minority and Low-Income Populations, an analysis was performed to determine whether the proposed project would have a disproportionately adverse impact on minority or low-income population groups in the vicinity of the project area. Low-income persons are defined as "a person whose household income is at or below the Department of Health and

Human Services (HHS) poverty guidelines." The 2020 HHS poverty guideline for a family of three is $21,720. This analysis consisted of determining characteristics of residential populations in the project area. The proposed project would not separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups. There are no disproportionate impacts on any minority and/or low-income populations associated with the project.

2.13 Noise

Federal and local governments have established noise guidelines and regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise. The Federal Interagency Committee on Urban Noise developed land-use compatibility guidelines for noise in terms of day-night average sound level (DNL). It is recommended that no residential uses, such as homes, multifamily dwellings, dormitories, hotels, and mobile home parks, be located where the noise is expected to exceed a DNL of 65 decibels (dBA). For outdoor activities, the EPA recommends DNL of 55 dBA as the sound level below which there is no reason to suspect that the general population would be at risk from any of the effects of noise (EPA, 1974). Noise-sensitive receptors are facilities or areas where excessive noise may disrupt normal activity, cause annoyance, or loss of business. Land uses such as residential, religious, educational, recreational, and medical facilities are more sensitive to increased noise levels than are commercial and industrial land uses.

2.14 Air Quality

The U.S. Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality nationwide. The Clean Air Act (42 U.S.C. 7401 et seq.), as amended, requires the EPA to set National Ambient Air Quality Standards (NAAQS) for wide-spread pollutants from numerous and diverse sources considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards classified as either "primary" or "secondary." Primary standards set limits to protect public health, including the health of at-risk populations such as people with pre-existing heart or lung diseases (such as asthma), children, and older adults. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings.

EPA has set NAAQS for six principal pollutants, which are called “criteria” pollutants. These criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide (SO_2) and lead (Pb). If the concentration of one or more criteria pollutant in a geographic area is found to exceed the regulated “threshold” level for one or more of the NAAQS, the area may be classified as a non-attainment area. Areas with concentrations of criteria pollutants that are below the levels established by the NAAQS are considered either attainment or unclassifiable areas.

The project area is located within Matagorda County, Texas, and is part of an area designated as in attainment, meaning concentrations of criteria pollutants are below the levels established by the NAAQS. Due to the de minimis finding and the area’s NAAQS attainment status, a General Conformity determination is not required.

2.15 Hazardous, Toxic, and Radioactive Waste

A desktop records review was conducted using various sources to determine the presence of HTRW sites on or near the subject property. This search was focused on active cleanup sites and sites with a reasonable risk of HTRW release. Several databases were searched manually to narrow down the search area. These databases included the Environmental Protection Agency (EPA) Cleanups in my Community database, the EPA Envirofacts databases, the Texas Commission on Environmental Quality’s (TCEQ) web map of underground storage tanks (USTs)/above ground storage tanks (ASTs), TCEQ Central Registry, and the Texas Railroad Commission’s (RRC) oil and gas well Public GIS Viewer. The information collected from this desktop records review was analyzed for recognized environmental conditions (RECs) that would affect the proposed project or need further investigation, given the proposed project measures. There were no sites of concern identified within the project area.

2.16 Cultural Resources

To identify historic properties prior to the completion of the Feasibility Study, the USACE has conducted background research using the Texas Historical Commission’s Atlas database, the USGS Historical Topographic Maps Explorer, the Portal to Texas History provided by the University of North Texas, Google Earth historic aerial imagery, USGS Earth Explorer historic aerials, and the Natural Resource Conservation Service Soil Survey. This review has informed the initial design of the tentatively selected plan and is summarized in the following sections.

A single systematic cultural resources survey was conducted within the project area, to the south of the pumping station. Archaeological site 41MG136, the remains of a 20th century railroad bed, was recorded within this survey area. The site was determined ineligible for the NRHP. Four historic properties are located east of the Colorado River within the city center of Bay City, the closest of which is over 1.8 miles away; these include the Hensley-Gusman House, the Bay City USO Building, Judge William Shields Holman House and the Matagorda County Monument.

The study area is located within the eastern boundary of the original plat owned by Tomas Cayce. Based on the available information, possible buried cultural resources within the project area may include evidence of the two military occupations, a 19th century homestead, or prehistoric deposits.

3.0 ENVIRONMENTAL CONSEQUENCES

This section discusses the environmental consequences of the reasonable Action Alternatives chosen, as required under NEPA. The information used to determine environmental consequences of the No-Action and the Recommended Plan Alternatives is derived from initial descriptions and draft engineering drawings of the alternatives, field reconnaissance and desktop analysis.

3.1 No Action Alternative

Under the No Action plan, eventual failure of the bank is likely, and the MRPS would be compromised, making it unusable. The Colorado River at the project site would continue to change and move to accommodate the change in flow regimes from increased surface runoff, flows in the watershed, and storm events. Absent any remedial action, the bank retreat shows no signs of abating. The existing bank is sufficiently steep to be unstable and impractical to treat in place. Turbidity issues would continue as bank instability hinders vegetation establishment at the project site. Over time the bends in the river would become more severe and trees adjacent to the channel would continue to succumb to erosive processes, eventually falling into the river. The river would eventually return to a natural state shaped by the increases in flow events and velocities leaving the wastewater treatment facility and the neighboring residential area vulnerable to structural failure making them a public safety hazard.

3.2 Tentatively Selected Plan (Alternative 5)

3.2.1 Soils

Disturbances to soil would be primarily from excavation of the stream bank sides and the addition of fill and armor material from backhoe activities. Further disturbance to soils would be from construction equipment access. Direct and indirect impacts would come from sedimentation during rainfall events that occur during construction and before vegetation is established. While Norwood soils are considered prime farmland by the NRCS, those areas within the project footprint are not currently used for agriculture.

3.2.2 Land Use

Land use in the area includes the current Mary Rhodes pump station. The proposed alternative for stream bank stabilization would benefit the City of Corpus Christi and surrounding communities by allowing the MRPS to continue to operate.

3.2.3 Surface Water

Construction activities associated with the proposed alternative would have temporary direct and indirect impacts to water quality by causing an increase in river turbidity. This would directly affect the adjacent waters and have further indirect effects for a short distance downstream until the sediment is diluted. This short-term increase in turbidity would cause a reduction in river dissolved oxygen levels by shading the oxygen-producing phytoplankton. These impacts would occur immediately in the vicinity of the construction activity. The proposed bank protection would provide long-term beneficial impacts to water quality by eventually eliminating the source of stream bank erosion. The stabilized soils will allow for improved water quality comparable to pre-erosion conditions. As water quality increases, plant and microorganisms would increase to create a diversified aquatic habitat for fish and wildlife to use.

3.2.4 Ground Water

Stabilizing the bank would allow improved water quality by slowing or eliminating the amount of siltation and debris that sloughs into waters from storm runoff or high swift moving waters. Improving the water quality within the study area would most likely benefit ground water resources given the fact that the aquifer catchment areas usually occur along the riverbed.

3.2.5 Floodplains

Consistent with Executive Order 11988, Floodplain Management, locating the recommended action in the floodplain would be the only practicable alternative. As such, modifications to the river would be designed to minimize potential harm to or within the floodplain. In addition, the recommended project would not increase the base flood elevation to a level that would violate applicable floodplain regulations or ordinances.

3.2.6 Terrestrial and Aquatic Resources

Stream bank preparation would be required during implementation of the proposed alternative. The preparation would involve contouring, and soil removal or relocation. These construction activities would initially eliminate all terrestrial habitat in the riparian zone and adversely impact organisms utilizing this area. Noise and other disturbances associated with construction would also temporarily adversely impact terrestrial species utilizing wildlife habitats adjacent to the project site. Materials used for the construction of the proposed project would provide some habitat for terrestrial animals. Once established, the stone riprap toe protection for this project would provide suitable habitat for small mammals, reptiles, and birds which utilize subterranean sites for shelter.

Aquatic organisms presently utilizing shoreline or near shore habitats adjacent to the project site would be displaced through any construction activity which requires bank removal or contouring. Aquatic habitat provided by shading structures (such as overhanging vegetation), root wads, and undercut banks, would be eliminated by any bank preparation activities. Since the desired outcome of the project would be to alter local hydraulics and the resultant erosional characteristics of the river, the aquatic species adapted to the present hydraulic regime of the Colorado River at, or near, the project site, would be adversely impacted through changes in aquatic habitat. In addition to the water quality improvements previously identified that would benefit the aquatic resources, the proposed alternatives would provide additional beneficial impacts to fish, aquatic invertebrate, and other aquatic resources in the Colorado River by providing substrate for colonization, feeding, spawning, and refuge.

3.2.7 Threatened and Endangered Species

Due to the fragmented nature of the area and ongoing impacts from heavy erosion, it is unlikely that the subject property would support any of the protected wildlife species for other than

transitory purposes. Should any protected wildlife species be sited during construction, all activities would stop. U.S. Fish & Wildlife and Texas Parks and Wildlife Department biologists would be contacted to determine if construction activities can continue without adverse effects to protected wildlife species. A site visit will likely need to be conducted to perform a freshwater mussel survey at the project site to determine the presence of any Candidate mussel species. These surveys, if required, would be conducted before project construction.

3.2.8 Cultural Resources

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and it's implementing regulation 36 CFR Part 800, USACE is required to consider the impacts the project may have on cultural resources. Affects to cultural resources cannot be determined until a cultural resources survey is conducted during the preconstruction engineering and design phase (PED). Construction of haul roads, staging areas and any excavation of the riverbank have the potential to impact archaeological sites. No significant historic structures are located within the viewshed of the APE (see the Previously Recorded Cultural Resources section). As such, the proposed streambank and shoreline stabilization should have no effect to the viewshed of any architectural historic properties.

The USACE has consulted with the SHPO, the Comanche Nation, Caddo Nation, Apache Tribe, Alabama-Coushatta Tribe of Texas, Coushatta Tribe of Louisiana, Tonkawa Tribe of Indians, and the Wichita and Affiliated Tribes regarding the undertaking. Consultation is ongoing and will continue throughout the feasibility, design, and construction phases of the project.

A Programmatic Agreement is in development between the USACE and SHPO. A draft of the Programmatic Agreement is included in Appendix C-2 and the final report will include the final executed PA. Fulfillment of the stipulations set forth in the PA by the USACE prior to construction is required to ensure compliance with Section 106 of the NHPA and a finding of no significant impact to cultural resources under NEPA.

3.2.9 Hazardous Material

A review of Matagorda County records indicates there is no history of past storage, use, release, and disposal of any hazardous substances or petroleum products within the study area. No sites were identified within one mile of the project area or adjacent areas that could be reasonably expected to affect the bank project, or vice versa. A closed landfill and active

recycling center were found within the surrounding area. Due to the distance from the area of interest and lack of information suggesting any active or historical clean up, neither site is considered a REC. Although not classified as HTRW under USACE regulations, multiple pipelines, plugged oil wells, and dry well sites were identified within the surrounding area. As a result of these findings, a thorough pipeline/well search should be initiated during design to ensure no interaction with the existing oil and gas infrastructure occurs.

Despite there being no sites found that could be reasonably expected to affect the channel widening project, there is always a possibility that previously unidentified HTRW could be uncovered, even when a proposed project is entirely within a preexisting project footprint. Care should be taken as the project progresses to identify and address HTRW concerns that arise in a timely manner so as not to affect the proposed project.

3.2.10 Air Quality

Impacts to air quality from the recommended alternative would be temporary in nature during construction, primarily from the use of heavy equipment such as front-end loaders, back hoes, and dump trucks. Limiting the number of units required for construction activities and routine equipment inspections would be used to minimize emissions from heavy equipment. Using these practices would allow air quality to stay within attainment standards during construction.

3.2.11 Noise

Residents near the proposed construction site would experience some disturbance due to the operation of heavy equipment and maintenance vehicles. During construction activities, noise levels would increase. However, these noise disturbances would be temporary and limited to day time working hours. No long-lasting adverse environmental effects are expected to occur

.

3.2.12 Socioeconomic and Environmental Justice

The proposed alternative would not separate, or isolate any distinct neighborhoods, ethnic groups, or other specific groups. There are no disproportionate impacts on any minority and/or low-income populations associated with the project. Therefore, the requirements of Executive Order 12898 (Environmental Justice) are satisfied.

3.2.13 Irreversible and Irretrievable Commitments of Resources

The recommended action would not entail any significant irretrievable or irreversible commitments of resources. Construction would require consumption of petroleum products (just enough to run the construction equipment for a few weeks), and importing materials such as rock, soil, and gravel. However, the recommended action would entail long-term commitment and environmental stewardship to ensure the long-term sustainability of restored environmental resources.

4.0 CONSISTENCY WITH OTHER STATE AND FEDERAL LAWS

The following sections summarize actions being taken in this study to comply with various statutes applicable to Federal study or project.

4.1 Clean Air Act of 1977

The Clean Air Act (CAA) contains provisions under the General Conformity (GC) Rule to ensure that actions taken by Federal agencies in air quality nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. Under the General Conformity Rule (the Rule), Federal agencies must work with state, Tribal and local governments in a nonattainment or maintenance area to ensure Federal actions conform to the air quality plans established in the applicable state or tribal implementation plan. The regulations codifying the Rule under 40 CFR Part 93, Subpart B, specify that no Federal agency shall engage in, or provide financial assistance for any activity which does not conform to an applicable implementation plan. Please see the section/subsection of this document: ENVIRONMENTAL CONSEQUENCES/Air Quality, for additional information regarding compliance with the Clean Air Act of 1977.93.

4.2 Clean Water Act

The Recommended Plan is in compliance with all state and Federal CWA regulations and requirements. Since this is an emergency streambank protection project, there would be no other practical alternatives to conducting proposed activities within the flood plain. Nationwide Permit 13 (NWP 13) authorizes bank stabilization activities necessary for erosion prevention. Under the terms and conditions of NWP 13, any project over 500 feet in length requires a written notice to USACE Regulatory Branch requesting this requirement to be waived. This project would be approximately 2600 feet long and would require an approved waiver in order to use NWP 13. Adverse impacts to aquatic resources from implementing proposed bank

protection would be minimal. The project area does not include any special aquatic sites including wetland and so the project would not involve discharge of dredged or fill material into any special aquatic sites. The project has been designed to require the minimum amount of fill with the minimum footprint to successfully protect the eroding streambank. Therefore, the project would qualify for authorization under NWP 13, which does not require an individual alternatives analysis and evaluation pursuant to Section 404(b)(1) guidelines. Since the TCEQ has issued 401 water quality certification for NWP 13, the proposed project would be in compliance with Section 401 of the Clean Water Act (CWA). Construction activities will be carried out to meet the terms and conditions of NWP 13.

Section 402 of the Clean Water Act and Chapter 26 of the Texas Water code require construction activities that disturb areas greater than 1 acre to obtain a National Pollution Discharge Elimination System (NPDES) Construction General Permit. Bank stabilization construction operations would meet water quality standards set forth by Section 402 of the Clean Water Act and Chapter 26 of the Texas Water Code by preparing and following a Storm Water Pollution Plan (SWPPP) approved by the USACE and the Texas Commission of Environmental Quality (TCEQ). This SWPPP would outline measures for the contractor to implement during construction activities to minimize pollution in storm water runoff. A TCEQ Notice of Intent (NOI) would be filed at least 48 hours prior to any ground disturbing activities. As required a copy of this NOI and the prepared SWPPP would be posted on site.

4.3 Executive Order (EO) 13186 (Migratory Bird Habitat Protection)

Sections 3a and 3e of EO 13186 direct Federal agencies to evaluate the impacts of their actions on migratory birds, with emphasis on species of concern, and inform the U.S. Fish and Wildlife Service of potential negative impacts on migratory birds. The proposed bank stabilization would not result in adverse impacts on migratory birds or their habitats.

4.4 Section 7 of the Endangered Species Act

The Endangered Species Act (ESA) provides a program to conserve threatened and endangered plants and animals, and the habitats in which they are found. The lead agencies for implementing and administering it are the USFWS and the NMFS. The Act requires Federal agencies to consult with the USFWS and NMFS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of designated critical habitat of listed species. The Act also

prohibits any action that causes an avoidable "taking" of any listed species of endangered fish or wildlife.

Due to the fragmented nature of the area and ongoing impacts from heavy erosion, it is unlikely that the subject property would support any of the protected wildlife species for other than transitory purposes. Therefore, there are no anticipated adverse impacts on threatened or endangered species resulting from the proposed bank stabilization project.

Though it is not likely that listed marine and shorebird species would be encountered within the recommended plan's project area, their presence in the area is possible. An advisory for construction contractors to be aware of their possible presence and contact numbers to immediately call in case of contact with any of these species for the USFWS's Corpus Christi Coastal Ecological Services Field Office will be added to the USACE contract specifications for this project.

Best management practices would be utilized, to the maximum extent practicable, to avoid project construction impacts to any T&E species within the project area. The USACE will continue to closely coordinate and consult with the USFWS and the NMFS regarding T&E species under their jurisdiction that may be potentially impacted by implementing the proposed action. Consultation will not be considered complete until the Record of Decision is signed.

4.5 EO 11990, Protection of Wetlands

The EO 11990 requires Federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in executing Federal projects. There are no wetlands within the project area and therefore the Tentatively Selected Plan is in compliance with EO 11990.

4.6 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 extends Federal protection to migratory bird species. The nonregulated "take" of migratory birds is prohibited under this act in a manner similar to the prohibition of "take" of threatened and endangered species under the Endangered Species Act. The proposed bank stabilization project is would not involve the clearing of trees or shrubs for access and would not result in adverse impacts on migratory birds or their habitats.

4.7 Farmland Protection Policy Act (FPPA) of 1980 and 1995

The FPPA's purpose is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. Prime Farmland will not be converted within the project area.

4.8 EOs Concerning Floodplain Management

EO 13690 was enacted on January 30, 2015 to amend EO 11988, enacted May 24, 1977, in furtherance of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 et seq.), and the Flood Disaster Protection Act of 1973 (Public Law 93-234, 87 Star.975). The purpose of the EO 11988 was to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. EO 13690 builds on EO 11988 by adding climate change criteria into the analysis. However, EO 13690 was partially repealed by EO 13807, Presidential Executive Order on Establishing Discipline and Accountability in Environmental Review and Permitting Process for Infrastructure as a means to increase infrastructure investment.

The EOs state that each agency shall provide and shall take action to reduce the risk of flood loss, to minimize the impacts of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for:

- Acquiring, managing, and disposing of federal lands and facilities;
- Providing federally undertaken, financed, or assisted construction and improvements;
- Conducting federal activities and programs affecting land use, including, but not limited to water and related land resources planning, regulation, and licensing activities.

The project is consistent with the requirements found in the EOs described above. The recommended plan does not increase the base flood elevation.

4.9 Federal Water Project Recreation Act

This Act directs ". . . that . . . in investigating and planning any Federal navigation, flood control, reclamation, hydroelectric, or multipurpose water resource project, full consideration shall be

given to the opportunities, if any, which the project affords for outdoor recreation." Any such features are subject to cost sharing with the beneficiaries of the recreational feature. There are no recreational features within the project area.

4.10 Executive Order 12898, Environmental Justice

This EO directs Federal agencies to determine whether their programs, policies, and activities would have a disproportionately high or adverse effect on minority or low-income population groups within the Project Area. As documented in Section 3.12, examination of the census where populated land was closest to the recommended plan indicated an average of approximately 64% percent minority and an average median household income of $44,677 in Bay City, approximately 33% below the state average. Bay City would be closest to the recommended plan footprint where direct effects experienced would be their greatest. Given the income and percent minority of those blocks, an EJ issue would not be expected. Therefore, the proposed action is not expected to have any disproportionately high or adverse effect on low-income or minority population groups.

4.11 National Historic Preservation Act (NHPA) of 1966, as amended

Compliance with the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), requires the consideration of effects of the undertaking on all historic properties in the project area and development of mitigation measures for those adversely affected properties in coordination with the State Historic Preservation Officer (SHPO), Native American Tribes, and the Advisory Council on Historic Preservation (ACHP). It has been determined that there is a potential for new construction and maintenance to cause effects to historic properties. Therefore, in accordance with 36 CFR 800.14, the USACE will execute a Programmatic Agreement among the USACE, the Texas SHPO, and any non-federal sponsors to address the identification and discovery of cultural resources that may occur during the construction and maintenance of proposed project. The USACE will also invite the ACHP and Native American tribes to participate as signatories to the Programmatic Agreement. A draft of the Programmatic Agreement is provided in Appendix C-2.

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APPENDIX C-1: FEASIBILITY LEVEL HTRW EVALUATION – MARY RHODES PUMP STATION CONTINUING AUTHORITIES PROGRAM (CAP), BAY CITY, TEXAS

1.0 Introduction

In order to complete a feasibility level Hazardous, Toxic and Radioactive Waste (HTRW) evaluation for the Mary Rhodes Pump Station CAP Project, a report was completed following the rules and guidance of ER 1165-2-132: *HTRW Guidance for Civil Works Projects*. There are three main components to the feasibility level HTRW review (excluding the report itself): the records review, site reconnaissance, and interviews.

For the purposes of this evaluation, the project footprint is defined as the Mary Rhodes Pump Station property and approximate 2,730 feet of damaged bank adjacent to the facility, shown in Figure 1. Adjacent areas were considered for any potential HTRW site out to one mile from the Mary Rhodes Pump Station footprint.

2.0 Records Review

In this evaluation, records, maps and other documents that provide environmental information about the project area are obtained and reviewed. A desktop records review was conducted using various sources to determine the presence of HTRW sites on or near the subject property. This search was focused on active cleanup sites and sites with a reasonable risk of HTRW release. Several databases were searched manually to narrow down the search area. These databases included the Environmental Protection Agency (EPA) Cleanups in my Community database, the EPA Envirofacts databases, the Texas Commission on Environmental Quality's (TCEQ) web map of underground storage tanks (USTs)/above ground storage tanks (ASTs), TCEQ Central Registry, and the Texas Railroad Commission's (RRC) oil and gas well Public GIS Viewer. The information collected from this desktop records review was analyzed for recognized environmental conditions (RECs) that would affect the proposed project or need further investigation, given the proposed project measures. The following resources were searched.

Federal National Priorities List (NPL) – The records search did not reveal any NPL sites in the project footprint or adjacent areas. This is based on a search of the EPA Superfund: National Priorities List (NPL) list.

Federal Superfund Enterprise Management System (SEMS) – formerly called the Comprehensive Environmental Response, Compensation, and Liability Information System or CERCLIS, the SEMS database tracks hazardous waste sites where remedial action has occurred under the EPA's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This list also includes sites that are in the screening and assessment phase for possible inclusion on the NPL. The records search of EPA's listed SEMS sites did not reveal any sites in the project footprints or adjacent areas. This is based on a search of the EPA Superfund Enterprise Management System (SEMS).

Federal SEMS archive – The SEMS archive, formerly known as the No Further Remedial Action Planned (NFRAP) List, tracks sites where no further remedial action is planned, based on available assessments and information. The list also represents sites that were not chosen for the NPL. Further EPA assessment could possibly be ongoing, and hazardous environmental

conditions may still exist; however, in the absence of remedial action and assessment data, no determination about environmental hazards can be made. The records search did not reveal any NFRAP sites in the project footprint or adjacent areas. This is based on a search of the EPA SEMS archive.

Federal Resources Conservation and Recovery Act (RCRA) Corrective Action List – The records search of EPAs Cleanups in My Community did not reveal any sites within one mile of the project search area. This is based on a search of the EPA Cleanups in My Community.

State Superfund Sites – This search is to check for any state CERCLA sites in the project vicinity. The records search of state CERCLA cleanup sites did not show any sites of concern in the project or adjacent areas. This search is based on a search of the Texas Commission on Environmental Quality Superfund Sites database.

State and Tribal Solid Waste Facilities/Landfill Sites – This search is designed to check any state or tribal databases for solid waste handling facilities or landfills in the project vicinity. The records search did not find any solid waste facilities or landfill sites in the area of this project or adjacent areas. This is based on a search of the TCEQ Municipal Solid Waste Viewer. A recycling center was located one mile south west of the pump station that collects junk cars, scrap iron and metals. Based on the distance of the recycling center from the area of interest and there being no record of cleanups or other incidence, it is not expected to be a REC.

The State of Texas also has a Closed and Abandoned Landfill database. Records show that there was one closed or abandoned landfill within one mile of the work area or adjacent areas. A search of the TCEQ Inventory of Closed Municipal Solid Waste Landfills show one site located at 28.992667, -95.991667. The site listed is approximately 0.64 miles from the pump station bank. A review of historical photographs shows what appeared to be an active landfill for aerials in 1957 and 1965 (see Figure 1). The next available photo for aerial 1985 was of very poor quality and the following aerial from 1995 shows the landfill was no longer in use and vegetation now covered the area. Aerials from 2008 to 2019 show a maintained area and livestock on the property. Based on the distance from the area of interest and the landfill being closed sometime prior to 1995, it is not expected to be a REC. See Figure 2 below for the location of the closed landfill.

State and Tribal Registered Storage Tanks – This list is a combination of the State of Texas registered UST and AST databases, representing sites with storage tanks registered with the State of Texas. The search revealed one AST within one mile of the work area or adjacent areas. This AST is not expected to impact the project due to its distance from the proposed project. These results are based on a search of the TCEQ Petroleum Storage Tank Viewer.

State and Tribal Voluntary Cleanup Sites – The TCEQ Voluntary Cleanup Program (VCP) database identifies sites where the responsible party chooses to clean up the site themselves with TCEQ oversight. Five sites were identified from this database. None of the sites are within one mile of the work area and are therefore not expected to impact the proposed project. These results are based on a search of the TCEQ Voluntary Cleanup Program using the Central Registry (CR) Query.

Brownfields List – A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. There are no brownfield sites within one mile of the work area or adjacent

areas. These results are based on a search for Brownfields sites using the EPA Envirofacts search engine.

Oil and Gas Wells – A search of the oil and gas wells in the area using the RRC website identified multiple sites including oil wells, plugged oil wells, and injection/disposal sites within the surrounding area. Although not classified as HTRW under USACE regulations, pipelines and oil wells play an important role in the HTRW existing conditions near the potential project area. This is because the well and/or pipeline contents could potentially leak or spill into the surrounding environment or affect the proposed project features. As a result of these findings, a thorough pipeline/well search should be initiated during design to ensure no interaction with the existing oil and gas infrastructure occurs. The RRC website was used to map these findings. Three dry wells were found to the east and one plugged gas well was found northwest of the area of interest as well as natural gas and crude oil pipelines in the area, shown in Figure 3. The location of pipeline infrastructure to the north of the site, in particular three lines labeled as natural gas and highly volatile liquids, should be coordinated with the selected alternative.

3.0 Site Visit

The site visit in environmental investigations is designed to identify environmental conditions that would otherwise not be identified in the records search. The site visit also is used to look at indoor areas and area usages on the subject property. Due to the size of the project area and the in-water nature of the proposed project, a site visit will not be conducted for this phase of the investigation.

4.0 Interviews

The objective of the interviews is to discover environmental conditions that could not be obtained in the records search, as well as to determine past uses of the subject property. Due to the size of the project, and the involvement of the channel users in the feasibility study of the project, interviews were not conducted for this evaluation.

5.0 Conclusion

In order to complete a feasibility level HTRW evaluation for the Mary Rhodes Pump Station CAP Project, this report was completed following the rules and guidance of ER 1165-2-132: *HTRW Guidance for Civil Works Projects*. No sites were identified within one mile of the project area or adjacent areas that could be reasonably expected to affect the bank project, or vice versa. A closed landfill and active recycling center were found within the surrounding area. Due to the distance from the area of interest and lack of information suggesting any active or historical clean up, neither site is considered a REC. Although not classified as HTRW under USACE regulations, multiple pipelines, plugged oil wells, and dry well sites were identified within the surrounding area. As a result of these findings, a thorough pipeline/well search should be initiated during design to ensure no interaction with the existing oil and gas infrastructure occurs.

Despite there being no sites found that could be reasonably expected to affect the channel widening project, there is always a possibility that previously unidentified HTRW could be uncovered, even when a proposed project is entirely within a preexisting project footprint. Care should be taken as the project progresses to identify and address HTRW concerns that arise in a timely manner so as not to affect the proposed project.

Figure 1: Closed landfill

Figure 2: Closed landfill and proximity to project, approximately 0.64 miles

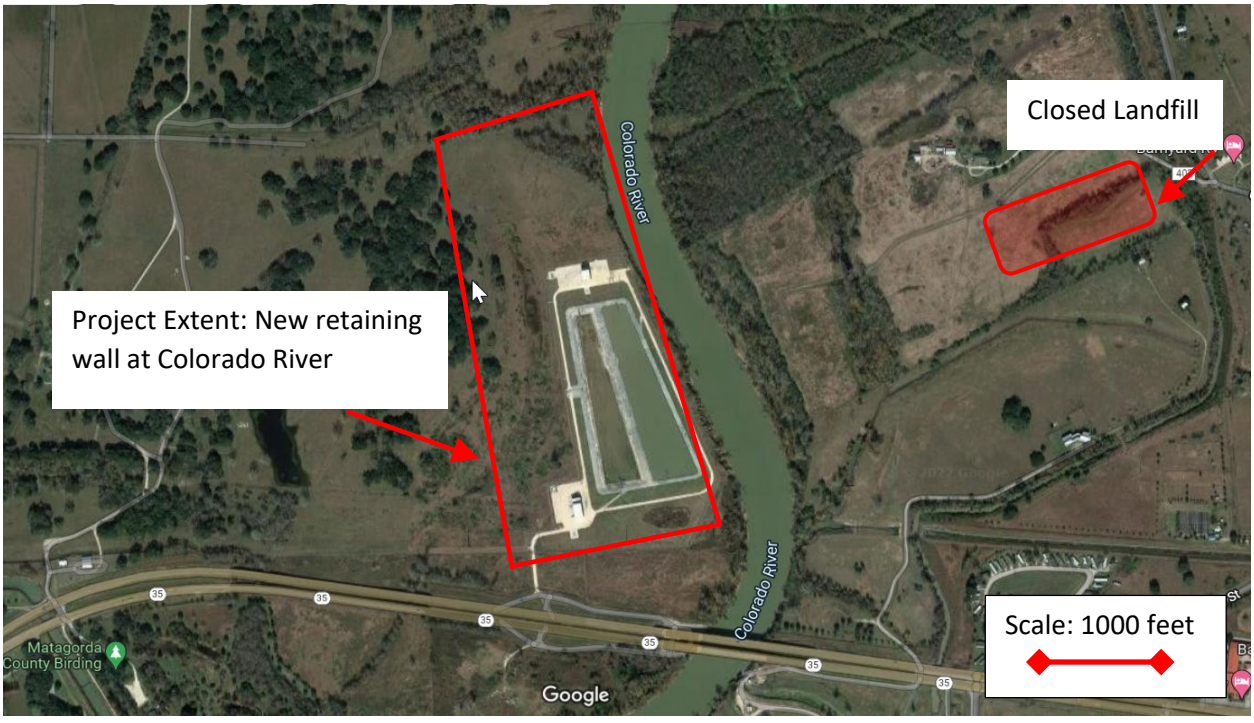
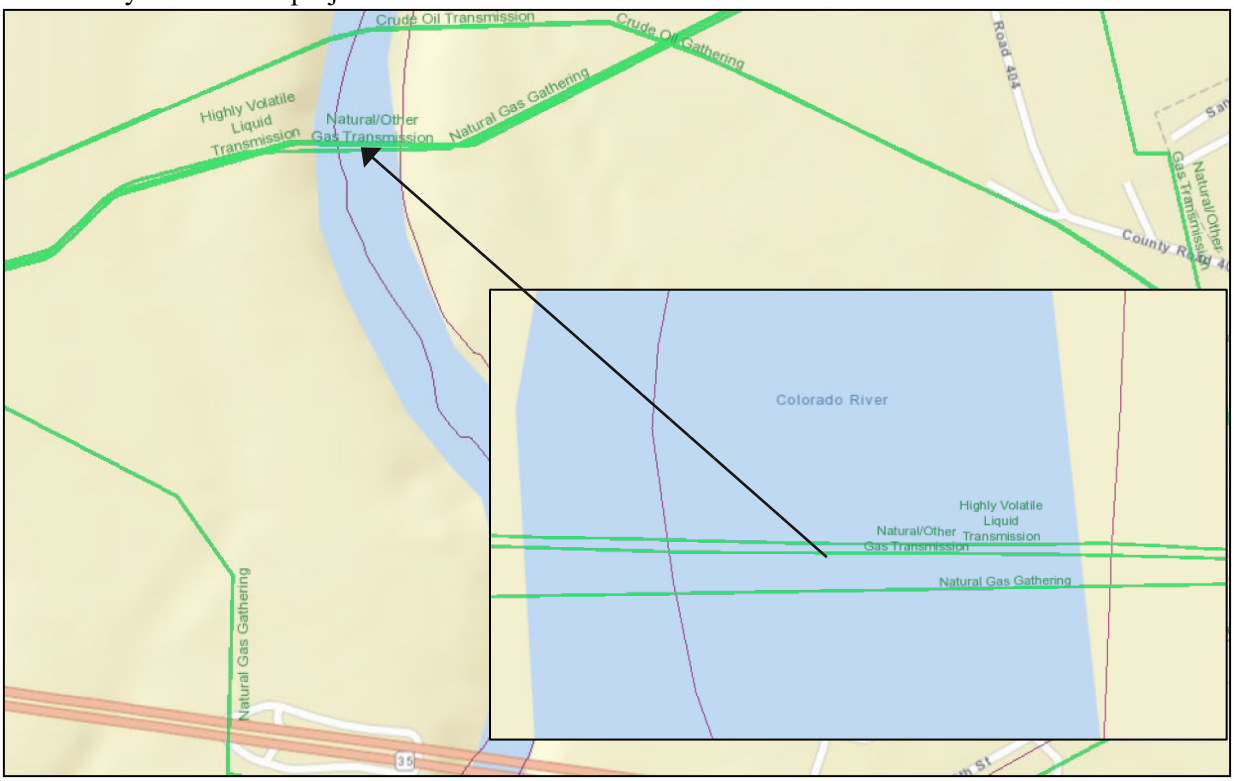


Figure 3: Oil and gas well sites, and pipeline infrastructure. Inset shows enlarged view of three pipelines immediately north of the project.



APPENDIX C-2: CULTURAL RESOURCES EVALUATION

1.0 Introduction

Under National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA), the USACE must consider potential impacts to cultural resources associated with the proposed project. Potential impacts to cultural resources cannot be fully determined prior to the completion of the Mary Rhodes Pump Station Emergency Streambank and Shoreline Protection Feasibility Study. Thus, the USACE is developing a programmatic agreement (PA), in accordance with 36 CFR 800.14. A copy of the PA, which stipulates the responsibilities of all signatories under Section 106 of the NHPA is included herein.

2.0 Area of Potential Effects

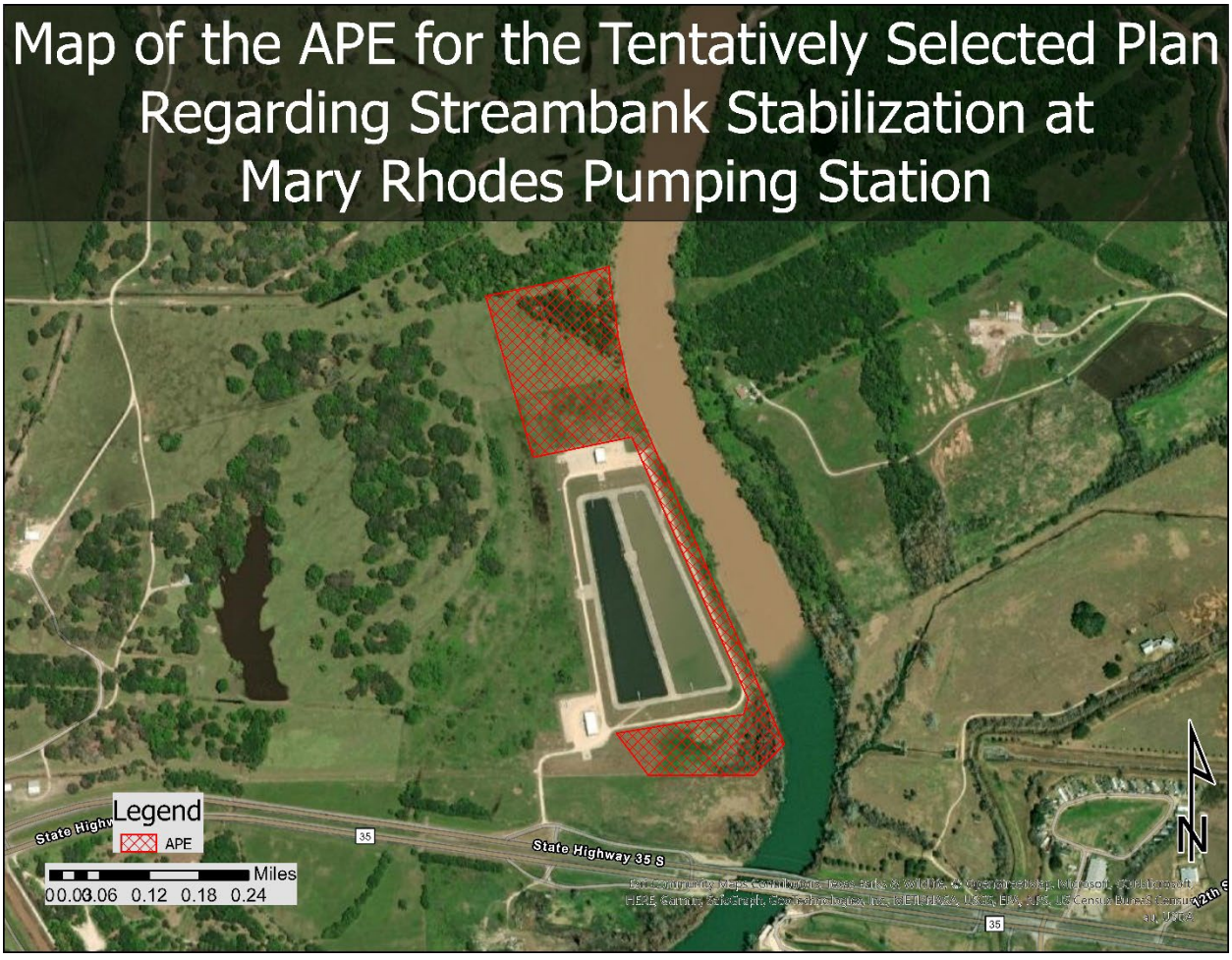


Figure 1 Preliminary map of the APE, which will be further refined through consultation.

The area of potential effects (APE) for the proposed undertaking will be determined in consultation with the Texas State Historic Preservation Officer (SHPO) and other parties to the PA. The APE will include all areas

directly and indirectly impacted by the proposed streambank and shoreline protection activities including construction of temporary haul roads and staging areas. In accordance with 36 CFR 800.4 and Stipulation I.B. of the PA, the USACE will identify historic properties within the APE prior to construction.

In an attempt to identify historic properties prior to the completion of the Feasibility Study, the USACE has conducted background research using the Texas Historical Commission's Atlas database, the USGS Historical Topographic Maps Explorer, the Portal to Texas History provided by the University of North Texas, Google Earth historic aerial imagery, USGS Earth Explorer historic aerials, and the Natural Resource Conservation Service Soil Survey. This review has informed the initial design of the tentatively selected plan and is summarized in the following sections.

3.0 Environmental Setting and Potential Impacts to Cultural Resources

The project site is located along the bank of the Colorado River. According to the NRCS Web Soil Survey, soils consist of Clemville Silty Clay loam to the north of the pumping station, Norwood Loam to the south and Laewest Silty Clay to the west. Described as an overwash, Laewest silty clays were established from the erosion of soils from a nearby hill that was redeposited at a lower elevation. Occasionally flooded, Clemville Silty Clay Loam soils are described as well drained floodplain. Alternatively, Norwood Loam soils are described as rarely flooded loamy alluvium existing on natural levees. Erosion along the Colorado River caused by multiple flash flooding events has left what was once inland soil exposed to the river. Previous disturbance within the project area is attributed to the construction of the Mary Rhodes pumping station.

Affects to cultural resources cannot be determined until a cultural resources survey is conducted during the preconstruction engineering and design phase (PED). Construction of haul roads, staging areas and any excavation of the riverbank have the potential to impact archaeological sites. No significant historic structures are located within the viewshed of the APE (see the Previously Recorded Cultural Resources section). As such, the proposed streambank and shoreline stabilization should have no effect to the viewshed of any architectural historic properties.

3.1 History of the Project Area

Historic aerial imagery from USGS Earth Explorer and Google Earth suggests that the land was undeveloped throughout the 20th century. Across the river in the town of Bay City is an historic marker describing Elliott's Ferry. According to *Historic Matagorda County*, the ferry landing was founded by Thomas Cayce, who owned a large tract of land along the western bank of the Colorado River (Matagorda County Book Committee 1986:338). The landing included a small army post between 1836 and 1837, captained by Andrew Neill (Jenkins n.d.). The army post was referred to by three nomenclatures: Post Colorado, Station Colorado and First Colorado Station. In January of 1839, George Elliott purchased the tract from Cayce and the ferry was renamed accordingly. A town grew around this port, and a second encampment occurred by the confederate army in 1863, with the Elliott's Ferry post office established in 1872. In the late 19th century, the ferry was a well-known reference point and was cited in the announcement of the county seat relocation to Bay City (Wheeler 1894). The use of the ferry was terminated by the construction of a bridge to the northwest in 1902. The Mary Rhodes pump station is located south of the ferry crossing as depicted in the 1879 map provided in Figure 5.

LiDAR data suggests that the wetland area bordering the western extent of Mary Rhodes Pumping station is a relict channel of the Colorado River. Interestingly, the 1879 GLO Map depicted in Figure 5 aligns with another set of channel scars, potentially indicating that during the time Elliott's Ferry operated the river was located further east than the present-day channel. Despite the movement of the river across the landscape, the landform comprising the APE appears to be relatively intact aside from the impacts associated with the construction of the Mary Rhodes Pumping Station.

3.2 Previously Recorded Cultural Resources

A single systematic cultural resources survey was conducted within the project area, to the south of the pumping station. Archaeological site 41MG136, the remains of a 20th century railroad bed, was recorded within this survey area. The site was determined ineligible for the NRHP. Four historic properties are located east of the Colorado River within the city center of Bay City, the closest of which is over 1.8 miles away; these include the Hensley-Gusman House, the Bay City USO Building, Judge William Shields Holman House and the Matagorda County Monument.

The study area is located within the eastern boundary of the original plat owned by Tomas Cayce. Based on the available information, possible buried cultural resources within the project area may include evidence of the two military occupations, a 19th century homestead, or prehistoric deposits.

4.0 Cultural Resources Consultation and Compliance:

The USACE has consulted with the SHPO, the Comanche Nation, Caddo Nation, Apache Tribe, Alabama-Coushatta Tribe of Texas, Coushatta Tribe of Louisiana, Tonkawa Tribe of Indians, and the Wichita and Affiliated Tribes regarding the undertaking. Consultation is ongoing and will continue throughout the feasibility, design, and construction phases of the project.

A Programmatic Agreement is in development between the USACE and SHPO. A draft of the Programmatic Agreement is included in this Appendix and the final report will include the final executed PA. Fulfillment of the stipulations set forth in the PA by the USACE prior to construction is required to ensure compliance with Section 106 of the NHPA and a finding of no significant impact to cultural resources under NEPA.

Works Cited

Jenkins, Rachel. "Elliott, TX (Matagorda County)." n.d. *Texas State Historical Association Handbook of Texas.* Web Article . 28 May 2021.

Matagorda County Book Committee. *Historic Matagorda County*. Ed. Francis Parker. Vol. 1. Houston: D. Armstrong Co., Inc., 1986. Book.

Wheeler, Jesse O. "New County Seat." 27 September 1894. *https://texashistory.unt.edu/ark:/67531/metapth61710/?q=%22Elliotts%20Ferry%22~1.* Newspaper. 28 May 2021.

PROGRAMMATIC AGREEMENT
AMONG
THE U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT, AND
THE TEXAS STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE MARY RHODES PUMPING STATION EMERGENCY STREAMBANK AND SHORELINE PROTECTION
(AGREEMENT)

WHEREAS, the Mary Rhodes Pumping Station Emergency Streambank and Shoreline Protection Study (Study) was authorized by Section 14 of the Flood Control Act of 1948 (Public Law 79-526), as amended; and

WHEREAS, implementation of the Study's Recommended Plan (Undertaking) constitutes an undertaking under Section 106 of the National Historic Preservation Act, as amended and may include, but is not limited to, construction of access roads, staging areas, excavation of the streambank, clearing of vegetation, and deposition of rip rap and other materials; and

WHEREAS, the Mary Rhodes Pumping Station is located at 96° 0'8" W and 28° 59'27" N and the Undertaking shall occur proximate to this location; and

WHEREAS, the preliminary Area of Potential Effect (APE) of the Undertaking is as shown in Attachment A; and

WHEREAS, identification and effects on historic properties within the APE cannot be fully determined or resolved prior to USACE approval of the Undertaking; and

WHEREAS, the USACE and the Texas State Preservation Officer (SHPO) have determined that the Undertaking has potential to cause adverse effects to historic properties within the APE; and

WHEREAS, the City of Corpus Christi, the Non-Federal Sponsor (NFS) for the Undertaking, provided a letter of intent to the U.S. Army Corps of Engineers (USACE) dated February 9, 2021 stating that its intent is to provide the required Section 14 cost share requirements and is therefore an Invited Signatory to the Agreement; and

WHEREAS, the Advisory Council on Historic Preservation (ACHP) has been notified and has chosen to/not to participate in this Agreement; and

WHEREAS, the USACE pursuant to Section 101 (d)(6)(B) of NHPA invited the Comanche Nation, Apache Tribe of Oklahoma, Alabama-Coushatta Tribe of Texas, Coushatta Tribe of Louisiana, Tonkawa Tribe of Indians of Oklahoma, and the Wichita and Affiliated Tribes (Wichita, Keechi, Waco, and Tawakonie), Oklahoma to consult on the Undertaking and requested the tribes' interest in participating in the programmatic agreement via letters submitted in March 2022; and

WHEREAS, ____ of the tribes have elected to participate in this PA; and

WHEREAS, public involvement in accordance with 36 CFR 800. 13 (c) has been provided by National Environmental Policy Act (NEPA) Public Scoping Meetings and published public notices, which are documented in the *Environmental Assessment* and Record of Decision dated _____, which included a draft of this PA for review and comment; and

NOW THEREFORE, the USACE and the SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations to take into account the effect of the Undertaking on historic properties.

STIPULATIONS

I. Identification, Evaluation, Effect Determination, and Resolution of Effects to Historic Properties

The USACE shall ensure that the following measures are carried out:

A. Definitions. The definitions set forth in 36 CFR § 800.16 are incorporated herein by reference and apply throughout this PA.

B. Scope of Undertaking. This PA shall be applicable to all excavation, deposition, modification of existing flood risk management infrastructure, construction of temporary access routes and/or staging areas, and any other ground disturbing activities proposed by the Undertaking. The USACE, in consultation with all parties to the PA, shall further refine the preliminary APE depicted in Attachment A to encompass both direct and indirect effects on cultural resources once a 30% construction design is available.

C. Qualifications and Standards. The USACE shall ensure that all work conducted in conjunction with this PA is performed by personnel meeting the Secretary of the Interior's Professional Qualification Standards in the appropriate discipline in a manner consistent with the Secretary of Interior's "Standards and Guidelines for Archeology and Historic Preservation" (48 FR 44716-44740; September 23, 1983), as amended, or the Secretary of the Interior's "Standards for the Treatment of Historic Properties" (36 CFR 68). Survey methodology and reporting shall adhere to the updated standards and guidelines established by the Council of Texas Archeologists (CTA).

D. Identification and Evaluation of National Register Eligibility. After thirty percent (30%) construction designs are provided to the USACE archaeologist, and prior to the initiation of construction, the USACE shall identify a refined direct and indirect APE. The final agreed upon direct and indirect APEs shall be used to determine the inventory and eligibility of historic-age resources by Secretary of the Interior qualified personnel. If cultural resources are identified within the APE, the USACE shall determine the eligibility of the resources for the NRHP in accordance with the process described in 36 CFR § 800.4(c) and criteria established in 36 CFR § 60 and National Register Bulletin 15 "How to Apply the National Register Criteria for Evaluation" (NPS 1990). The USACE shall submit adequate documentation of these determinations to SHPO for thirty (30) day review and consultation.

    a. Should it be determined that construction elements have the potential to adversely affect the viewshed of an historic property, a viewshed analysis shall be conducted via ArcGIS or similar program to determine the indirect APE for the undertaking. The extent of the viewshed analysis shall be limited to a one half-mile (.5) radius of the undertaking.

b. Additional identification efforts may include but are not limited to, background research, consultation, oral history interviews, sample field investigations, and field survey. The level of effort for these activities shall be determined in consultation with the SHPO. USACE shall seek information, as appropriate, from Matagorda County, the consulting parties, and other individuals and organizations likely to have knowledge of, or concerns with, historic properties in the area. All draft scopes of work and reports of survey or site testing investigations shall be submitted to all consulting parties for review and comment. If comments are not received by the USACE within thirty (30) days of receipt, the reports and their recommendations shall be considered adequate and the reports may be finalized. Comments received by the USACE from the SHPO shall be addressed in the final reports, which shall be provided to all consulting parties.

c. Specific Archaeological Investigative Requirements.

i. The USACE shall ensure development of research designs for Phase I and Phase II surveys for identifying and evaluating archaeological resources in accordance with the CTA's Guidelines for Cultural Resources Management Reports. SHPO and consulting parties shall have a thirty (30) day review and comment period for each research design upon receipt.

E. Assessment of Adverse Effects. Assessment of Effects. The USACE shall evaluate the effect of the undertaking on each identified historic property in the APE, if present, in accordance with 36 CFR § 800.5(a)(1).

F. Resolution of Adverse Effect. If the USACE determines that the undertaking shall have an adverse effect on historic properties as measured by criteria in 36 CFR § 800.5(a)(1), the USACE shall consult with all parties to the PA to resolve adverse effects in accordance with 36 CFR § 800.6.

a. Where appropriate, as determined by the USACE in consultation with the parties of the PA, a monitoring program by a professional archaeological team shall be implemented during the construction phase of any element. Should any unanticipated resource be encountered during construction, archaeological monitors shall halt construction consistent with Stipulation II.B. of this PA.

b. If consulting parties concur that mitigation of adverse effects to an historic property is required, the USACE shall prepare an appropriate mitigation plan, in consultation with all parties of the PA, which describes mitigation measures proposed by the USACE. Signatories, Invited Signatories, and Concurring Parties shall have thirty (30) calendar days upon receipt to provide written response to the proposed mitigation plan. Upon fulfillment of the mitigation plan, the USACE shall notify the Signatories, Invited Signatories, and consulting parties in writing.

a) If the Signatories and Invited Signatories of the PA fail to agree on how adverse effects shall be resolved, the USACE shall request that the ACHP join the consultation and shall provide the ACHP and all consulting parties with

documentation pursuant to 36 CFR § 800.11(g). If the ACHP agrees to join the consultation, the USACE shall proceed in accordance with 36 CFR § 800.9.

b) If, after consulting to resolve adverse effects, the ACHP, the USACE, SHPO, Signatories and Invited Signatories determine that further consultation shall not be productive, then any party may terminate consultation in accordance with the notification requirements and processes prescribed in 36 CFR § 800.7.

G. Unanticipated Discoveries and Post Review Changes

a. Changes in the Undertaking. If construction on the undertaking has not commenced and the USACE determines that it shall not conduct the undertaking as originally coordinated, the USACE shall reopen consultation pursuant to Stipulation I. A-E of this PA.

b. Unanticipated Discoveries or Effects. Pursuant to 36 CFR § 800.13(b)(3), If historic properties are discovered or unanticipated effects on historic properties are found after construction on an undertaking has commenced, the USACE shall develop a treatment plan to resolves adverse effects and notify the SHPO and Tribal Nations within 48 hours of the discovery. The notification shall include the USACE assessment of the NRHP eligibility of the affected properties and proposed actions to resolve the adverse effects. Comments received from the SHPO and Tribal Nations within 48 hours of the notification shall be taken into account by the USACE in carrying out the proposed treatment plan. The USACE may assume SHPO concurrence in its eligibility assessment and treatment plan unless otherwise notified by the SHPO within 48 hours of notification. USACE shall provide the SHPO and Tribal Nations a report of the USACE actions after completion.

H. Curation and Disposition of Recovered Materials, Records, and Reports

A. Curation. The USACE in conjunction with the City of Corpus Christi shall ensure that all archeological materials and associated records owned by the State of Texas or NFS, which result from identification, evaluation, and treatment efforts conducted under this PA, are accessioned into a curation facility in accordance with the standards of 36 CFR 79, the Antiquities Code of Texas (Texas Natural Resource Code, Chapter 191), the Texas Administrative Code 13 TAC §29.5, and the Council of Texas Archeologists Guidelines and Standards for Curation, except as specified in Stipulation II.C. for human remains. Archeological items and materials collected from privately owned lands shall be returned to their owners upon completion of analyses required for Section 106 compliance under this PA.

B. Reports. Draft survey reports shall be coordinated with parties of the PA in accordance with Stipulation I. C. Within 30 days of receiving the approved final, the USACE shall provide copies of final technical reports of investigations and mitigation to all parties of the PA, as well as additional copies for public distribution, with locations of archaeological sites redacted, as appropriate. All consulting parties shall withhold site

location information or other data that may be of a confidential or sensitive nature pursuant to 36 CFR § 800.11(c).

I. PA Amendments, Disputes and Termination

A. Amendments. Any party to the PA may propose to the other parties that it be amended, whereupon the parties shall consult in accordance with 36 CFR § 800.6(c)(7) to consider such an amendment. The amendment shall be effective on the date a signed copy executed by the Signatories and Invited Signatories.

B. Disputes. Disputes regarding the completion of the terms of this PA shall be resolved in writing by the Signatories and Invited Signatories. If the Signatories and Invited Signatories cannot agree regarding a dispute, they may request the participation of the ACHP in resolving the dispute in accordance with the procedures outlined in 36 CFR § 800.9. Within fifteen (15) calendar days of such a request, the USACE shall forward to the ACHP, the Signatories and the Invited Signatories all documentation relevant to the dispute, including the USACE's proposed resolution of the dispute. The ACHP shall respond to the request within thirty (30) calendar days of receiving all documentation. The USACE shall take any recommendations or comments from the ACHP into account in resolving the dispute. In the event that the ACHP fails to respond to the request within thirty (30) calendar days of receiving all documentation, the USACE may assume the ACHP's concurrence with its proposed resolution and proceed with resolving the dispute.

C. Termination of PA. Signatories and Invited Signatories to this PA may terminate it by providing a sixty (60) calendar day notice to the other parties, provided that the parties shall consult during the period prior to the termination to seek agreement on amendments or other actions that shall avoid termination. In the event of termination of this PA the USACE shall comply with the provisions of 36 CFR § 800, Subpart B.

J. Term and Status of this PA

A. This Programmatic Agreement shall remain in force for a period of ten (10) years from the date of its execution by all Signatories or such time as the USACE completes all excavation and construction activities and all the objectives are operational, which includes maintenance and stabilization actions, unless terminated pursuant to Stipulation IV.C.

B. Execution of this PA and implementation of its terms evidences that the USACE has taken into account the effects of the Undertaking and fulfilled Section 106 responsibilities regarding the undertaking.

Signature Page for the U.S. Army Corps of Engineers, Galveston District

PROGRAMMATIC AGREEMENT
AMONG
THE U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT, AND
THE TEXAS STATE HISTORIC PRESERVATION OFFICER
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(AGREEMENT)

Execution and Implementation of this agreement of its terms, provides confirmation that the USACE has afforded all parties an opportunity to comment on the Mary Rhodes Pumping Station Emergency Streambank and Shoreline Protection Project and its effects on historic properties, and that the USACE has taken into account the effects of the Undertaking on historic properties.

Signatories include the USACE, SHPO, and the ACHP. Separate signature pages for each agency follow.

Signatory

U.S. Army Corps of Engineers

_____Date:_____

Colonel Timothy R. Vail

Commander, U.S. Army Corps of Engineers, Galveston District

Signature Page for the Texas State Historic Preservation Officer

PROGRAMMATIC AGREEMENT
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Signatory

Texas Historical Commission

_____Date:_____

Mark Wolfe

State Historic Preservation Officer

Signature Page for the City of Corpus Christi

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Signatories include the USACE, SHPO, and the ACHP. Separate signature pages for each agency follow.

Invited Signatory

City of Corpus Christi, Texas

_____Date:_____

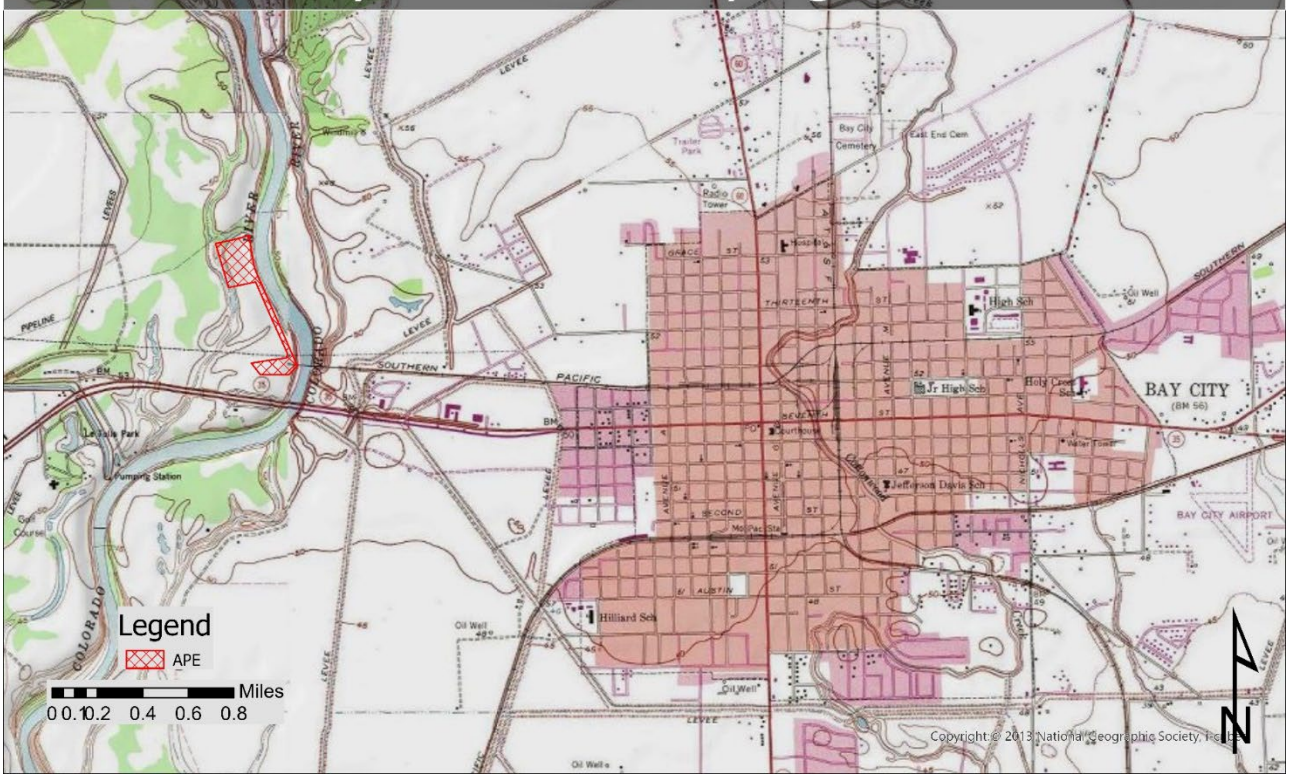
Name

Title

Attachment A

Area of Potential Effect

Map of the APE for the Tentatively Selected Plan Regarding Streambank Stabilization at Mary Rhodes Pumping Station



Consultation Correspondence

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TX 77553-1229

April 25, 2022

Mr. Gary McAdams
Tribal Historic Preservation Officer
Wichita and Affiliated Tribes Tribe of Oklahoma
Post Office Box 729
Anadarko, Oklahoma 73005

Dear Mr. McAdams:

The U.S. Army Corps of Engineers, Galveston District (USACE), and the City of Corpus Christi, the non-federal sponsor, are conducting a feasibility study of streambank and shoreline protection at the Mary Rhodes Pumping Station, located in Matagorda County, Texas. Currently, multiple alternatives are under development in the subject study. The eventual implementation of the study's selected plan (the Undertaking) can adversely affect historic properties. Therefore, the USACE is initiating the development of a Programmatic Agreement (P.A.) pursuant to 36 CFR 800.6 and 36 CFR 800.14(b)(1)(ii) to address the range of potential outcomes of the study.

No cultural resources surveys have been conducted previously in the proposed area of potential effect. A desktop review and a draft of the proposed P.A. are enclosed for your review and comment.

The USACE solicits any input you may have in regard to this Undertaking. Additionally, the USACE is seeking your interest in participating in the development of the P.A. Please send your responses or requests for additional information to Amanda Pesce, Archaeologist, Environmental Branch, at amanda.k.pesce@usace.army.mil. If you would like to discuss this via telephone, you may reach Ms. Pesce at (817) 886-1898.

Sincerely,

Jeffrey Pinsky

Jeffrey F. Pinsky
Chief, Environmental Branch
Regional Planning and Environmental Center

Enclosure

Figure 2 Example letter sent to federally recognized tribes and SHPO.

Wichita and Affiliated Tribes

Wichita Waco Keechi Tawakoni

27 April 2022 - Wednesday

Amanda K Pesce, Archaeologist
US Department of the Army
Galveston District - Corps of Engineers
Regional Planning & Environmental Center
2000 Fort Point Road – PO Box 1229
Galveston, Texas 77550

Dear Ms. Pesce,

At this time, the Wichita and Affiliated Tribes is requesting consulting party status on any proposed projects that the **US Department of the Army** undertakes in the states of Oklahoma, Kansas, Texas, Missouri, Arkansas, Colorado and New Mexico.

Thank you for consulting with the Wichita and Affiliated Tribes, please accept the digital communication regarding the **Mary Rhodes Pumping Station**, we understand the City of Corpus Christi is proposing the to conduct a feasibility study on the streambank and shoreline protection located in Matagorda County, Texas.

We reviewed the documents received and at this time, have determined that the said project is outside of the area of interest to the Wichita and Affiliated Tribes, therefore, we have no objections for said project moving forward. Please note that these comments are based on information available to us at the time of the project review.

We also reserve the right to revise our comments as information becomes available. Should you have any questions or concerns, please contact Gary McAdams, THPO at 405.247.2425 extension 169 or via email at gary.mcadams@wichitatribe.com and Mr. Gerald Collins III, EPA Director at 405.247.2425 extension 141or via email at gerald.collins3@wichitatribe.com.

Sincerely,

Mary M. Botone

Mary M BoTone
THPO Administrative Assistant

PO Box 729
Anadarko, Oklahoma 73005

Phone 405.247.8667
Fax 405.247.2167

From: noreply@thc.state.tx.us
To: Pesce, Amanda Kay (Mandy) CIV USARMY CESWF (USA); reviews@thc.state.tx.us; Andrew, Jerry L CIV USARMY CESWG (USA)
Subject: [Non-DoD Source] Section 106 Submission
Date: Thursday, May 26, 2022 12:39:10 PM

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202209521
Date: 05/26/2022
Mary Rhodes Pumping Station
N/A
Bay City,TX

Description: Emergency Streambank and Shoreline Protection

Dear Amanda Pesce:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Jeff Durst and Caitlin Brashear, has completed its review and has made the following determinations based on the information submitted for review:

We have the following comments: The Texas Historical Commission looks forward to participating in this Programmatic Agreement (PA) process for the Mary Rhodes Pumping Station undertaking. We are happy to meet with the U.S. Army Corps of Engineers and other signatories to discuss this document, as needed. Further, regarding above-ground resources, there are no known historic resources located within or adjacent to the proposed project area, however, any historic-age above-ground resources within the Area of Potential Effect (APE) will need to be identified and evaluated for listing in the National Register of Historic Places (NRHP), and any resources identified as eligible will need to be assessed for effects by the proposed project. Regarding potential buried cultural resources the PA should include a separate stipulation for unanticipated discoveries related to discovery of human remains that references law enforcement, the coroner and the Health and Safety Code.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: Jeff.Durst@thc.texas.gov, caitlin.brashear@thc.texas.gov.