

INDIVIDUAL PERMIT APPLICATION

*Rollover Recreational Area – Gulf Side
(Concrete Pier and Landside Amenities)
Galveston County, Texas*



GLO Contract No. 12-236-003

Submitted to the



U.S. Army Corps of Engineers
Galveston District

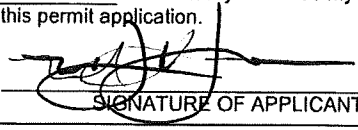
November 2019

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U.S. Army Corps of Engineers (USACE) APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT 33 CFR 325. The proponent agency is CECW-CO-R.		Form Approved - OMB No. 0710-0003 Expires: 02-28-2022	
The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil . Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.			
PRIVACY ACT STATEMENT			
Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpold.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME First - Mark Middle - A Last - Havens Company - Texas General Land Office E-mail Address - mark.havens@glo.texas.gov		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Mark Middle - Last - Bedgood Company - HNTB Corporation E-mail Address - mbedgood@hntb.com	
6. APPLICANT'S ADDRESS: Address- 1700 N. Congress Ave. City - Austin State - TX Zip - 78701 Country - USA		9. AGENT'S ADDRESS: Address- 9601 McAllister Fwy, Suite 1001 City - San Antonio State - TX Zip - 78216 Country - USA	
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 512-936-4441		10. AGENTS PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 210-541-1944	
STATEMENT OF AUTHORIZATION			
11. I hereby authorize, <u>Mark Bedgood</u> to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. <div style="text-align: center;"> SIGNATURE OF APPLICANT</div> <div style="text-align: right;"><u>11/1/19</u> DATE</div>			
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions) Rollover Recreation Area (Gulf Side Pier and Landside Amenities)			
13. NAME OF WATERBODY, IF KNOWN (if applicable) Gulf of Mexico		14. PROJECT STREET ADDRESS (if applicable) Address State Highway 87, northeast of Bauer Street City - Gilchrist State- TX Zip- 77617	
15. LOCATION OF PROJECT Latitude: °N 29.50677° Longitude: °W -94.49995°			
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID R178059, R178060 Municipality Community of Gilchrist, County of Galveston Section - N/A Township - N/A Range - ABST 64 Page 6 E Franks SUR TR 111 and 112			

17. DIRECTIONS TO THE SITE

The project site is located adjacent to State Highway 87 approximately 19 miles east of Port Bolivar, TX and approximately 7 miles west of High Island, TX in Galveston County, TX (Figure 1 of 7 in Attachment to Application).

18. Nature of Activity (Description of project, include all features)

The proposed Rollover Recreational Area - Gulf Side project includes construction of an approximately 1,000-foot long by 20-foot wide T-head concrete pier with timber deck, 30-foot span lengths and landside amenities. The pier would land to the west of the existing Rollover Pass (closure in progress). Additionally, the landside amenities would include a combined bait vendor stand, visitor's center and restroom structure, a parking area, a concrete vendor pad, and picnic areas. Width, span, pilings, typical sections, and plan view for the pier are attached (see Exhibit 4, 5, 6, and 7 of 7 in Attachment to Application for typical sections and proposed design).

Construction of the pier in the Gulf of Mexico, a navigable water of the U.S., will require a standard Individual Permit under Section 10 of the Rivers and Harbors Act.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the proposed project is to provide fishing and other recreational opportunities for the general public to replace those lost as a result of the closure of Rollover Pass (authorized under Permit No. SWG-2009-00833).

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Construction of the new concrete pier requires unavoidable, permanent impacts (placement of fill) to a navigable water of the U.S. resulting from concrete pilings.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Concrete/983.782		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres Approximately .01
or
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Impacts to navigable waters of the U.S. resulting from the fishing pier would be minimized by construction of a span structure with concrete pilings as opposed to a continuous concrete jetty structure.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- Galveston County; 722 Moody Ave.

City - Galveston

State - TX

Zip - 77550

b. Address- Carolyn B Allen; 1020 Verna Dr

City - Nederland

State - TX

Zip - 77627

c. Address- Joe Daneman; 16246 Villaret Dr.

City - Houston

State - TX

Zip - 77083

d. Address- John Robson; 4400 Pete St.

City - Kountze

State - TX

Zip - 77625

e. Address- Lena M Bauer, % John Robson; 6002 Osborn St.

City - Houston

State - TX

Zip - 77033

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Texas Historical Com	NHPA Section 106	Tex Antiquities #6093	12/6/2011	11/19/2013	

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.


SIGNATURE OF APPLICANT

11/1/19
DATE


SIGNATURE OF AGENT

10-30-2019
DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Attachment to Application for Department of the Army Permit

Rollover Recreational Area GLO Contract No. 10-146-000

BLOCK 21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS

Concrete would be discharged in the form of predominantly pre-cast concrete pilings for the fishing pier. Volume estimates for permanent impacts to navigable waters of the U.S. are based on the delineation of the mean higher high water (MHHW) line at an elevation of 4.93 feet (NAVD88)¹, dimensions of the concrete pilings, and the depth to ground surface below the MHHW line elevation. Estimates on the volume of material to be discharged are included in **Table 1**.

Table 1. Proposed Construction and Anticipated Impacts

Anticipated Impacts to Waters of the U.S.								
Structure	Waters of the U.S.	Temporary Impacts (Acres)	Temporary Fill (CY)	Permanent Fill (Acres)	Volume Earthen Material (CY)	Volume Concrete Piles (CY)	Total Vol. Fill (CY)	Proposed Construction
Pier	W1 (Gulf of Mexico)	0.001	49.001	0.013	0.00	983.782	983.782	Construction of a concrete pier with wooden deck into the Gulf of Mexico. Piles for pier would predominantly be pre-cast.

BLOCK 22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED

Table 1 in Block 21 above provides the surface area of the only water of the U.S. that would be temporarily and permanently filled by the proposed project. Exhibits illustrating the project location (**Exhibit 1 of 10**), NWI classification (**Exhibit 2 of 10**), topographic and floodplain map (**Exhibit 3 of 10**), and plan views and typical section of the proposed construction (**Exhibits 4 through 10 of 10**) are attached. Temporary impacts to the water of the U.S. would occur during construction. The temporary impacts would be minor and would occur during placement of temporary pile templates, which are typically made of steel. These templates would be used on a maximum of 8 piles (2 bents) at any one time and would be removed after the permanent piles are installed. Minor sediment discharge may also occur during the placement of the piles.

¹ Mean higher high water elevation obtained January 2012.

BLOCK 23. DESCRIPTION OF AVOIDANCE, MINIMIZATION, AND COMPENSATION

The proposed project has been designed and would be constructed to avoid and minimize adverse effects on navigable waters of the U.S., to the maximum extent practical, while achieving other project goals. Despite incorporating measures to avoid and minimize impacts, the project would result in the unavoidable, permanent loss of 0.013 acre of the Gulf of Mexico, a navigable water of the U.S.

Avoidance and minimization measures have been largely achieved by proposing design of a span structure with concrete pilings in lieu of a continuous, jetty-like concrete structure. The pier would predominantly be constructed utilizing pre-cast concrete piles as opposed to cast-in-place piles, thereby reducing impacts to water quality by decreasing sediment discharge during construction. Additionally, impervious cover was reduced by changing the design for the proposed parking lot from asphalt concrete to gravel and relocating overflow parking from an area east of existing Rollover Pass (to be closed) that would impact a tidal pool. As discussed in the Alternatives Analysis, included in Section 2 of the supplemental information, impervious cover was also reduced by eliminating an interpretive area and playground from the design. All amenities (other than the fishing pier and its amenities on or above the wooden deck) have been relocated behind the MHHW line to avoid additional impacts to the Gulf of Mexico.

The proposed project would neither result in more than minimal adverse impacts to navigable waters of the U.S., nor impacts to special aquatic sites. Therefore, compensation for unavoidable losses of navigable waters of the U.S. is not proposed for this project.

BLOCK 25. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC., WHOSE PROPERTY ADJOINS THE WATERBODY

Galveston County 722 Moody Ave. Galveston, TX 77550-2317	Carolyn B Allen 1020 Verna Dr. Nederland, TX 77627-6724	Joe Daneman 16246 Villaret Dr. Houston, TX 77083-2222
John Robson 4400 Pete St. Kountze, TX 77625	Lena M Bauer % John Robson 6002 Osborn St. Houston, TX 77033-1016	Ottmar Ted Vega 1908 Hwy 87 Gilchrist, TX 77617

SUPPLEMENTAL INFORMATION FOR DEPARTMENT OF THE ARMY PERMIT

The following sections provide supplemental information to support GLO's application to the USACE for an Individual Permit under Section 10 of the Rivers and Harbors Act for the proposed recreational enhancements included in the Rollover Recreational Area – Gulf Side (concrete pier and landside amenities) project in Galveston County, Texas. Exhibits illustrating the project location (**Exhibit 1** of 10), NWI classification (**Exhibit 2** of 10), topographic and floodplain map (**Exhibit 3** of 10), and plan views and typical section of the proposed construction (**Exhibits 4** through **10** of 10), are provided in the *Attachment to Application for Department of the Army Permit*. Photographs of the project site are included as **Appendix A**. The following supplemental information is provided to facilitate review of the permit application:

Sections

Section 1: Description of Project Elements at Waters of the U.S. at Requiring an Individual Permit

Section 2: Alternatives Analysis

Section 3: Information on Water Quality, Section 401 and Section 402 Compliance

Section 4: Information on Threatened and Endangered Species

Section 5: Information on Cultural Resources

SECTION 1: DESCRIPTION OF PROJECT ELEMENTS AT WATERS OF THE U.S. REQUIRING AN INDIVIDUAL PERMIT

Summary

Various sections of the Rivers and Harbors Acts of 1890 and 1899 establish permit requirements to prevent unauthorized obstruction or alteration of any navigable water of the U.S. The most frequently exercised authority is contained in Section 10 (33 U.S.C. 403), which covers construction, excavation, or deposition of materials in, over, or under such waters, or any work which would affect the course, location, condition or capacity of those waters. Actions requiring Section 10 permits include structures (e.g., piers, wharfs, breakwaters, bulkheads, jetties, weirs, transmission lines) and work such as dredging or disposal of dredged material, or excavation, filling or other modifications to the navigable waters of the U.S. The Coast Guard also has responsibility for permitting the erection or modification of bridges over navigable waters of the U.S.

This section describes the navigable waters of the U.S. in the project area, including type and amount of impacts associated with construction of the fishing pier.

**Table 2. Summary of Existing Conditions of Navigable Waters of the U.S.
Requiring an Individual Permit**

Structure	Feature ID	Description	100-year Floodplain?	Hydric Soil? ²	NWI?
Pier	W1	Gulf of Mexico	Yes	Yes	Yes

Waterbody Feature ID 1 (W1)

The only water of the U.S. that would be impacted by the project is the Gulf of Mexico. As stated above, the Gulf of Mexico is a territorial sea and a navigable water of the U.S. The Gulf of Mexico is roughly 600,000 square miles in size and has an average depth of 5,300 feet. For the immediate project area, tourism is a large component of the economy. The primary draw is outdoor activities because the Gulf of Mexico provides opportunity for recreational fishing, bird watching, and various water sports such as swimming, boating, and surfing. The Gulf of Mexico supports a variety of wildlife including migrating waterfowl, seabirds, shellfish, marine mammals, and several threatened and endangered species, which are discussed further in **Section 4**.

The soils within the project area consist of beaches, mustang fine sand, and mustang-urban land complex. The mustang fine sand and mustang-urban complex soils are typically found in depressions on barrier flats. The mustang-urban land complex is made up of roughly 65 percent of mustang fine sand and the remaining 35 percent is urban land. All three soils are classified as hydric soils.

As illustrated in **Exhibit 2**, most of the project lies within four different NWI mapped wetland areas. The parking lot is currently shown over existing Rollover Pass, which is in the process of being closed by the Texas General Land Office (GLO) and would be closed at the time of construction of the proposed recreational area. The area of the existing Rollover Pass is currently mapped as M1UBL (subtidal marine

with an unconsolidated bottom) and partially E1UBL (subtidal estuarine with an unconsolidated bottom). However, upon closure, prior to the construction of the proposed recreational area, the area of the existing Rollover Pass would no longer be considered a subtidal marine or estuarine environment. The remainder of the development to take place on land is not within a mapped NWI wetland. The pier landing begins over the beach area designated as M2USP (intertidal marine with unconsolidated shore that is irregularly flooded). The first bent of the pier is within the same M2USP area while the second through the sixth bents are within M2USN (intertidal marine with an unconsolidated shore that is regularly flooded). The remainder of the pier structure is within the Gulf of Mexico, which is mapped as M1UBL.

Vegetation in the upland area where the amenities are proposed consists of beach with little to no vegetation. According to the “Vegetative and Ecological Community Characterization Report” (Corrigan Consulting, Inc. 2009), the inland area has been subject to manipulation and various land uses over the years. The beach and Gulf of Mexico area also lacks vegetation because much of the shore has significant scouring as a result of Hurricane Ike. The scouring has resulted in portions of the backshore becoming inundated for extended periods after high tide. These areas are common along the entire shoreline of Bolivar Peninsula. As a result of the site visit, as well as a review of aerial photographs and available geographic information system (GIS) data created by the GLO (with data gathered from Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service and Texas A&M University), no seagrass beds were identified in, or near, the proposed project area.

Fishing Pier

The proposed fishing pier would extend into the Gulf of Mexico, which is a territorial sea and considered a navigable water of the U.S. The pier would be an approximately 1,000-foot long by 20-foot wide T-head concrete pier (T-head portion measures approximately 35 feet by 70 feet). The pier would require 208 rectangular piles (measuring 24 inches by 24 inches by 40 feet) with 30-foot span lengths. Of the 208 piles, 138 would be located below the MHHW line and the remaining 42 piles would be above the MHHW line, including those piles used for the pier landing where some of the associated amenities would be located. The proposed pier pilings would result in 0.013 acre (983.782 cubic yards) of permanent fill within the Gulf of Mexico.

Construction is proposed to be conducted in the following five main stages:

Stage 1: Mobilization, Landing (Rough Grading), and Construction of Pier Landing/Crane Platform During the first stage of construction, the contractor would mobilize to the site, install erosion control measures, and perform grading operations. The contractor would then construct the pier landing which could be used as the crane platform. There are two options for this stage of construction. Option 1 would consist of the construction of a temporary sloping berm approximately 15 feet above grade. This temporary berm would be used to drive the permanent concrete piling for the pier landing. Once the pilings for the first two bents are driven, the precast or cast in place concrete pile caps would be erected. The landing beams would be set and the contractor would walk a crane on top of the newly constructed landing. Option 2 would consist of using the crane to drive the pilings for the first two bents of permanent concrete piles from grade. The contractor would then erect precast or cast in place pile caps and set the

landing beams. The contractor would use a truck mounted crane to disassemble the crawler crane and reassemble it on the newly constructed elevated pier landing.

Stage 2: Main Pier Construction

Pier construction, in part or in whole, could proceed initially using a top-down approach to minimize disruption to the beach. With this methodology the construction crane and other equipment would be supported by the pier structure that is under construction. This procedure would start at the pier's landward-most bent and would work out toward water of a sufficient depth to accommodate a construction barge, which would be utilized to construct to the end of the pier. Each pile in a bent is driven and the pile cap is erected before proceeding to the next bent. Temporary pile templates would be installed for the piling in the Gulf of Mexico. These templates are usually constructed and set with steel H-pile and are removed after driving of the permanent concrete piling. With each group of piles properly driven and bents installed, the pile cap, with bollards cast into them, is placed to connect the piles and provide beam support. Following construction of each bent, the connecting beams are placed. The pier's connecting beams would be precast offsite at a pre-casting yard and hauled to the construction site. Once the initial spans are erected, a transporting system would be used to take the piling, caps, beams and concrete from the shore out to the new span. Each span would consist of four precast concrete beams. On top of each bent and between the beams are cast in place diaphragms. Once the landward portion of the pier concrete superstructure is completed, the crane would be removed from the pier. Drop-in timber deck panels would then be placed to complete the pier surface.

Stage 3: Erection of Pre-Fabricated Building, Construction of Elevated Landing, Main Stairs, American with Disabilities Act (ADA) Ramps, and Bait Shop/Restroom

During this stage, the contractor would drive the remaining elevated landing pilings, install the bents, erect the pile cap and set the remaining beams. The contractor would construct the visitor's center/bait shop/restroom floor and set the prefabricated visitor's center/bait shop/restrooms on the pier landing. Timber piling would be installed for the main stairs and for a ramp that meets the ADA requirements. The stairs and ADA ramp superstructure would be constructed. The contractor would then install timber decking throughout the pier.

Stage 4: Completion of Pier Landing Construction, Installation of Septic System, and Civil Site Work

During this stage, the contractor would install the septic system, perform rough grading for the parking lot and the local access road (Bauer Street), and install embedded lighting conduit and water lines. The road base for the proposed access road would then be installed. The curb-and-gutter and concrete flatwork would be completed on the site. A gravel surface would then be placed on the parking lot and an asphalt surface would be placed on the access road. Parking area lights would be installed.

Stage 5: Finishing Elements

During the final stage, the hand railing, pier landing, stairs, and ADA ramps would be installed along the pier. The contractor would then install electrical conduits, conductors, lit bollards, fixtures, and trout lights. The contractor would install a prefabricated parking entry pavilion, complete the fine grading, and install landscaping.

SECTION 2: ALTERNATIVES ANALYSIS

Several alternatives have been considered for the proposed recreational area and include four build alternatives and one no-build alternative. Each alternative is described below and includes proposed amenities, pier dimensions, and the potential impacts that could occur with each alternative.

Alternative A

This build alternative would consist of a 20-foot wide, 1,000–1,500-foot long T-head pier extending into the Gulf of Mexico and a 20-foot wide, 1,000–1,500-foot long T-head pier and boat ramp extending into Rollover Bay north of SH 87. Both piers would run perpendicular to the shoreline and consist of a concrete structure with a wooden deck. The Gulf of Mexico pier and the Rollover Bay boat ramp would be constructed on the east side of the footprint of Rollover Pass (to be closed), while the Rollover Bay pier would be constructed on the west side of the Rollover Pass footprint. Associated amenities would include parking and restrooms. The land-based development would be approximately 737 feet long and 534 feet wide, and it would occur partially below the MHHW line. The total area of development would be 10.4 acres, which includes 9.0 acres of land improvements and roughly 1.4 acre of pier construction. No development would occur within the Rollover Pass footprint itself.

Alternative B

This build alternative would consist of a 20-foot wide, 1,000-foot long T-head pier extending south from the shoreline into the Gulf of Mexico from the west side of the footprint of Rollover Pass. The pier would consist of a concrete structure with a wooden deck. Associated amenities would consist of a vendor promenade with a concrete trail, restroom facilities, picnic pavilion, vendor stand and bait shop, fish cleaning pavilion, beach pavilion, welcome kiosk, and nine covered and 16 uncovered benches along the pier. Two asphalt parking lots would be constructed, one on either side of Rollover Pass. Access to the western parking lot would be via Bauer Street off SH 87. Bauer Street would also be reconstructed as part of this alternative as a 24-foot wide, two-lane roadway ending in a cul-de-sac near the pier access. The cul-de-sac would provide several spaces for ADA access closer to the pier. Access to the eastern parking lot would be via a new driveway from SH 87. A partial grassy area and partial sandy beach area would be located between the two parking lots, which would be connected by a concrete sidewalk. The land-based development would be approximately 737 feet long and 534 feet wide, and it would occur partially below the MHHW line. The total area of development would be 9.46 acres, which includes 9.0 acres of land improvements and 0.46 acre of pier construction. No development would occur within Rollover Bay or within the Rollover Pass footprint.

Alternative C

This build alternative would have many of the same features as Alternative B, but with several modifications. First, all of the parking would be consolidated in the area of the Rollover Pass footprint. This parking lot would contain 76 parking spaces and would be accessible via a driveway accessing SH 87. Second, all of the land-based development would occur above the MHHW line. Third, in addition to the amenities included in Alternative B, several additional amenities were added. These include a controlled access gate and gate house, an interpretive area and educational play area, a community gathering and small performance area, and a Rollover Pass Memorial and educational exhibit. Finally, the material used for the parking lot and sidewalk construction would be gravel and not asphalt. All other

aspects of Alternative B are included in Alternative C. The total area of development would be 5.3 acres, which includes 4.85 acres of land improvements and 0.46 acre of pier construction.

Alternative D

This build alternative would have many of the same features as Alternative C, but with several modifications. First, several of the amenities, including the restrooms, visitor's center, vendor stand and bait shop, would be housed in a single structure, with the fish cleaning stations remaining as a separate structure on the pier. Some of the amenities, including the interpretive/educational play area, community gathering and small performance area, and Rollover Pass Memorial and educational exhibit were not included in this alternative and instead were replaced with open grassy areas with picnic tables for public use and the construction of a dune and two dune crossings. In this alternative, the parking area would include parking spaces for 65 vehicles. The parking area would include 16 parking lights (five sets of double mount lights and six single arm mount lights). Access to the parking facility would be via Bauer Street off SH 87. Bauer Street would also be reconstructed as part of this alternative as a 24-foot wide, two-lane roadway ending in a cul-de-sac near the pier access. Handicapped parking spaces and bike parking facilities would be provided along the improved access road. Thirty-seven lighted bollards would be installed along the perimeter of the pier for pedestrian lighting. Four LED lights (trout lights) would be installed, and aimed parallel to the shore, to improve fishing along the pier. Shielding would be provided to direct the light onto the water. Two of the lights would be mounted on the outer corners of the pier T-head, and the other two would be within 200 feet of the T-head, one mounted to each side. Lastly, this alternative includes 14 uncovered benches (seven sets of back to back benches) along the pier. Approximately 2.7 acres of development would occur in the area above the MHHW line, while approximately 0.50 acre of development would occur below the MHHW water line.

Alternative E

This alternative would consist of the no-build or no action alternative. Under this alternative, the fishing pier and associated amenities would not be constructed, and the Rollover Pass area would remain vacant following Rollover Pass closure.

Selection of the Preferred Alternative:

Each of the build alternatives would meet the need and purpose of the project by providing fishing and other recreational opportunities for the general public that would be lost with the closure of Rollover Pass. The no-build would not meet the need and purpose of the project. In addition to meeting the need and purpose, a variety of factors, including public input, design factors, repair/replacement costs, and avoidance and minimization efforts for environmental resources were used in selecting the preferred alternative.

Alternative A

Alternative A consists of construction of a pier and boat ramp into Rollover Bay north of US 87. After evaluation and coordination with the U.S. Fish and Wildlife Service (USFWS), it was determined that designated piping plover critical habitat exists in the proposed Rollover Bay pier and boat ramp location.

When this alternative was presented to the public for consideration and comment, the Surfriders Foundation, a special interest group for surfers, requested the pier be built on an angle as opposed to perpendicular to the shore as designed in Alternative A. The angled pier design provides greater recreational opportunities for surfers.

The other alternatives were designed without the Rollover Bay pier and boat ramp to avoid impacts to piping plover critical habitat and with the Gulf of Mexico pier oriented north/south at an angle to the shoreline. Therefore, due to potential impacts to piping plover critical habitat and public input, Alternative A was eliminated.

Alternative B

During a jurisdictional determination and wetland delineation study, a tidal pool was identified in an area northeast of the proposed fishing pier where the overflow parking area of Alternative B was proposed. The location of the tidal pool is illustrated in **Exhibit 2**. The asphalt overflow parking lot located northeast of the fishing pier would have resulted in filling this tidal pool, as well as additional impervious cover. Furthermore, construction of the overflow parking lot would have required land acquisitions on the eastern side of the project area. Amenities would have extended from US 87 to the water line under this alternative, resulting in substantial fill below the MHHW line.

In order to avoid impacts to the tidal pool, the need for additional land acquisitions, and placement of substantial fill material below MHHW line, Alternative B was eliminated.

Alternative C

Alternative C consisted of a single parking area over the location of existing Rollover Pass in order to avoid filling of the tidal pool to the east. Additionally, the amenities associated with this alternative resulted in a reduction in the size of the area proposed for development and avoided the need for land acquisitions and reduced the amount of fill that would be placed below MHHW line. The parking lot was designed to include gravel rather than concrete, which resulted in a reduction in the amount of impervious cover. However, Alternative C does consist of more impervious cover by proposing the most facilities, including six buildings, an educational play area, a small performance area, and vendor pads. This alternative would require more maintenance than other alternatives and would have higher repair/replacement costs in the event of a damaging hurricane.

Due to the high maintenance costs, increased cost for repair/replacement after a hurricane, and increased impervious cover, Alternative C was eliminated.

Alternative D

Alternative D included the least number of buildings as well as gravel surfaced parking with fewer parking spaces, thereby reducing the amount of maintenance required and the amount of impervious cover. There were also fewer pier benches in this alternative, which would result in reduced replacement/repair costs in the event of a damaging hurricane. The pier would predominantly be constructed utilizing pre-cast concrete piles as opposed to cast-in-place piles, thereby reducing impacts to

water quality due to decreased sediment discharge during construction. The impacts from the 138 piles that would be placed below the MHHW line would total 0.013 acre.

This alternative has the least potential for impacts to waters of the U.S., water quality, and endangered species. Additionally, this alternative has greater public support, is more resilient, and would result in less maintenance and lower repair/replacement costs in the event of a damaging hurricane. For these reasons, Alternative D was selected as the preferred alternative.

Alternative E

The no-build alternative was rejected because it would not provide a fishing pier and associated amenities for the surrounding residents and tourists. Tourists are a large base in the economy of the area, and the main draw is outdoor activities.

SECTION 3: INFORMATION ON WATER QUALITY, SECTION 401 AND SECTION 402 COMPLIANCE

This section provides information on water quality, including a discussion regarding compliance with Sections 401 and 402 of the Clean Water Act. Also provided in this section is the Tier I Checklist.

Storm-water runoff from the project would flow directly into the Gulf of Mexico, which is a Clean Water Act Section 303(d) listed water body. The Gulf of Mexico is listed in the Jefferson-Chambers County line area as Segment 2501 (Gulf of Mexico from the Gulf of Mexico shoreline to the limit of Texas' jurisdiction between Sabine Pass and Rio Grande). The proposed project is located adjacent to and within the Gulf of Mexico, and is therefore considered to have the potential to affect Gulf of Mexico water quality. Segment 2501-2 of the Gulf of Mexico is considered impaired due to elevated levels of bacteria and elevated levels of mercury in edible tissue (fish and shellfish). Additionally, two impaired segments have an indirect hydrologic association with drainage from the project area (post-Rollover Pass closure), through tidal flow into Galveston Bay at Port Bolivar. These are Segment 2423 (East Bay, including Segment 2423A-Oyster Bayou and Segment 2423OW-East Bay Oyster Waters), listed as impaired for dioxin and PCBs in edible tissue, and for excessive bacteria levels; and Segment 0702 (Intercoastal Waterway Tidal from the confluence with Galveston Bay at Port Bolivar in Galveston County to the confluence with the Sabine-Neches Canal in Jefferson County), listed as impaired for dioxin and PCBs in edible tissue, and for excessive bacteria levels.

Texas Department of Health issued two Fish and Shellfish Consumption Advisories (ADV) for the area. ADV-48 (June 26, 2013) recommends no consumption of gulf-caught king mackerel, blackfin tuna, blue marlin, little tunny "bonito", shark (all species), swordfish, or wahoo by women of childbearing age and children under 12, and limited consumption of these species for all other persons, due to excessive mercury concentrations in edible tissue. ADV-50 recommends no consumption of any catfish species from Galveston Bay and contiguous waters by women of childbearing age and children under 12 due to excessive levels of dioxins and PCBs in edible tissue. Because mercury, bacteria, dioxins, and PCBs are not typical components of parking lot, sidewalk, pier, or roadway runoff, the project is not expected to contribute to these constituents of concern.

Section 401 of the Clean Water Act—Water Quality Certification

Surface water quality standards in Texas are administered by the Texas Commission on Environmental Quality (TCEQ). The current water quality regulations for state waters are presented in the TCEQ Permanent Rules Chapter 307, Texas Surface Water Quality Standards (TSWQS) Subsection 307.2 – 307.10, July 10, 1991. Section 401 of the Clean Water Act (33 U.S.C. 1341) (§17b, Attachment B) requires the use of best management practices (BMPs) to manage potential pollutants, including soils, on construction sites to protect water quality. This project would result in a direct permanent impact of less than 3 acres to waters of the U.S., and/or 1,500 linear feet of streams. Additionally, no impacts would occur to rare or ecologically significant wetlands, such as pitcher plant bogs, swamps dominated by bald cypress and tupelo gum tree species, the area of Caddo Lake within Texas that is designated as a Ramsar Wetland of International Importance, mangrove marshes, or coastal dune swales. Therefore, a Tier I Certification would be required. To minimize impacts to surface water quality, the pier would predominantly be constructed utilizing pre-cast concrete piles as opposed to cast-in-place piles. The

project would utilize approved BMPs, such as erosion control blankets/matting, mulch filter berms and socks, vegetative filter strips, silt fencing and a triangular filter dikes, to minimize short- and long-term soil erosion and sedimentation during and after construction of the proposed project. With the implementation of these BMPs, the Section 401 requirements would be met, and no long-term water quality impacts are expected as a result of the proposed project.

Section 402 of the Clean Water Act—Texas Pollutant Discharge Elimination System

Section 402 of the Clean Water Act authorizes the National Pollutant Discharge Elimination System permit program and the basic structure for regulating the discharge of pollutants from point sources into navigable waters of the U.S. Authority for this program was transferred to the State of Texas and is administered by the TCEQ. In March 2013, the TCEQ reissued TPDES General Permit TXR150000 authorizing discharges from construction sites into waters of the state. Compliance with the Construction General Permit is required if one or more acres of soil is disturbed. This project is a large construction project and would disturb more than five acres of soil. GLO will comply by filing a timely Notice of Intent (NOI) with the TCEQ, and posting the NOI and a Site Notice. In accordance with the Construction General Permit, a Storm Water Pollution Prevention Plan (SW3P) will be prepared and implemented before construction. The SW3P will be designed, implemented, maintained, and removed as appropriate for compliance with TPDES. The SW3P will combine the BMP requirements of Clean Water Act Sections 401 and 402. Potential pollution concerns from storm water will be minimized through adherence to measures in the project's SW3P.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Tier I (Small Projects) Checklist

Incorporation of Best Management Practices (BMPs) into a proposed project will allow an individual Section 404 permit application to proceed without further review by the Texas Commission on Environmental Quality (TCEQ). The basic standards for the BMPs described in items I-III are included in this packet. Tier I projects are those which will result in a direct impact of three acres or less of waters in the state or 1500 linear feet of streams. If a project has a combination of impacts that exceed the threshold or is submitted after the fact, it does not qualify as a Tier I project (one acre of impact is considered equal to 500 linear feet of stream). The provisions of the checklist, including BMPs selected by an applicant, will become part of the Section 404 permit. If an applicant fails to implement these provisions and BMPs, the permit is subject to enforcement. Applicants who do not wish to incorporate all the provisions of the checklist into their project or desire to use alternatives may seek individual 401 review and certification from the TCEQ.

I. Erosion Control

Disturbed areas must be stabilized to prevent the introduction of sediment to adjacent wetlands or water bodies during wet weather conditions (erosion). *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized. Please check the BMP(s) you will incorporate into your project.

- ☐ Temporary Vegetation
- ☐ Blankets/Matting
- ☐ Mulch
- ☐ Sod
- ☐ Erosion Control Composts*
- ☐ Compost Filter Berms and Socks*
- ☐ Mulch Filter Berms and Socks*

II. Post-Construction TSS Control

After construction has been completed and the site is stabilized, total suspended solids (TSS) loadings shall be controlled by *at least one* of the following BMPs. Please check the BMP(s) you will incorporate into your project.

- ☐ Retention/Irrigation
- ☐ Extended Detention Basin
- ☐ Vegetative Filter Strips
- ☐ Constructed Wetlands
- ☐ Wet Basins

III. Sedimentation Control

Prior to project initiation, the project area must be isolated from adjacent wetlands and water bodies by the use of BMPs to confine sediment. *At least one* of the following BMPs must be maintained and remain in place until project completion. Please check the BMP(s) you will incorporate into your project.

- ☐ Sand Bag Berm
- ☐ Silt Fence
- ☐ Triangular Filter Dike
- ☐ Rock Berm
- ☐ Hay Bale Dike
- ☐ Erosion Control Compost*
- ☐ Compost Filter Berms and Socks*
- ☐ Mulch Filter Berms and Socks*

Dredged material shall be placed in such a manner that prevents sediment runoff into water in the state, including wetlands. Water bodies can be isolated by the use of one or more of the required BMPs identified for sedimentation control. These BMPs must be maintained and remain in place until the dredged material is stabilized.

Hydraulically dredged material shall be disposed of in contained disposal areas. Effluent from contained disposal areas shall not exceed a TSS concentration of 300 mg/L.

IV. Contaminated Dredge Material

If contaminated dredge material that was not anticipated or provided for in the permit application is encountered during dredging, operations shall cease immediately. Pursuant to § 26.039 (b) of the Texas Water Code, the individual operating or responsible for the dredging operations shall

notify the commission's emergency response team at (512)463-7727 as soon as possible, and not later than 24 hours after the discovery of the material. The applicant shall also notify the U.S. Army Corps of Engineers (Corps) that activities have been temporarily halted. Contaminated dredge material shall be remediated or disposed of in accordance with TCEQ rules. Dredging activities shall not be resumed until authorized in writing by the Commission.

"Contaminated dredge material" is defined as dredge material which has been chemically, physically, or biologically altered by man-made or man-induced contaminants which include, but not limited to "solid waste", "hazardous waste", and "hazardous waste constituent" as those terms are defined by 30 Texas Administration Code (TAC) Chapter 335, "Pollutants" as defined by Texas Water Code § 26.001 and "Hazardous Substances" as defined in the Texas Health and Safety Code, §361.003.

V. Wetland Mitigation Requirements

Where wetland mitigation is determined to be necessary by the Corps, the applicant must satisfy the minimum success criteria established by the Corps including wetland hydrology, hydrophytic vegetation, and two years of monitoring. If that criteria includes less than two years of monitoring, the applicant may request water quality certification under Section 401.

***VI. Compost Requirements**

New types of erosion control compost (ECC) and compost and mulch filter berms and socks are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT's construction or maintenance activities. Material used within any TxDOT construction or maintenance activities must meet material specifications in accordance with current TxDOT specifications. TxDOT maintains a website at http://www.dot.state.tx.us/services/general_services/recycling/compost_on_row.htm that provides information on Use of Compost and Shredded Wood on Rights of Way. This website also contains information on areas where the TCEQ restricts the use of certain compost products.

ECC and compost and mulch filter berms and socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission (now named TCEQ) Health and Safety Regulations as defined in the TAC, Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections §332.71 Sampling and Analysis Requirements for Final Products and §332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test

Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products. TMECC information can be found at <http://www.tmecc.org/tmecc/index.html>. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at <http://compostingcouncil.org/section.cfm?id=35>.

VII. Coastal Zone Management Act

In accordance with 31 TAC § 506, all projects located in the coastal zone boundary shall be consistent with the Texas Coastal Management Program.

Applicant should sign and return the original statement and completed checklist to the U.S. Army Corps of Engineers and send a copy to the TCEQ. Questions regarding the checklist should be directed to the TCEQ.

U.S. Army Corps of Engineers
Regulatory Branch
2000 Fort Point Road
Galveston, TX 77550
Fax: 409-766-3931

Water Quality Assessment Section - 401 Coordinator
Texas Commission on Environmental Quality
MC-150
P.O. Box 13087
Austin, Texas 78711
(512) 239-5366
Fax (512)239-4420

Applicant's Name (please print): Mark A Havens (Texas General Land Office)

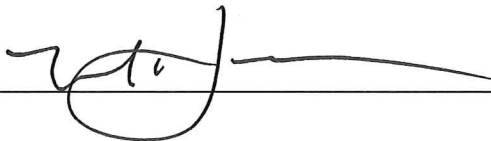
Corps Project Manager or Regulatory Specialist (if known):

Permit Number (if known): _____

I will incorporate all of the above requirements and selected BMPs (Items I, II, and III) into my proposed project. I understand that these requirements and BMPs as described above will be part of my Section 404 permit, and failure to implement any of them will constitute a permit violation.

Date: _____

Applicant Signature: _____



CONSISTENCY WITH THE TEXAS COASTAL MANAGEMENT PROGRAM

THE APPLICANT SHOULD SIGN THIS STATEMENT AND RETURN WITH APPLICATION PACKET TO:

U. S. Army Engineer District, Galveston
CESWG-PE-R
P.O. Box 1229
Galveston, TX 77553-1229

FOR USACE USE ONLY:

PERMIT #: _____

PROJECT MGR. _____

APPLICANT'S NAME AND ADDRESS (PLEASE PRINT):

Mark A Havens (Texas General Land Office)

1700 N. Congress Ave.

Austin, TX 78701

The Texas Coastal Management Program (CMP) coordinates state, local, and federal programs for the management of Texas coastal resources. Activities within the CMP boundary must comply with the enforceable policies of the Texas Coastal Management Program and be conducted in a manner consistent with those policies. The boundary definition is contained in the CMP rules (31 TAC §503.1).

- To determine whether your proposed activity lies within the CMP boundary, please find the project location using the following link: <http://www.glo.state.tx.us/coastal/maps/cmp/index.html>.

PROJECT DESCRIPTION:

Is the proposed activity at a waterfront site or within coastal, tidal, or navigable waters? ☒ Yes ☐ No

If Yes, name affected coastal, tidal, or navigable waters: Gulf of Mexico

Is the proposed activity water dependent? (31 TAC §501.3(a)(14)) ☒ Yes ☐ No

[http://info.sos.state.tx.us/pls/pub/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=16&ch=501&rl=3](http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=16&ch=501&rl=3)

If yes, please describe how project is water dependent:

The project includes construction of an approximately 1,000-foot long by 20-foot wide T-head concrete pier with timber deck, 30-foot span lengths and land-side amenities.

Please briefly describe the project and all possible effects on coastal resources:

The project includes construction of an approximately 1,000-foot long by 20-foot wide T-head concrete pier with timber deck, 30-foot span lengths and land-side amenities. The pier would land to the west of the existing Rollover Pass (closure in progress). Additionally, the land-side amenities would include a combined bait vendor stand, visitor's center and restroom structure, a parking area, a concrete vendor pad, and picnic areas. Construction of the new concrete pier requires unavoidable, permanent impacts (placement of fill) to a navigable water of the U.S. and will require a standard Individual Permit under Section 10 of the Rivers and Harbors Act. The project may affect, but is not likely to adversely affect the Pipping Plover, red knot, Kemp's Ridley sea turtle, loggerhead sea turtle, and the giant manta ray. Appropriate protection and conservation measures to avoid/minimize impacts to these species would be implemented.

Indicate area of impact: Approximately 0.01 ☒ acres or ☐ square feet

ADDITIONAL PERMITS/AUTHORIZATIONS REQUIRED:

- ☐ Coastal Easement – Date application submitted _____
- ☐ Coastal Lease – Date application submitted _____
- ☒ Stormwater Permit – Date application submitted TBD
- ☒ Water Quality Certification – Date application submitted: TBD
- ☐ Other state/federal/local permits/authorizations required: _____

The proposed activity must not adversely affect coastal natural resource areas (CNRAs).

PLEASE CHECK ALL COASTAL NATURAL RESOURCE AREAS THAT MAY BE AFFECTED:

- | | | | |
|---|--|---|---|
| <input type="checkbox"/> Coastal Barriers | <input type="checkbox"/> Coastal Historic Areas | <input type="checkbox"/> Coastal Preserves | <input checked="" type="checkbox"/> Coastal Shore Areas |
| <input type="checkbox"/> Coastal Wetlands | <input type="checkbox"/> Critical Dune Areas | <input type="checkbox"/> Critical Erosion Areas | <input checked="" type="checkbox"/> Gulf Beaches |
| <input type="checkbox"/> Hard Substrate Reefs | <input type="checkbox"/> Oyster Reefs | <input type="checkbox"/> Special Hazard Areas | |
| <input checked="" type="checkbox"/> Submerged Lands | <input type="checkbox"/> Submerged Aquatic Vegetation | | |
| <input type="checkbox"/> Tidal Sand Or Mud Flats | <input checked="" type="checkbox"/> Waters of Gulf of Mexico | | |
| <input checked="" type="checkbox"/> Waters Under Tidal Influence. | | | |

The applicant affirms that the proposed activity, its associated facilities, and their probable effects comply with the relevant enforceable policies of the CMP, and that the proposed activity will be conducted in a manner consistent with such policies.

PLEASE CHECK ALL APPLICABLE ENFORCEABLE POLICIES:

[http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=5&ti=31&pt=16&ch=501&sch=B&rl=Y](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=5&ti=31&pt=16&ch=501&sch=B&rl=Y)

AFFECTED	ENFORCEABLE POLICY
	§501.15 Policy for Major Actions
	§501.16 Policies for Construction of Electric Generating and Transmission Facilities
	§501.17 Policies for Construction, Operation, and Maintenance of Oil and Gas Exploration and Production Facilities
	§501.18 Policies for Discharges of Wastewater and Disposal of Waste from Oil and Gas Exploration and Production Activities
	§501.19 Policies for Construction and Operation of Solid Waste Treatment, Storage, and Disposal Facilities
	§501.20 Policies for Prevention, Response and Remediation of Oil Spills
	§501.21 Policies for Discharge of Municipal and Industrial Wastewater to Coastal Waters
	§501.22 Policies for Nonpoint Source (NPS) Water Pollution
	§501.23 Policies for Development in Critical Areas
X	§501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands
	§501.25 Policies for Dredging and Dredged Material Disposal and Placement
	§501.26 Policies for Construction in the Beach/Dune System
	§501.27 Policies for Development in Coastal Hazard Areas
	§501.28 Policies for Development Within Coastal Barrier Resource System Units and Otherwise Protected Areas on Coastal Barriers
	§501.29 Policies for Development in State Parks, Wildlife Management Areas or Preserves
	§501.30 Policies for Alteration of Coastal Historic Areas
	§501.31 Policies for Transportation Projects
	§501.32 Policies for Emission of Air Pollutants
	§501.33 Policies for Appropriations of Water
	§501.34 Policies for Levee and Flood Control Projects

Please explain how the proposed project is consistent with the applicable enforceable policies identified above. Please use additional sheets if necessary. *For example: If you are constructing a pier with a covered boathouse, then the applicable enforceable policy is: §501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands. The project is consistent because it will not interfere with navigation, natural coastal processes, and avoids/minimizes shading.*

§501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands. The project is consistent because it will not interfere with navigation, natural coastal processes, and avoids/minimizes shading of critical areas. Additionally, the facility would not impound or drain coastal wetlands. The proposed pier would accommodate public access to coastal waters and would enhance the public's ability to enjoy the natural aesthetic values of coastal submerged lands. _____

BY SIGNING THIS STATEMENT, THE APPLICANT IS STATING THAT THE PROPOSED ACTIVITY COMPLIES WITH THE TEXAS COASTAL MANAGEMENT PROGRAM AND WILL BE CONDUCTED IN A MANNER CONSISTENT WITH SUCH PROGRAM

DATE:

11/1/19

SIGNATURE:



Any questions regarding the Texas Coastal Management Program should be referred to:

Jesse Solis
Permitting Assistance Coordinator
6300 Ocean Drive
TAMU-CC Natural Resource Center Ste. 2800
Corpus Christi, Texas 78412-5599
Phone: (361) 825-3050
Fax: (361) 825-3465
Toll Free: 1-866-894-3578
permitting.assistance@glo.state.tx.us

Tammy Brooks
Texas General Land Office
Coastal Resources Division
1700 North Congress Avenue, Room 620
Austin, Texas 78701-1495
Phone: (512) 463-9212
Fax: (512) 475-0680
Toll Free: 1-800-998-4GLO
tammy.brooks@glo.state.tx.us

SECTION 6: INFORMATION ON THREATENED AND ENDANGERED SPECIES

A Biological Assessment (BA) is being prepared and a draft version of the BA is attached in **Appendix B**. Of the species listed by the USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries, the piping plover, red knot, five species of sea turtles, and the giant manta ray are most likely to occur in the project vicinity. Due to lack of suitable habitat or known range limits, the other listed species with the potential to occur in Galveston County are not likely to occur in the project vicinity. The BA determined that the following eight threatened (T) and endangered (E) species could occur in the project area:

- Piping plover (*Charadrius melodus*) - T
- Red knot (*Calidris canutus rufa*) - T
- Green sea turtle (*Chelonia mydas*) - T
- Hawksbill sea turtle (*Eretmochelys imbricata*) - E
- Kemp's Ridley sea turtle (*Lepidochelys kempii*) - E
- Leatherback sea turtle (*Dermochelys coriacea*) – E
- Loggerhead sea turtle (*Caretta caretta*) - T
- Giant manta ray (*Manta birostris*) - T

The BA made a determination of “no effect” for the green, Hawksbill, and leatherback sea turtles. A determination of “may affect, but not likely to adversely affect” was made for the piping plover, red knot, Kemp's Ridley sea turtle, loggerhead sea turtle, and the giant manta ray. Coordination with the USFWS and NOAA would be completed, and all mitigation measures that are included in the BA and as a result of USFWS and NOAA coordination would be adhered to.

Conservation measures are actions that would reduce or eliminate the adverse impacts of the proposed activity on the protected species. Recommended conservation measures, or protection measures, for the giant manta ray, sea turtles, piping plover and red knot are detailed below.

- 1) All crew members (contractors, workers, etc.) will attend training sessions prior to the initiation of, or their participation in, project work activities. Training will be conducted by qualified personnel and the scope of training will include: 1) recognition of giant manta rays, sea turtles, piping plovers, and red knots, their habitats, and tracks; 2) impact avoidance measures; 3) reporting criteria; and 4) contact information for different rescue agencies in the area.
- 2) Project equipment and materials will not be staged or stock-piled on the Gulf of Mexico beach or flats within Rollover Bay.
- 3) Project equipment and vehicles transiting between the staging area and project site will be kept to a minimum and will use designated routes. Vehicle access shall be confined to the immediate needs of the project.
- 4) The contractor will coordinate and sequence the work to minimize the frequency and density of vehicular traffic on the beach to the greatest extent practicable. During the beach

fill phase of the project, the contractor will minimize the number of vehicles on the beach during vehicle ingress and egress and will avoid "stacking" vehicles on the beach waiting to unload fill material or waiting to leave the beach.

- 5) Beach driving shall be reduced to the maximum extent practicable.
- 6) The use of construction lighting at night shall be minimized, directed toward the construction activity area, and shielded from view outside of the project area to the maximum extent practicable.
- 7) Only sand that meets the specifications of the local beach quality (e.g., grain size, color, and mineralogy) will be used for fill and maintenance activities. Beach quality sand will be tested in accordance with ASTM D422. Beach quality sand will have an average mean grain size greater than or equal to .10 mm and less than 1.0 mm, a silt content passing #200 sieve (0.074 mm) of less than 10 per cent, and a final composite gradation curve that fits within the gradation range shown in Appendix B.
- 8) Siltation barriers shall be made of material in which a sea turtle cannot become entangled and shall be regularly monitored to avoid sea turtle entanglement.
- 9) All marine vessels associated with the construction project shall operate at "no wake/idle" speed at all times while in the construction area and while in water depths where the draft of the vessel provides less than a 4-ft of clearance from the bottom. All vessels will follow deep-water routes to the maximum extent practicable.
- 10) A designated giant manta ray, sea turtle, piping plover, and red knot monitor(s) will be identified and who will act as the single point of contact responsible for communicating and reporting endangered species issues throughout construction of the project.
- 11) During the sea turtle nesting season of March 15 to October 1:
 - a. The TxGLO in coordination with the Corps and other project proponents will ensure that a qualified monitor(s) is onsite during work and maintenance activities and provide the Service with the names and qualifications of the monitor(s).
Monitors will:
 - i. Survey the project areas (i.e., immediate project area and 100-ft buffer zone outside the project area) and vehicle access routes for turtles and turtle nests before beginning work activities each day, after work has concluded each day, once a day on non-construction days, and other such times as deemed necessary by monitors.
 - ii. Escort large vehicles when necessary to ensure that sea turtles and nests are protected.
 - iii. Determine when beach is clear for work.
 - iv. Ensure that tire ruts and other disturbed areas on the beach are smoothed out and sand loosened upon the completion of each work day.

- b. If a sea turtle or nest is located in or adjacent to work areas, work activities will immediately cease within 100 ft of the nest or turtle, and the monitor will call 1- 866-TURTLE-5 and notify the CLESFO (281-286-8282). Work activities will not resume within 100 ft of the nest site or turtle until authorization from the monitor is received to do so. Information regarding the qualification of the independent qualified monitor will be submitted to the Corps prior to starting work in the permitted area.

12) During the piping plover and red knot wintering season of July 15 to May 15:

- a. The TxGLO in coordination with the Corps and other project proponents will ensure that a qualified monitor(s) surveys the work areas and looks under equipment and vehicles for piping plovers and red knots prior to morning construction activities. A monitor will be onsite to ensure that loafing or resting piping plovers or red knots are not in the project area during project activities. Please note that piping plovers and red knots are especially vulnerable during periods of cold temperatures and when they are roosting at night, and extra care should be taken at these times.
- b. If a piping plover or red knot is found in an active construction area, work will be stopped within an area specified by the monitor until the bird(s) leave the construction site. If the bird does not relocate (e.g., injured bird) the Service will be contacted to solicit additional guidance.

SECTION 7: INFORMATION ON CULTURAL RESOURCES

Historic and Archeological Resources

No structures are located in the proposed project area. An Antiquities Permit Application was submitted to the Texas Historical Commission (THC) on November 1, 2011 to conduct marine archeological investigations in the area of the proposed pier. The archeological survey was subsequently conducted and revealed no occurrence of submerged historic or archeological resources. THC concurred with these findings and stated that the project may proceed on December 11, 2012. The draft survey report was accepted on October 31, 2013 with final report approved on November 19, 2013. The THC completed permit concurrence letter is included in Appendix C.

LITERATURE CITED

Corrigan Consulting, Inc. 2009. Vegetative and Ecological Community Characterization Report.

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Texas State Historical Association. 2011. The Handbook of Texas Online – Gulf of Mexico. <http://www.tshaonline.org/handbook/online/articles/rrg07>. Accessed November 2011.

U.S. Department of Agriculture Natural Resources Conservation Service. Soil survey data. <http://websoilsurvey.nrcs.usda.gov/> Accessed November 2011.

EXHIBITS ATTACHED TO PERMIT APPLICATION

Exhibit 1	Project Location
Exhibit 2	USFWS NWI Map
Exhibit 3	USGS Topographic and FEMA Floodplain Map
Exhibit 4	Overall Site Layout Plan
Exhibit 5	Landside Layout Plan
Exhibit 6	Bait Vendor Building Elevations
Exhibit 7	Pier Layout Plan and Elevations
Exhibit 8	Pier Details
Exhibit 9	Dune Crossing Plan and Elevations
Exhibit 10	Ramp and Pavilion Typical Sections
Appendix A	Photographs of Project Site
Appendix B	Draft Biological Assessment
Appendix C	THC Concurrence for Underwater Archeology

EXHIBITS

Bing Maps Aerial; © 2010 Microsoft Corp and it's data suppliers
Mean Higher High Water data obtained January 2012



138 pier pilings
below MHHW would
result in 0.013 acre
(983.782 cubic yards)
of permanent fill
within the Gulf of
Mexico.

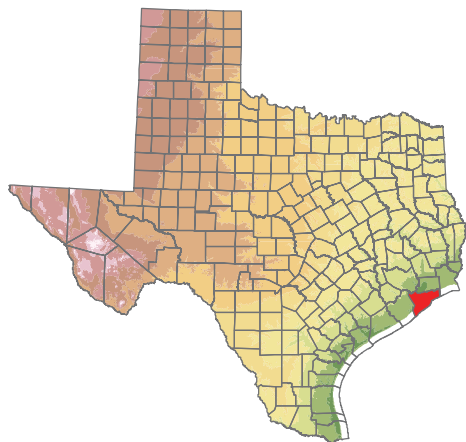


EXHIBIT 1: PROJECT LOCATION

Rollover
Recreational
Area - Gulf Side

Galveston County, Texas



0 150 300 450
Feet

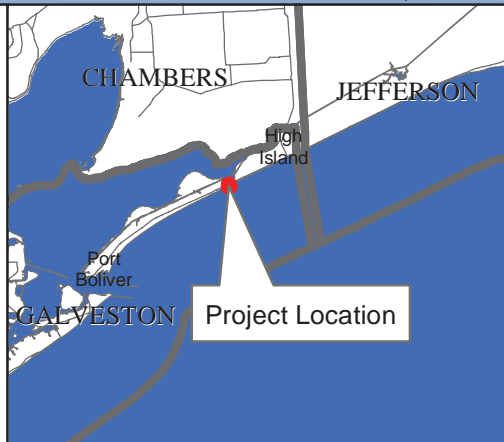
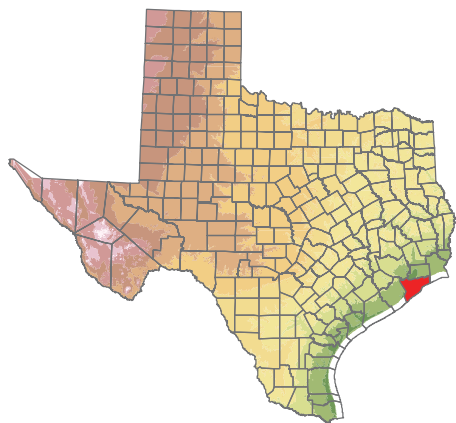
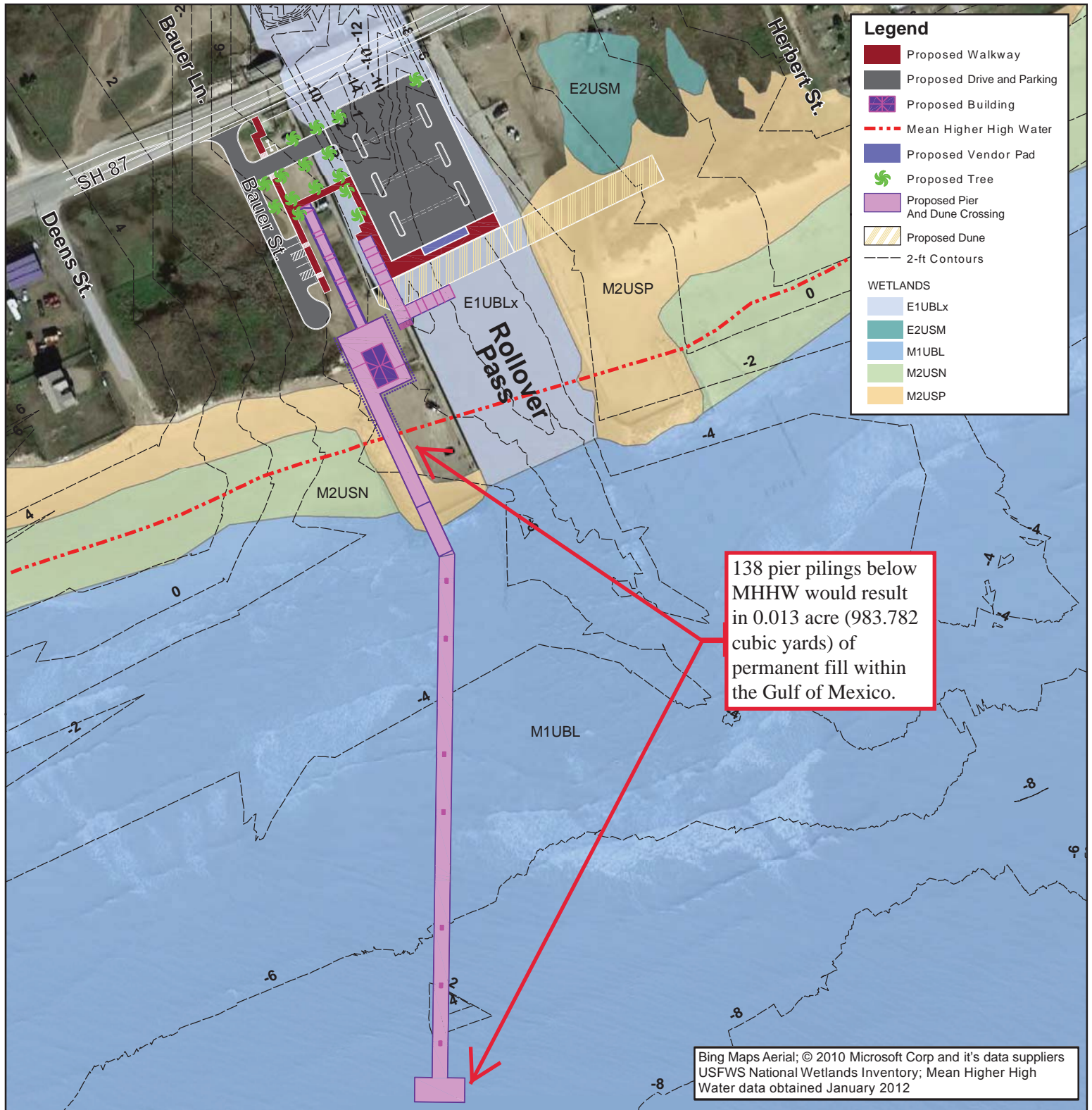


EXHIBIT 2: USFWS NWI Map

Rollover
Recreational
Area - Gulf Side

Galveston County, Texas



0 100 200 300
Feet

USGS Frozen Point & High Island Quads
TNRIS FEMA Floodplain; Mean Higher
High Water data obtained January 2012

Legend

- Proposed Walkway
- Proposed Drive and Parking
- Proposed Building
- Mean Higher High Water
- Proposed Vendor Pad
- Proposed Tree
- Proposed Pier And Dune Crossing
- Proposed Dune
- 2-ft Contours

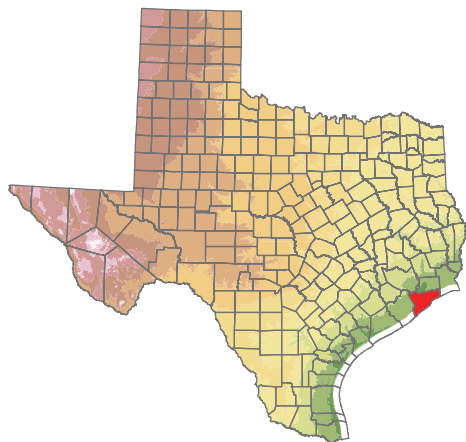
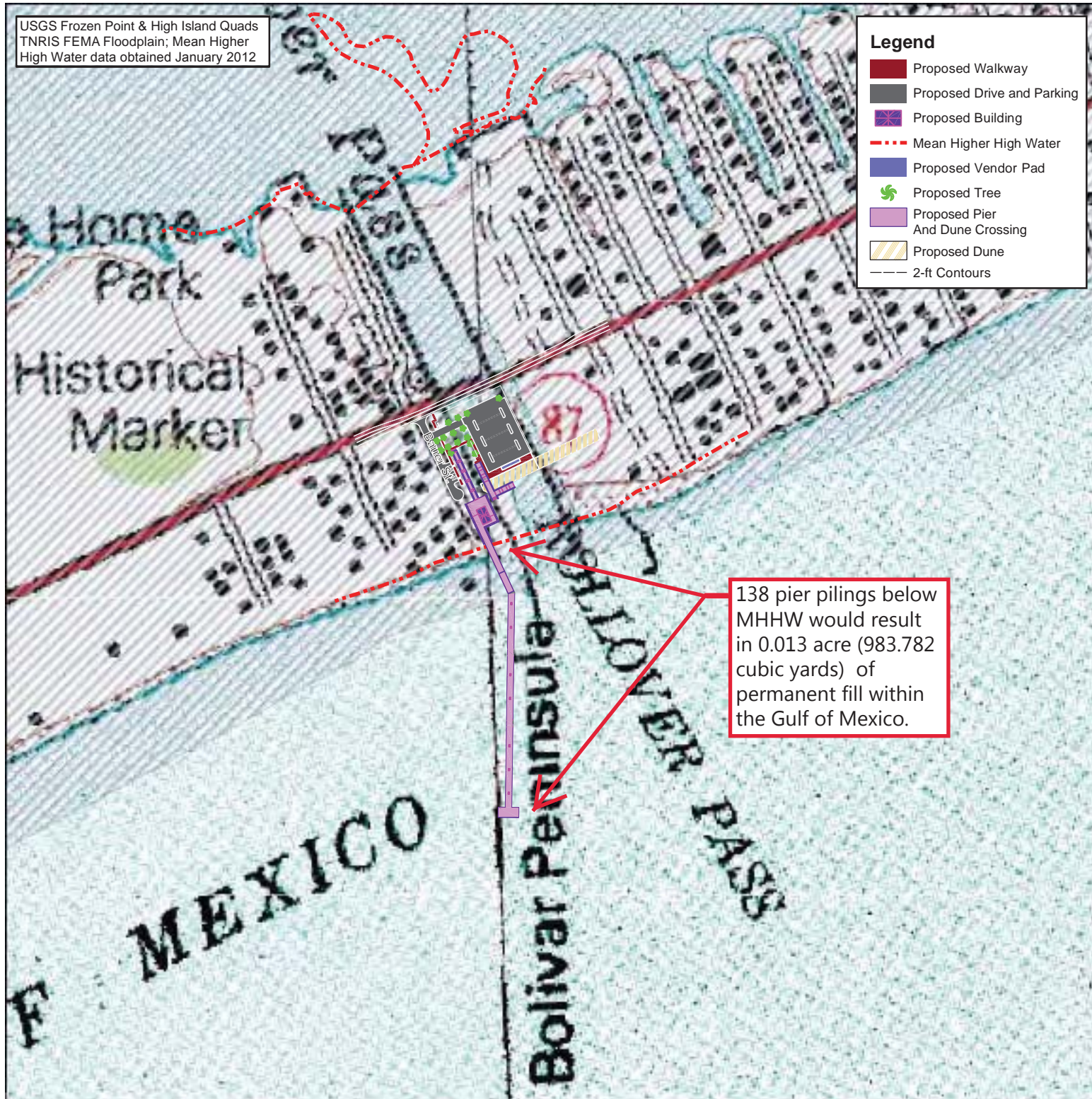


EXHIBIT 3: USGS Topographic and FEMA Floodplain Map

Rollover
Recreational
Area - Gulf Side

Galveston County, Texas



0 200 400 600 Feet



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90% SUBMITTAL
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December 21, 2014
HNTB PROJECT
57947-03-011

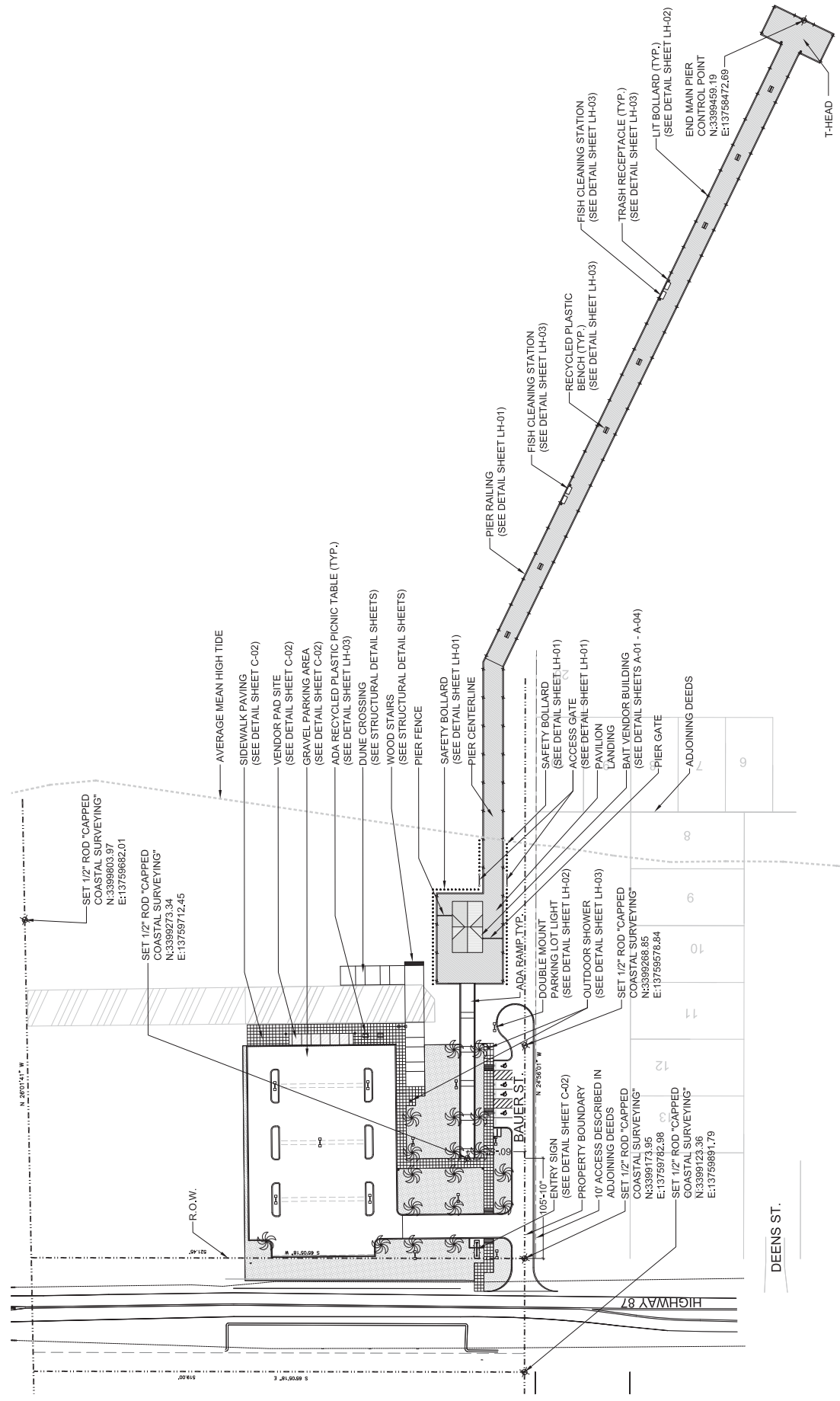
DESIGN BY: SL, SR, SK, FK
DRAWN BY: LU, SC, MG



SP-01
OVERALL SITE
LAYOUT PLAN



NOT FOR CONSTRUCTION



PLAN VIEW



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DOCUMENT IS FOR INTERIM REVIEW AND
NOT INTENDED FOR CONSTRUCTION BIDDING,
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SEANER B. LANTON
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 LICENSE NO.
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ROLLOVER RECREATIONAL AREA
90% SUBMITTAL
CEPRA PROJECT NO. 1518
950 Bauer Street - Gilchrist, TX 77617

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HNTB PROJECT
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DESIGN BY: SL, SR, SK, FK
DRAWN BY: LU, SC, MG

CHECKED BY:

LINK

LA-01
LANDSIDE
LAYOUT PLAN



NOT FOR CONSTRUCTION

PLAN VIEW

NOTE: RADIUS DIMENSIONS ARE TAKEN FROM FRONT OF CURB (F.O.C)



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HNTB PROJECT
57947-08-011

DESIGN BY: SL, SR, SK, FK
DRAWN BY: LU, SC, MG

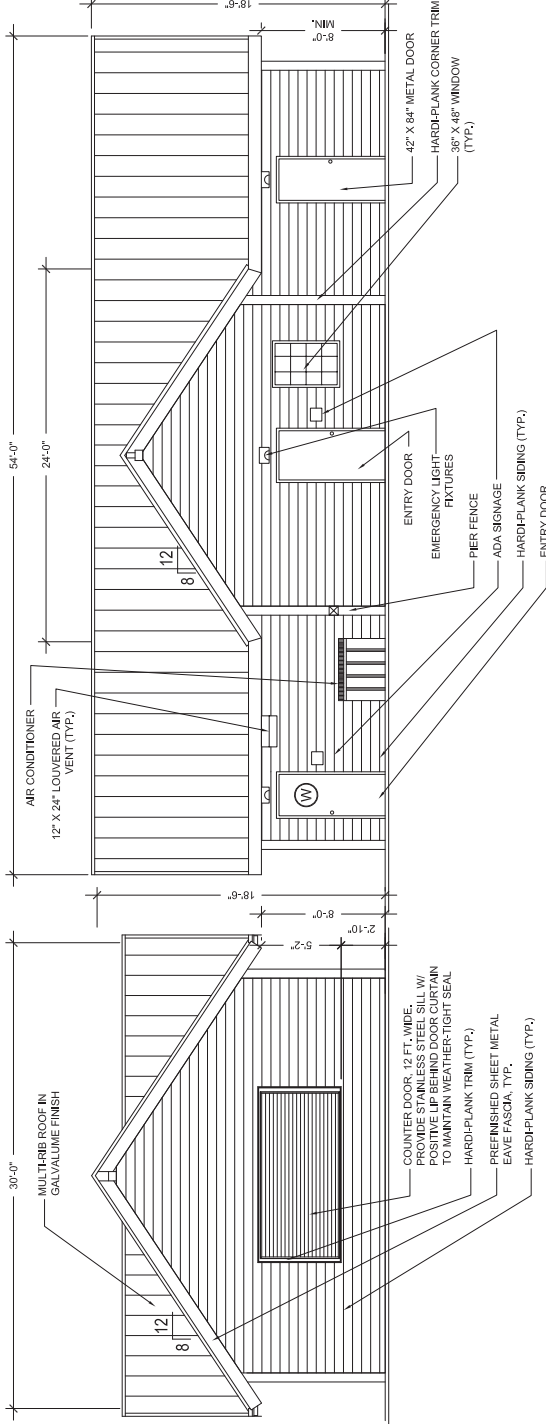
CHECKED BY:



A-01
BAIT VENDOR
BUILDING
ELEVATIONS

LEGEND

- TOILET
- ADA HANDRAIL
- URINAL
- SINK
- FLOOR DRAIN
- WATER HEATER
- AIR CONDITIONER
- WATER HOOK-UPS FOR LIVE BAIT WELL
- ELECTRICAL OUTLET
- GROUND FAULT CIRCUIT INTERRUPTER
- ELECTRICAL OUTLET
- CEILING FAN
- CEILING FAN
- MODEL: 36201 - 36" COMMERCIAL FAN
- LED SCOFFCE
- MODEL: FCXURWRC12
- CEILING MOUNT LIGHT
- COLUMBIA LIGHTING
- MODEL: CSR4-232-ST-EU-EL
- INTERIOR WALL MOUNT LIGHT
- COLUMBIA LIGHTING
- MODEL: SAA-232-EU-EL

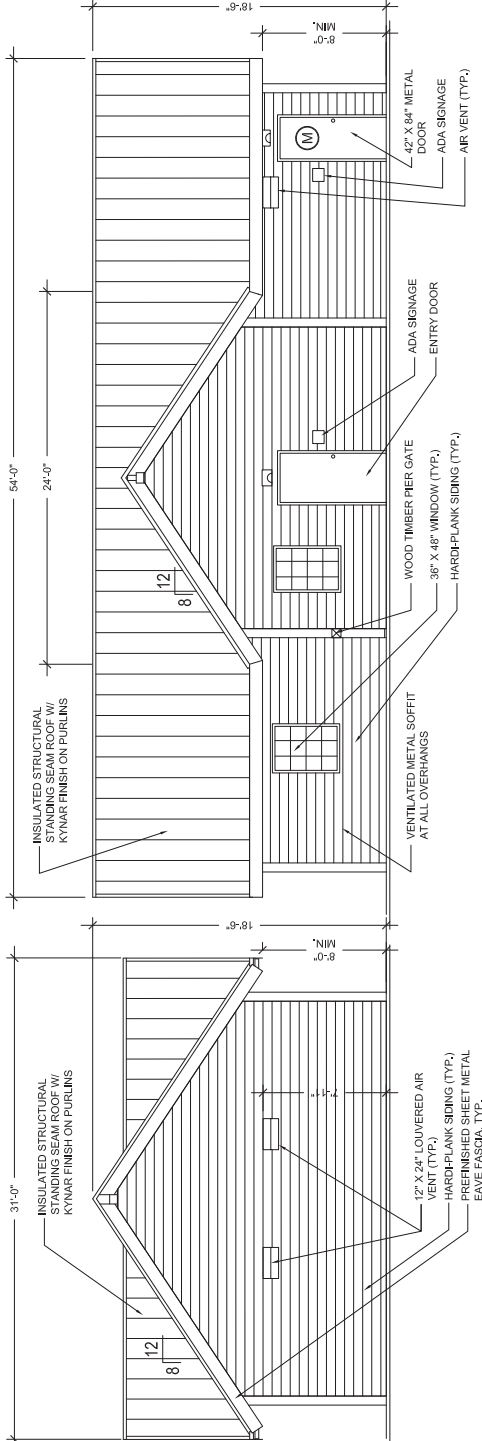


1 FRONT ELEVATION

SCALE: 1/4" = 1'

3 NORTH SIDE ELEVATION

SCALE: 1/4" = 1'



2 REAR ELEVATION

SCALE: 1/4" = 1'

4 SOUTH SIDE ELEVATION

SCALE: 1/4" = 1'

ARCHITECTURAL DRAWINGS ARE NOT FOR CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS BY AN ARCHITECT LICENSED IN THE STATE OF TEXAS FOR FINAL APPROVAL.

- NOTES:
1. ROOF STRUCTURE INSTALLATION SHALL BE COMPLETED IN CONFORMANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATION.
 3. ALL STEEL MEMBERS SHALL BE HOT DIPPED GALV.
 4. FIRE EXTINGUISHERS SHALL BE LOCATED AS REQUIRED BY CODE IN BAIT VENDOR AREA.
 5. EMERGENCY LIGHT FIXTURES SHALL BE INSTALLED OVER ALL EXTERIOR DOORS ON THE EXTERIOR AND INTERIOR OF THE BUILDING.

NOT FOR CONSTRUCTION



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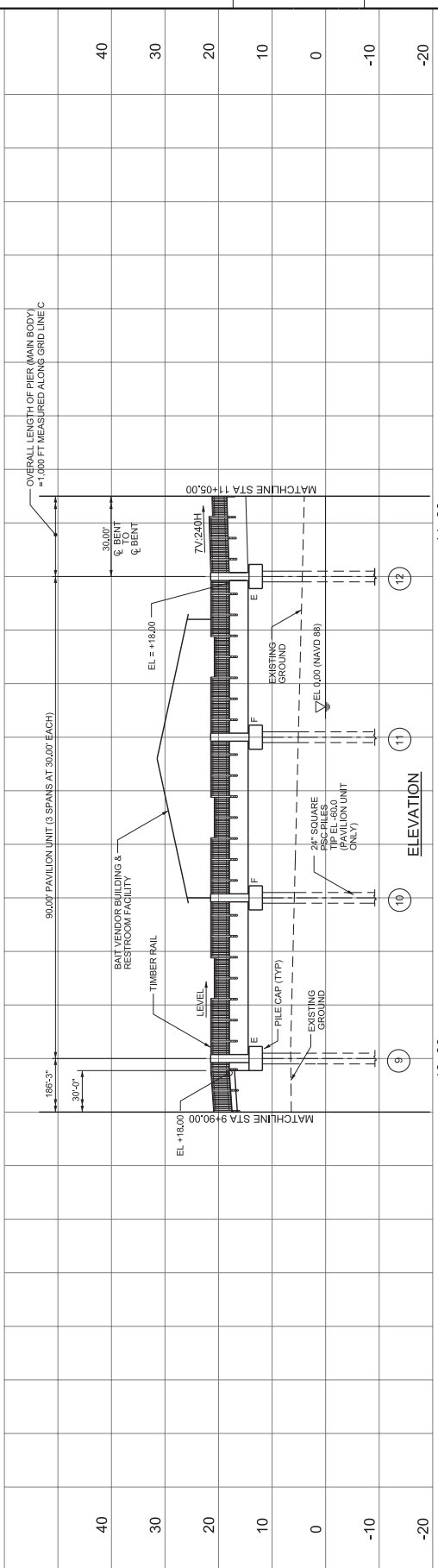
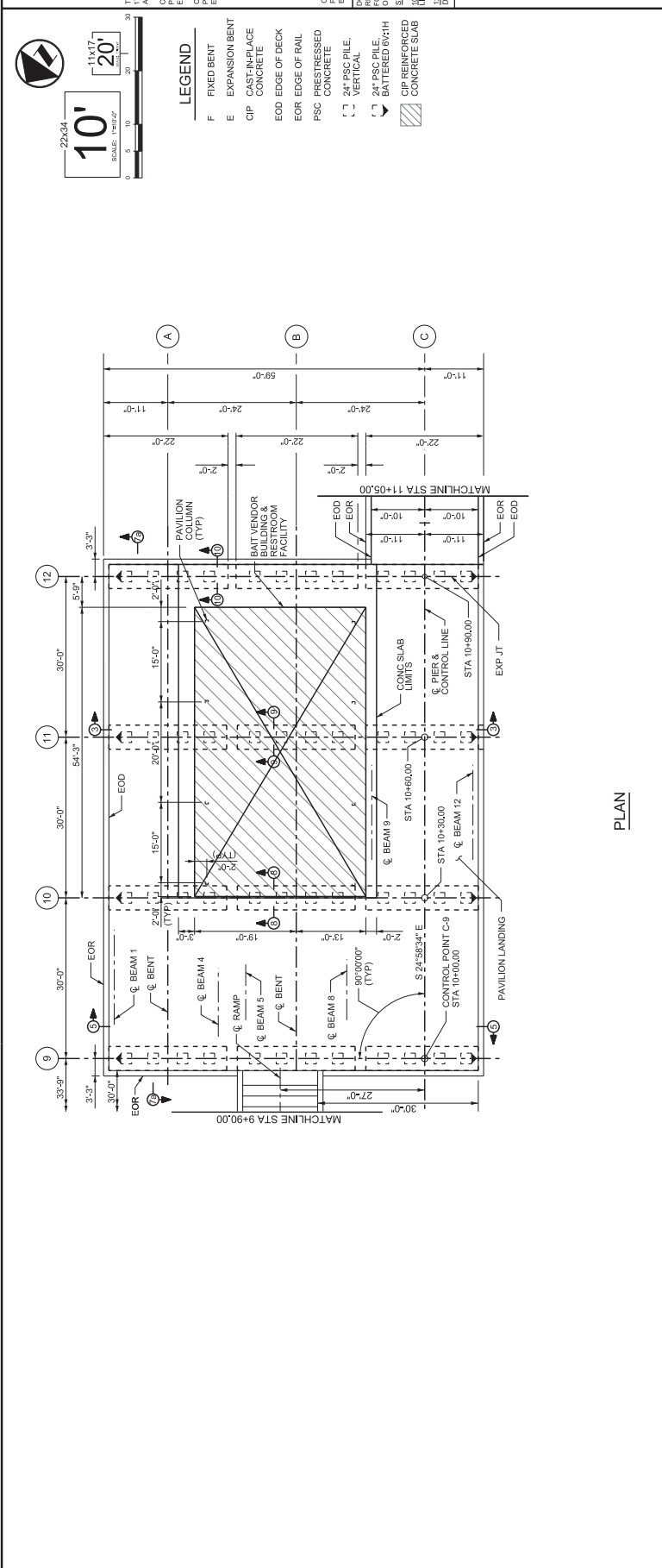
DESIGNED BY: RAY NEVEY
CHECKED BY: MICHAEL WEEKS
FOR CONSTRUCTION, BIDDING,
OR PERMIT PURPOSES.
SEPERATE ENDS.
10/28/2014
DATE

CEPRA PROJECT NO. 1518
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950 Bauer Street - Gilchrist, TX 77617

ROLLOVER RECREATIONAL AREA

December 21, 2014
HNTB PROJECT
57947-05-011
DESIGN BY: SFK
DRAWN BY: ISW
CHECKED BY:

HNTB
S-03
PIER LAYOUT
PLAN & ELEVATION



PLAN		ELEVATION	
40		40	
30		30	
20		20	
10		10	
0		0	
-10		-10	
-20		-20	



TEXAS DEPARTMENT OF TRANSPORTATION
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NOTED: THE DESIGNER HAS NOT BEEN ADVISED FOR CONSTRUCTION REVIEW.
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DATE: 10/1/2014

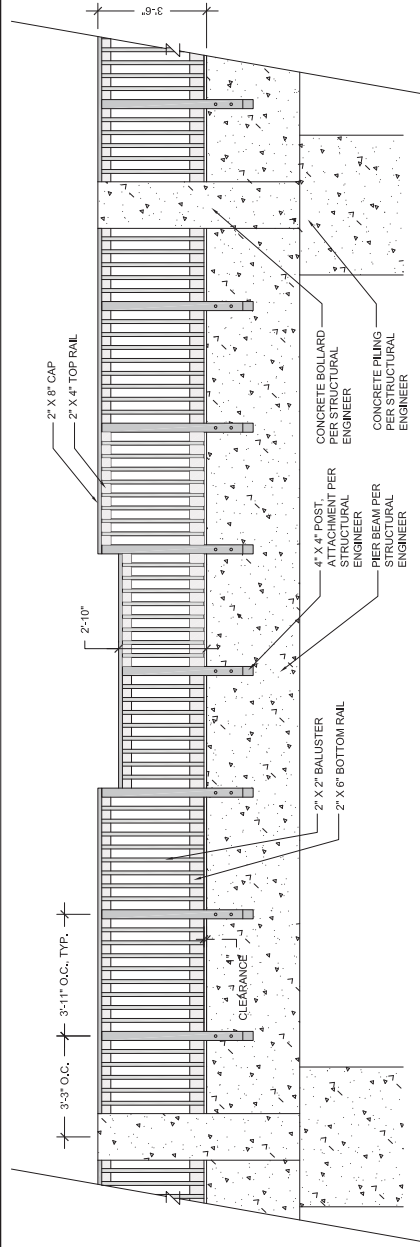
ROLLOVER RECREATIONAL AREA
CEPRA PROJECT NO. 1518
90% SUBMITTAL
950 Bauer Street - Gilchrist, TX 77617

December 21, 2014
HNTB PROJECT
57947-DS-011

DESIGN BY: SL, SR, SK, FK
DRAWN BY: LU, SC, MG
CHECKED BY:



LH-01
PIER DETAILS

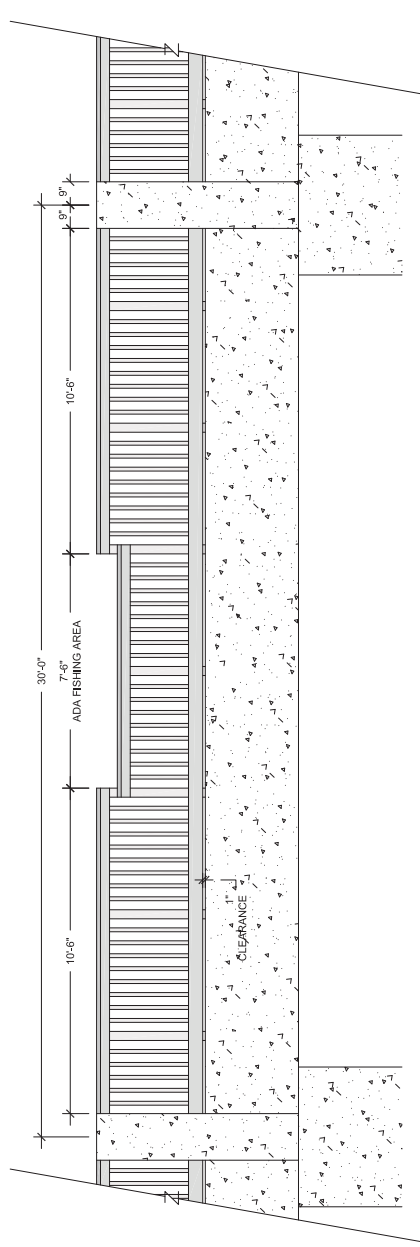
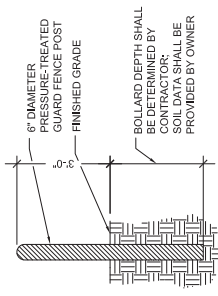


1 PIER RAILING ELEVATION

SCALE: 1/2" = 1'-0"

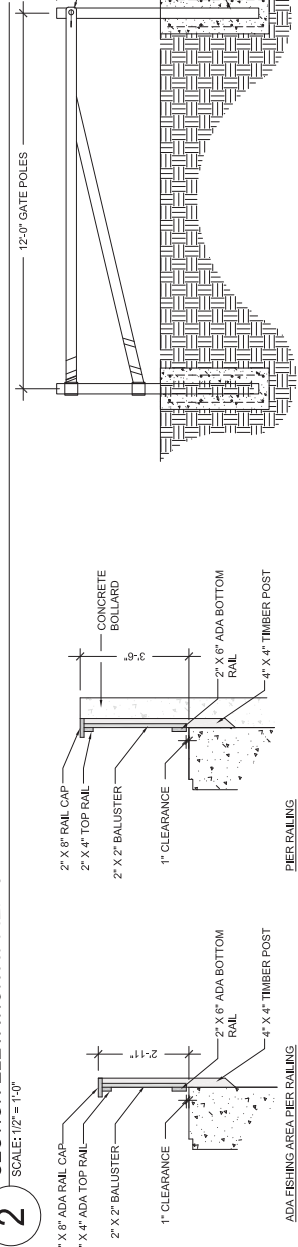
5 SAFETY BOLLARD

SCALE: 1/2" = 1'-0"



2 SECTION ELEVATION AT PIER CENTERLINE

SCALE: 1/2" = 1'-0"

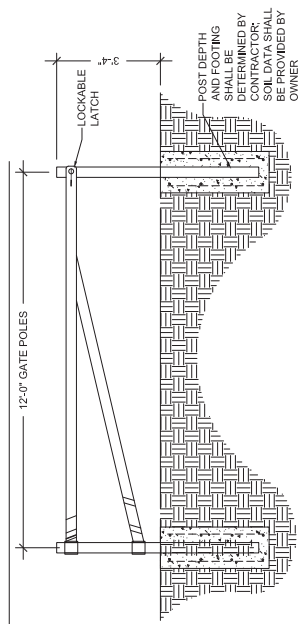


3 PIER RAIL CROSS SECTIONS

SCALE: 1/2" = 1'-0"

4 ACCESS GATE

SCALE: 1/2" = 1'-0"



NOT FOR CONSTRUCTION



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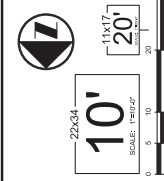
DESIGN AND CONSTRUCTION
REVIEW AND NOT INTENDED
FOR CONSTRUCTION, BIDDING,
OR PERMIT PURPOSES.

SHEET NO. 2002
DATE: 12/21/2014

ROLLOVER RECREATIONAL AREA
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CEPRA PROJECT NO. 1518
950 Bauer Street - Gilchrist, TX 77617

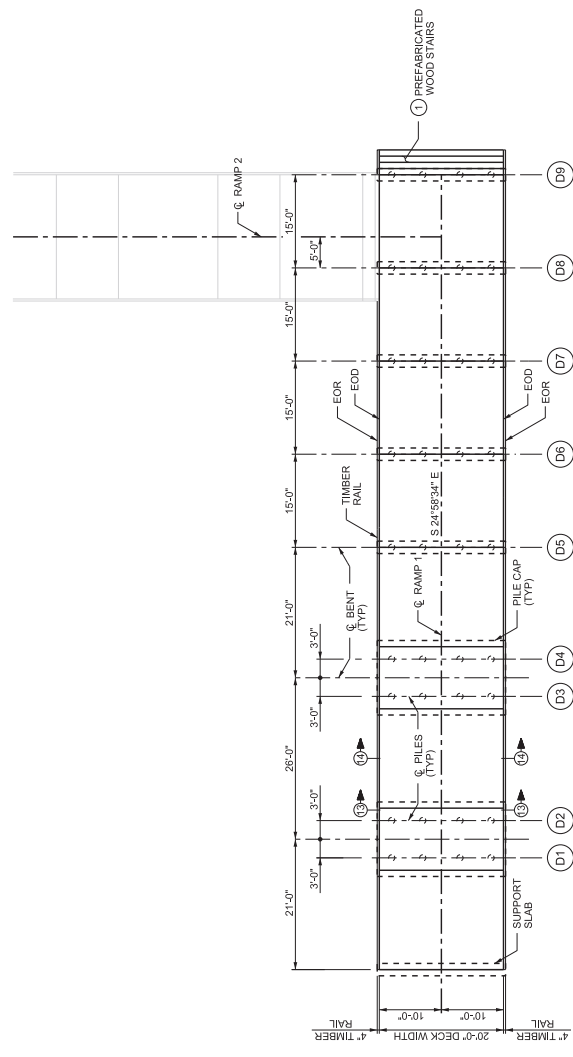
December 21, 2014
HNTB PROJECT
57947-05-011
DESIGN BY: SFK
DRAWN BY: MAG
CHECKED BY:

HNTB
S-09
DUNE CROSSING
PLAN & ELEVATION



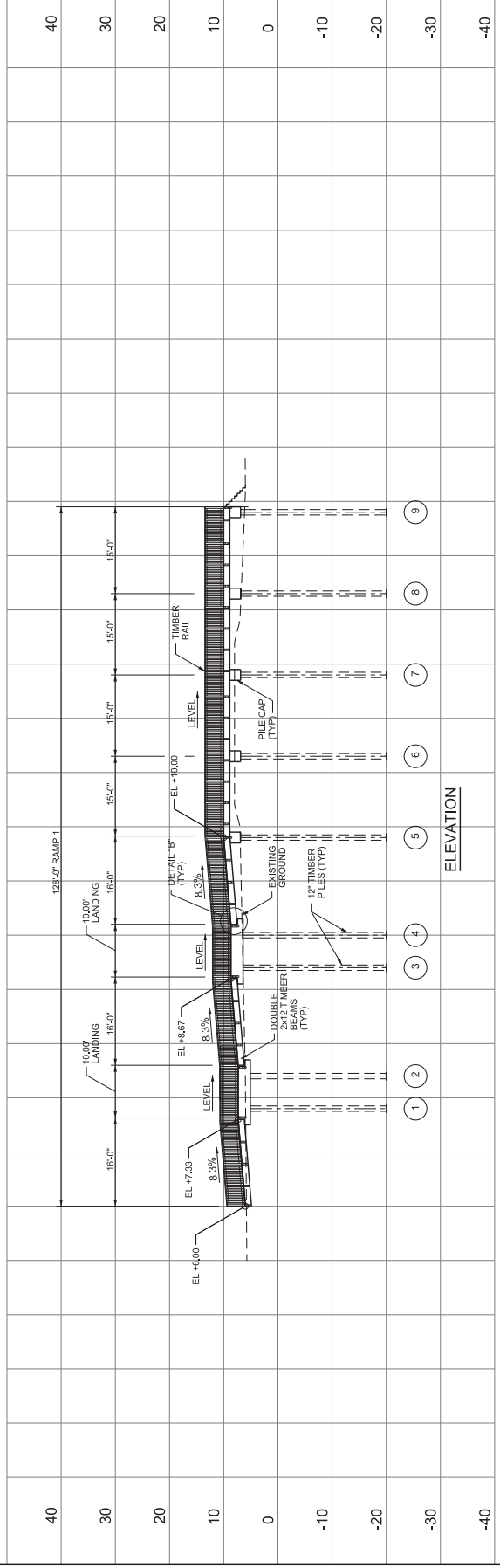
LEGEND

EOO EDGE OF DECK
EOR EDGE OF RAIL
12 TIMBER PILE



DUNE CROSSING
RAMP 1 PLAN

1 PREFABRICATED WOOD STAIRS SUBSIDIARY FROM WOOD FLOOR DECKING. CONTRACTOR TO DESIGN AND SUBMIT PLANS OF PREFABRICATED WOOD STAIRS TO ENGINEER FOR APPROVAL.





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EXHIBIT 10

HNTB

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FOR CONSTRUCTION, BIDDING,
OR PERMIT PURPOSES.
SHEET: 17 OF 20

PROJECT NO. 1518
DATE 12/21/2014

ROLLOVER RECREATIONAL AREA

90% SUBMITTAL

CEPRA PROJECT NO. 1518

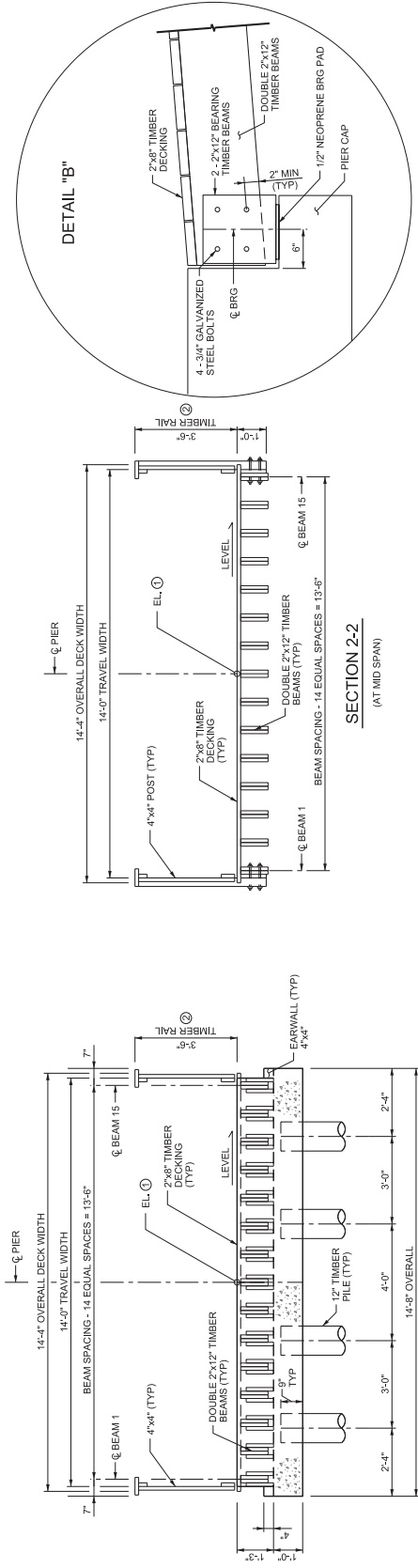
950 Bauer Street - Gilchrist, TX 77617

December 21, 2014
HNTB PROJECT
57947-05-011
DESIGN BY: SFG
DRAWN BY: MAG
CHECKED BY:

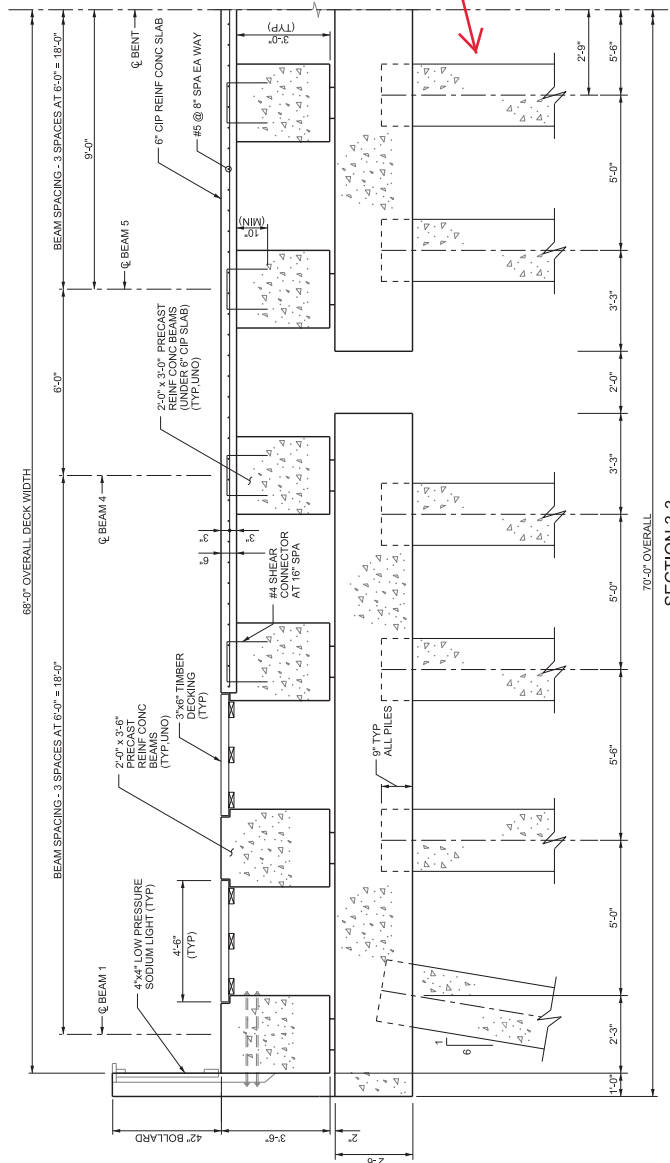
HNTB

S-11

RAMP & PAVILION
TYPICAL SECTIONS



- NOTES:
- SECTION VIEWS ARE LOOKING UPSTATION.
 - SEE ELEVATION VIEW ON SHEETS S-02 TO S-10
 - 7.5 FT WIDE SEGMENTS OF 3/4" TIMBER RAIL LOCATED AT 10' ON CENTER OF GRADE. THE RAIL SHALL BE 25% OF THE TOTAL RAIL LENGTH ON THE PIER AND PAVILION SHALL BE 3/4" TIMBER RAIL.



138 pier pilings below MHHW would result in 0.013 acre (983.782 cubic yards) of permanent fill within the Gulf of Mexico.

APPENDIX A

*ROLLOVER RECREATIONAL AREA – GULF SIDE
PHOTOGRAPHS OF PROJECT SITE*



Proposed pier landing location to the west of existing Rollover Pass (to be closed).



View to the northeast at the site of the proposed recreational amenities and pier head.

*ROLLOVER RECREATIONAL AREA – GULF SIDE
PHOTOGRAPHS OF PROJECT SITE*



Gulf of Mexico where proposed pier would be located.



Location of proposed parking lot and amenities at site of existing Rollover Pass (to be closed).

*ROLLOVER RECREATIONAL AREA – GULF SIDE
PHOTOGRAPHS OF PROJECT SITE*



Existing shoreline west of project area.



Sand dunes and shore adjacent to project area.

*ROLLOVER RECREATIONAL AREA – GULF SIDE
PHOTOGRAPHS OF PROJECT SITE*



Tidal pool located to the northeast of project location (would be avoided during construction).

APPENDIX B

DRAFT BIOLOGICAL ASSESSMENT
FOR THE
ROLLOVER RECREATIONAL AREA - GULF SIDE
GALVESTON COUNTY, TEXAS

Prepared for

U.S. FISH AND WILDLIFE SERVICE
CLEAR LAKE ECOLOGICAL SERVICES FIELD OFFICE
17629 El Camino Real
Houston, TX 77058

And

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
FISHERIES SERVICE
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263 13th Avenue South
Saint Petersburg, Florida 33701

Prepared on behalf of

TEXAS GENERAL LAND OFFICE
1700 N. Congress Avenue
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October 2019

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EXHIBIT 1: PROJECT LOCATION MAP

EXHIBIT 2: PROPOSED PROJECT LAYOUT

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EXHIBIT 4: PROJECT AREA PHOTOGRAPHS

1.0 INTRODUCTION

The Texas General Land Office (GLO) is proposing to construct a pier and associated recreational amenities (Rollover Recreational Area – Gulf Side) near Gilchrist on the Bolivar Peninsula in Galveston County, Texas, approximately 30 km (19 miles) northeast of Port Bolivar (see **Exhibit 1: Project Location Map**).

A portion of the proposed Rollover Recreational Area – Gulf Side would be constructed at the location of the existing Rollover Pass. Rollover Pass is a manmade channel constructed by the Texas Game and Fishing Commission (now the Texas Parks and Wildlife Department) in 1955. Since construction, Rollover Pass has had adverse effects on the coastal system surrounding it, including accelerated beach erosion, sediment deposition in the Gulf Intracoastal Waterway (GIWW), and increased salinity levels within East Bay. Because of these adverse effects and continued storm damage to the bridge spanning Rollover Pass at State Highway (SH) 87, the GLO has begun closure of Rollover Pass. Rollover Pass closure was authorized by the Texas State Legislature in 2009 under Senate Bill 2043.

Over the years, Rollover Pass has become a favorite recreational spot for both locals and tourists. The primary recreational opportunity is fishing, which would no longer be available with the closure of Rollover Pass. The Rollover Pass area also serves as a popular birding location as the adjacent mud flats provide habitat for migrating shorebirds, including the federally threatened piping plover (*Charadrius melodus*) and the red knot (*Calidris canutus rufa*). As a result of the recreation provided by Rollover Pass, one of the requirements of Senate Bill 2043 was the development of a recreation plan; hence, the proposed Rollover Pass Recreational Amenities Plan. The construction of a new pier (and associated amenities) in the area would provide for the replacement of recreational fishing and other recreational activities that would be lost as a result of closure of Rollover Pass. Additionally, the proposed pier would provide an opportunity for surfers and fishermen who used Meacom's Pier and Dirty Pelican Pier as a recreational area. These piers suffered extensive damage from Hurricane Ike and have since been removed.

The closure of Rollover Pass entails the filling of Rollover Pass with material from nearby borrow sources after removal of the bulkheads and sheet piles. A Biological Assessment (BA) and Section 10 Individual Permit were prepared and submitted for the closure of Rollover Pass and was approved by the U.S. Fish and Wildlife Service (USFWS) and U.S Army Corps of Engineers (USACE).

The proposed project is being developed with federal funding from the Federal Emergency Management Agency (FEMA) and requires a USACE Section 10 Individual Permit, thus establishing a federal nexus that requires consultation with USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries. Preparation of this BA fulfills the USACE requirements as outlined under Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended. This BA will assist the USFWS and NOAA in fulfilling their obligations under the ESA for the proposed project.

2.0 PROPOSED PROJECT DESCRIPTION

The purpose of the proposed project is to provide fishing and other recreational opportunities for the general public to replace those lost as a result of the closure of Rollover Pass. The GLO is proposing to construct a Gulf of Mexico side pier and associated amenities at the location of the existing Rollover Pass. The proposed pier is planned to angle to the south, which would act as a wave break on windy days. Several amenities are also proposed at the location and would consist of a facility to house a visitor's center, a bait vendor stand, and restrooms (connected to sanitary septic system), a gravel parking lot, a concrete vendor pad, two dune crossings, and two fish cleaning stations. **Exhibit 2** shows the layout of the proposed project.

Project Area Setting

The proposed project is located on Bolivar Peninsula at the location of the existing Rollover Pass and adjacent areas. The proposed project is bordered by SH 87 to the north, residential structures to the west, an undeveloped lot to the east, and the Gulf of Mexico to the south. Ecological communities in the vicinity of the project area consist of unvegetated gulf intertidal and subtidal estuarine sand-bottom beach habitats and vegetated barrier island upland habitat. Vegetation in the area occurs at the beach intertidal/uplands ecotone, above the high tide line, and in adjacent (shoreward) upland areas. Dunes adjacent to the beach were obliterated by Hurricane Ike, along with substantial disruption of the ecotone vegetation community, which is currently re-establishing. Typical constituents of this community are Seapurslane (*Sesuvium sessile*), Indian blanket (*Gaillardia pulchella*), and cordgrass (*Spartina patens*). Typical native upland species characteristic of the project area and vicinity are Live oak (*Quercus virginiana*), Yaupon (*Ilex vomitoria*), Sugarberry (*Celtis laevigata*), and Salt cedar (*Tamarix spp.*). Gulf of Mexico waters and benthic substrate at the project area are essential fish habitat for brown shrimp (*Farfantepenaeus aztecus*), white shrimp (*Litopenaeus setiferus*), seven species of coastal migratory pelagic fish, and 44 species of reef fish (NOAA).

The proposed project area is mostly unvegetated. The upland areas are currently used for vehicle access and as parking areas for Rollover Pass and the beach. There are a few areas of remnant naturalized vegetation consisting of blanketflower (*Gaillardia sp.*), wildrye (*Elymus sp.*), and planted palm (*Washingtonia filifera*). The remnant vegetation areas are small in size and isolated providing very minimal habitat for wildlife. The proposed pier would extend beyond the surf line and terminate in approximately 7.5 feet of water. A review of aerial photographs, available Geographic Information System (GIS) data and the site visit did not identify any seagrass beds in, or near, the proposed project area.

Proposed Project Components

The proposed T-head pier would be approximately 1,000 feet long and approximately 20 feet wide. The proposed pier landing would be located on the west side of the existing Rollover Pass (currently being closed) in the area behind the existing bulkheads so as to avoid any settling of material that may occur in the proposed fill area over Rollover Pass. This existing area is separated from the beach by steel sheet piles with concrete caps and erosion control structures. The bulkheads, steel sheet piles, concrete caps, and erosion control structures would be removed as part of the Rollover Pass closure project. Location of the proposed pier landing in this area also reduces direct impacts to the beach. The proposed pier would angle to the south as it extends into the Gulf of Mexico and would terminate in approximately 7.5 feet of water. The proposed pier

substructure and superstructure would be constructed of concrete with a wooden deck. Thirty-seven lighted bollards would be installed along the perimeter of the pier for pedestrian lighting. Four LED lights (trout lights) would be installed, and aimed parallel to the shore, to improve fishing along the pier. Shielding would be provided to direct the light onto the water. Two of the lights would be mounted on the outer corners of the T-head, and the other two would be within 200 feet of the T-head, one mounted to each side.

In addition to the proposed pier, the land side amenities would include a combined bait vendor stand, visitor's center and restroom structure, as well as a parking area and concrete vendor pad. The facility to house the restrooms, bait vendor stand, and visitor's center would be located on the west side of the existing Rollover Pass at the entrance to the pier. The parking area, accommodating approximately 65 vehicles, would be located on the area of the existing Rollover Pass (to be filled). The parking area would have a gravel surface. The parking area would include 16 parking lights (five sets of double mount lights and six single-arm mount lights). Construction of a dune crossings is proposed between the parking area and the Gulf of Mexico, and the concrete vendor pad would be located in between the dune crossings. The concrete vendor pad would be used by mobile food or souvenir vendors. It would have a power and water source for mobile vendor use. Bauer Street, which provides access to the parking area, would be reconstructed and have an asphalt surface. Handicapped parking spaces would be provided along Bauer Street. After construction is completed, landscaping at the site would occur. Texas sabal palm trees (*Sabal texana*), various native forbs, and Bermuda grass (*Cynodon dactylon*) would be used for the plantings.

The construction is anticipated to begin in May 2020 and take approximately one year to complete. It is anticipated that construction activities would only occur during the daylight hours. Access to the construction area would occur from SH 87 along Bauer Street.

Proposed Construction Methodology

Construction methods are considered means and methods of the construction Contractor. These methods may vary greatly dependent on the equipment available to the Contractor and the Contractor's past experience. It is anticipated the construction of this project would occur in five stages. The proposed construction method also assumes the Rollover Pass Closure project has been completed. The equipment anticipated to be used for the construction activities would consist of a front end loader, skid loader, 100-ton crawler crane, diesel pile driver, construction barges, air compressor, semi-trailers, concrete trucks, crew boats, and hand tools.

Stage 1: Mobilization, Landing (Rough Grading), and Construction of Pier Landing/Crane Platform

During the first stage of construction, the contractor would mobilize to the site, install erosion control measures, and perform grading operations. The contractor would then construct the pier landing which could be used as the crane platform. There are two options for this stage of construction: Option 1 would consist of the construction of a temporary sloping berm approximately 15 feet above grade. This temporary berm would be used to drive the permanent concrete piling for the pier landing. Once the pilings for the first two bents are driven, the precast or cast in place concrete pile caps would be erected. The landing beams would be set and the contractor could walk a crane on top of the newly constructed landing. Option 2 would consist of

using the crane to drive the pilings for the first two bents of permanent concrete piles from grade. The contractor would then erect precast or cast in place pile caps and set the landing beams. The contractor would use a truck mounted crane to disassemble the crawler crane and reassemble it on the newly constructed elevated pier landing.

Stage 2: Main Pier Construction

Pier construction, in part or in whole, could proceed initially using a top-down approach to minimize disruption to the beach. With this methodology the construction crane and other equipment would be supported by the pier structure that is under construction. This procedure would start at the pier's landward-most bent and would work out toward water of a sufficient depth to accommodate a construction barge, which would be utilized to construct to the end of the pier. Each pile in a bent is driven and the pile cap is erected before proceeding to the next bent. Temporary pile templates would be installed for the piling in the Gulf of Mexico. These templates are usually constructed and set with steel H-pile and are removed after driving of the permanent concrete piling. With each group of piles properly driven and bents installed, the pile cap, with bollards cast into them, is placed to connect the piles and provide beam support. Following construction of each bent, the connecting beams are placed. The pier's connecting beams would be precast offsite at a pre-casting yard and hauled to the construction site. Once the initial spans are erected, a transporting system would be used to take the piling, caps, beams and concrete from the shore out to the new span. Each span would consist of four precast concrete beams. On top of each bent and between the beams are cast in place diaphragms. Once the landward portion of the pier concrete superstructure is completed, the crane would be removed from the pier. Drop-in timber deck panels would then be placed to complete the pier surface.

Stage 3: Erection of Pre-Fabricated Building, Construction of Elevated Landing, Main Stairs, ADA Ramps, and Bait Shop/Restroom

During this stage, the contractor would drive the remaining elevated landing pilings, install the bents, erect the pile cap and set the remaining beams. The contractor would construct the visitor's center/bait shop/restroom floor and set the prefabricated visitor's center/bait shop/restrooms on the pier landing. Timber piling would be installed for the main stairs and for a ramp that meets the ADA requirements. The stairs and ADA ramp superstructure would be constructed. The contractor would then install timber decking throughout the pier.

Stage 4: Completion of Pier Landing Construction, Installation of Septic System, and Civil Site Work

During this stage, the contractor would install the septic system, perform rough grading for the parking lot and the local access road (Bauer Street), and install embedded lighting conduit and water lines. The road base for the proposed access road would then be installed. The curb-and-gutter and concrete flatwork would be completed on the site. A gravel surface would then be placed on the parking lot and an asphalt surface would be placed on the access road. Parking area lights would be installed.

Stage 5: Finishing Elements

During the final stage, the hand railing, pier landing, stairs, and ADA ramps would be installed along the pier. The contractor would follow with the installation electrical conduits, conductors,

lit bollards, fixtures, and trout lights. The contractor would install a prefabricated parking entry pavilion, complete the fine grading, and install landscaping.

3.0 FEDERALLY LISTED SPECIES INFORMATION

NOAA and the USFWS share responsibility for implementing the ESA. Generally, USFWS manages land and freshwater species, while NOAA manages marine and "anadromous" species. The project area lies within the coastal area of Galveston County, Texas. The USFWS threatened and endangered species for Galveston County and the NOAA threatened and endangered list for Texas was used to identify the species protected under the ESA and the Marine Mammal Protection Act of 1972. The USFWS listed species for Galveston County and NOAA listed species for Texas are shown in **Table 1**.

Table 1 Federally-Listed Threatened (T) and Endangered (E) Species, Candidate Species (C), Species Proposed for Listing (PT) or Delisted/Recovered Species under Monitoring (DM)

Species	Federal Status	Agency Jurisdiction	Habitat Description	Habitat Present
Birds				
Attwater's Greater prairie-chicken (<i>Tympanuchus cupido attwateri</i>)	E	USFWS	Coastal prairie; most of habitat dominated by tall dropseed, little bluestem, sumpweed, broomweed, ragweed, and big bluestem; uses shorter grasses for courtship and feeding, tall grasses for nesting, feeding, and loafing	No
Piping Plover (<i>Charadrius melodus</i>)	T	USFWS	BREEDING: Sandy upper beaches, especially where scattered grass tufts are present, and sparsely vegetated shores and islands of shallow lakes, ponds, rivers, and impoundments. Nests may also be built on sandy open flats among shells or cobble behind foredunes. NONBREEDING: Usually on ocean beaches or on sand or algal flats in protected bays (Haig 1992). Most abundant on expansive sandflats, sandy mudflats, and sandy beach in close proximity; usually in areas with high habitat heterogeneity.	Yes
Red Knot (<i>Calidris canutus rufa</i>)	T	USFWS	NONBREEDING: Forage on beaches, oyster reefs, and exposed bay bottoms and roost on high sand flats, reefs, and other sites protected from high tides. Sandy beaches on Mustang Island and other outer beaches and tidal mudflats and salt marshes on Bolivar Flats.	Yes
Mammals				
Blue whale (<i>Balaenoptera musculus</i>)	E	NOAA	Mainly pelagic; generally prefers cold waters and open seas, but young are born in warmer waters of lower latitudes. Eats primarily krill. Feeding occurs primarily in high latitude waters.	No
Fin whale (<i>Balaenoptera physalus</i>)	E	NOAA	Pelagic; usually found in largest numbers 25 miles or more from shore. Young are born in the warmer waters of the lower latitudes. Invertivore, Piscivore	No
Gulf of Mexico Bryde's Whale (<i>Balaenoptera edeni</i>)	E	NOAA	Bryde's whales in U.S. waters of the Gulf of Mexico have been consistently located in the northeastern Gulf of Mexico along the continental shelf break between 100m and 400m depth.	No
Sei whale (<i>Balaenoptera borealis</i>)	E	NOAA	Generally in deep water; along edge of continental shelf and in open ocean. Invertivore, Piscivore	No
Sperm whale (<i>Physeter macrocephalus</i>)	E	NOAA	Pelagic, prefers deep water, sometimes around islands or in shallow shelf waters. Tend to occur in highest densities near productive waters, and often near steep drop-offs or strong oceanographic features, e.g. edges of continental shelves, large islands, and offshore banks and over submarine trenches and canyons.	No
West Indian manatee (<i>Trichechus manatus</i>)	T	NOAA and USFWS	Range freely between marine and freshwater habitats. Specific habitat types/use areas include foraging and drinking sites, resting areas, travel corridors and others. Herbivores that feed opportunistically on a wide variety of marine, estuarine, and freshwater plants, including submerged, floating, and emergent vegetation.	No
Reptiles				
Green sea turtle (<i>Chelonia mydas</i>)	T	NOAA and USFWS	Generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting.	Yes

Species	Federal Status	Agency Jurisdiction	Habitat Description	Habitat Present
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	E	NOAA and USFWS	Frequent rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. They are seldom seen in water deeper than 65 feet. Hatchlings are often found floating in masses of sea plants, and nesting may occur on almost any undisturbed deep-sand beach in the tropics. Adult females are able to climb over reefs and rocks to nest in beach vegetation.	Yes
Kemp's Ridley sea turtle (<i>Lepidochelys kempii</i>)	E	NOAA and USFWS	Outside of nesting, the major habitat is the nearshore and inshore waters of the northern Gulf of Mexico, especially Louisiana waters. Are often found in salt marsh habitats. The preferred sections of nesting beach are backed up by extensive swamps or large bodies of open water having seasonal narrow ocean connections.	Yes
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	E	NOAA and USFWS	The most pelagic of the sea turtles. Adult females require sandy nesting beaches backed with vegetation and sloped sufficiently so the crawl to dry sand is not too far. The preferred beaches have proximity to deep water and generally rough seas.	Yes (marginal)
Loggerhead sea turtle (<i>Caretta caretta</i>)	T	NOAA and USFWS	It may be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. Coral reefs, rocky places, and ship wrecks are often used as feeding areas. Nest on ocean beaches and occasionally on estuarine shorelines with suitable sand.	Yes
Fish				
Giant Manta Ray (<i>Manta birostris</i>)	T	NOAA	Found worldwide in tropical, subtropical, and temperate bodies of water and is commonly found offshore, in oceanic waters, and near productive coastlines. As such, giant manta rays can be found in cool water, as low as 19°C, although temperature preference appears to vary by region. For example, off the U.S. East Coast, giant manta rays are commonly found in waters from 19 to 22°C, whereas those off the Yucatan peninsula and Indonesia are commonly found in waters between 25 to 30°C.	Yes
Oceanic Whitetip Shark (<i>Carcharhinus longimanus</i>)	T	NOAA	It may be found throughout the world in tropical and sub-tropical waters. It is a pelagic species, generally remaining offshore in the open ocean, on the outer continental shelf, or around oceanic islands in water depths greater than 600 feet. They live from the surface of the water to at least 498 feet deep.	No

Sources: USFWS website: <https://ecos.fws.gov/ipac/> (accessed October 9, 2019); NOAA website: <https://www.fisheries.noaa.gov/southeast/consultations/texas> (accessed October 9, 2019)

Of the species listed in **Table 1**, the piping plover, red knot, the five species of sea turtles, and the giant manta ray are most likely to occur in the project vicinity. Due to lack of suitable habitat, known range limits, or presumed extinction (i.e. Eskimo curlew) the other species listed in **Table 1** are not likely to occur in the project vicinity. The information below provides additional details about the species most likely to occur in the project vicinity.

Piping Plover

In 1986, the USFWS listed piping plover populations as threatened and endangered. The Northern Great Plains and Atlantic Coast populations are threatened and the Great Lakes population is endangered. Wintering piping plovers along the Texas coast are threatened species.

The piping plover is a small shorebird approximately seven inches long with sand-colored plumage on their backs and crown with white underparts. Breeding birds have a single black band across the breast and bright orange legs. During the winter season, the birds lose the black band and the legs fade to pale yellow (USFWS, 2010).

An inhabitant of coastal beaches and tidal flats, the piping plover migrates along the Texas coast from fall through spring (Chapman, 1984; and Haig, 1987). Piping plovers feed along moist, sandy beaches and in sand and mud flats around inlets and estuaries (Chapman, 1984). Their diet consists primarily of invertebrates such as polychaete worms, fly larvae, beetles, crustaceans, and mollusks (USFWS, 1996). Just over 5,000 piping plover breeding pairs exist today. Approximately 35 percent of the known piping plover population winters in Texas (TPWD, 2009a).

The primary causes of the piping plover decline are habitat alteration and destruction. Loss of sandy beaches, intertidal flats, and lakeshores due to recreational, residential, and commercial development have reduced the available habitat for the species (TPWD, 2009a).

In Texas, the USFWS has designated 37 piping plover critical habitat units along the coast from the Bolivar Peninsula on the upper Texas coast to the mouth of the Rio Grande on the south Texas coast. Three piping plover critical habitat units (TX-35, TX-36, and TX-37) occur in the vicinity of the proposed project (see **Exhibit 3: Piping Plover Critical Habitat**). Units TX-35 and TX-36 are located near the Galveston Bay Inlet, near the entrance to the Gulf of Mexico. Unit TX-37 occurs north of Rollover Pass and includes Rollover Bay. The USFWS provides the following unit descriptions:

TX-35: Big Reef. 47 ha (117 ac) in Galveston County

This unit consists of beach and sand flats on the north, west, and east shore of Big Reef, down to mean lower low water (MLLW). The South Jetty is not included. The area is currently managed by the City of Galveston. This unit includes the lands known as wind tidal flats that are infrequently inundated by seasonal winds.

TX-36: Bolivar Flats. 160 ha (395 ac) in Galveston County

This unit extends from the jetties on the southwest end of the Bolivar Peninsula to a point on the Gulf of Mexico beach 1km (0.6 mi) north of Beacon Bayou. It includes 5.0 km (3 mi) of Gulf of Mexico shoreline. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. The area is leased from the GLO by Houston Audubon Society and is managed for its important avian resources. The upland areas are used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX-37: Rollover Pass 6 ha (16 ac) in Galveston County

This unit consists of Rollover Bay on the bayside of Bolivar Peninsula. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. It includes flats on State-owned land managed by the GLO. This unit captures the intertidal complex of Rollover Bay, and is bounded by the town of Gilchrist to the east and the Gulf of Mexico beach of the Bolivar Peninsula to the south. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Red Knot

Wintering red knots along the Texas coast federally listed as Threatened on January 12, 2015. It is a medium-sized shorebird about 9 to 11 inches in length with a proportionately small head, small eyes, short neck, and short legs. The black bill tapers steadily from a relatively thick base to a relatively fine tip; bill length is not much longer than head length. Legs are typically dark gray to black, but sometimes greenish in juveniles or older birds in non-breeding plumage. Non-breeding plumage is dusky gray above and whitish below. Females are similar to males in plumage (USFWS, 2015).

Red knots migrate over 18,000 miles annually between wintering grounds in southern South America and breeding areas within the Canadian Arctic. Small numbers of red knots are also found overwintering in coastal habitats as far north as the mid-Atlantic. Texas coastal red knots forage on beaches, oyster reefs, and exposed bay bottoms, roosting in areas protected from high tides. Coquina clams (*Donax variabilis*) are a frequent and often important food resource and are common along some Gulf of Mexico beaches. Variable numbers of migrating and wintering red knots are counted along the Texas coast year-to-year. The Christmas Bird Count recorded an annual average of 43 during 2003-2006. The annual wintering population estimate is 300. A flock of 700 migrating birds was observed on North Padre Island in 2009.

The primary causes of the red knot decline are habitat alteration and destruction, particularly factors affecting food availability for migrating red knots in Delaware Bay on the Atlantic coast, a major migratory stopover for the species. Threats along the Texas coast are similar, with alteration and destruction of migratory and overwintering foraging habitat of particular concern.

Green Sea Turtle

In 1978, the green sea turtle was listed under the ESA as an endangered species for breeding colonies in Florida and on the Pacific coast of Mexico, and as threatened for all others.

A large species, the green sea turtle grows to about four feet in length and can weigh up to 440 pounds. The green sea turtle has a heart-shaped shell, small head, and single-clawed flippers. Their smooth carapace (top shell) may consist of several colors including gray, green, brown, and yellow, while the plastron (bottom shell) is generally yellowish-white (USFWS, 2009b).

The green turtle has a worldwide distribution in tropical and subtropical waters. After nest emergence, hatchlings move offshore where they feed on a variety of pelagic plants and animals. After several years, juvenile green sea turtles leave the pelagic habitat and travel to nearshore foraging grounds. Exclusively herbivorous, adults prefer shallow waters inside reefs, bays, and inlets, and are attracted to lagoons and shoals where seagrasses and algae commonly occur. Green sea turtles require beaches with a sloping platform and minimal disturbance for nesting and often make long distance migrations between feeding and nesting grounds (USFWS, 2009b). In the United States, most nesting occurs along the Atlantic coast of Florida. Green sea turtles occasionally nest along the Texas coast.

Several factors have contributed to the decline of the green sea turtle. Commercial harvest for eggs and meat, disease (e.g. fibropapillomatosis), loss of nesting habitat due to coastal development and

beach armoring, hatchling disorientation due to beach lighting, nest predation by native and introduced species, degradation of foraging habitat, marine pollution and debris, watercraft strikes, and incidental take from dredging and commercial fishing operations have all played a role in the species decline (TPWD, 2009b).

Hawksbill Sea Turtle

In 1970, the hawksbill sea turtle was listed under the ESA as an endangered species throughout its range.

A small to medium sized sea turtle, the hawksbill may reach up to three feet in length and weigh 300 pounds. Elongated and oval-shaped, the hawksbill carapace has tortoiseshell coloring ranging from dark to golden brown with mottles of orange, red, and/or black. The plastron is yellowish. The rear edge of the carapace is almost always serrated, except in older adults, and has overlapping scutes. Its elongated head that tapers to a point and beak-like mouth give the hawksbill its name (USFWS, 2009e).

The hawksbill inhabits the tropical and subtropical regions of the Atlantic, Pacific, and Indian Oceans. Hawksbill turtles use different habitats during different life stages, but most commonly associated with coral reefs. Post-hatchlings are believed to occupy pelagic environments taking shelter in floating algal mats and drift lines (NOAA, 2019e). After a few years in the pelagic zone, small juveniles migrate to the coastal foraging grounds. During this time their preferred feeding habitat changes from feeding primarily at the surface to feeding below the surface on animals typically associated with coral reefs (e.g. sponges, sea urchins, etc.). Hawksbills also occur around rocky outcrops and high energy shoals, which are also optimum sites for sponge growth. They inhabit mangrove-fringed bays and estuaries, particularly along the eastern shore of continents void of coral reefs (NOAA, 2019e).

Female hawksbills nest alone or in small numbers on scattered beaches throughout its range. Exceptions include the Gulf of Mexico and Caribbean coasts of the Yucatan Peninsula, Mexico, where hawksbills nest on long expanses of beach in densities of 20-30 nests per kilometer (USFWS, 2009e).

Although very rare, Florida and Texas are the only U.S. states that hawksbill sightings occur with any regularity. Most sightings involve post-hatchlings and juveniles and are associated with stone jetties. Adult hawksbills are extremely rare in Texas. Hildebrand (1983) suggested that hawksbills occurring in Texas are waifs.

Historically, the human exploitation for the tortoiseshell trade was the primary cause of the species' decline. This threat still exists while illegal trade continues. Other contributing threats include coral reef habitat loss, loss of nesting habitat due to coastal development, marine pollution and debris, and excessive nest predation (USFWS, 2009e).

Kemp's Ridley Sea Turtle

Considered the most critically-endangered sea turtle species, the Kemp's Ridley sea turtle gained protection under the ESA in 1970 as an endangered species.

The Kemp's Ridley sea turtle, considered the smallest marine turtle in the world, grows to about two feet in length and weighs up to 100 pounds. The adult Kemp's Ridley sea turtle's oval, olive-gray carapace has five pairs of costal scutes. It has a triangular-shaped head and slightly hooked beak with large crushing surfaces (USFWS, 2009d).

Adult Kemp's Ridley sea turtles occupy neritic habitats that typically contain muddy or sandy bottoms where prey species reside. Kemp's Ridley sea turtles primarily feed on crabs, but occasionally eat fish, jellyfish, and mollusks. The range of the species includes the Gulf of Mexico coast and the Atlantic coast of North America. Outside of nesting, the primary habitat for Kemp's Ridley sea turtles includes nearshore and inshore habitats of the northern Gulf of Mexico, especially Louisiana waters (USFWS, 2009d).

Most Kemp's Ridley sea turtles nest on the coastal beaches of the Mexican states of Tamaulipas and Veracruz. Small numbers nest consistently along the Texas coast, primarily at Padre Island National Seashore (USFWS, 2009d). Between 1999 and 2008, ten nests occurred on Bolivar Peninsula beaches, six of which were recorded in 2008.

The principal causes for the species decline comprise human-related activities such as direct harvest of eggs and adults and incidental capture in commercial fishing gear (NOAA, 2019d).

Leatherback Sea Turtle

In 1970, the leatherback sea turtle gained protection under the ESA as an endangered species throughout its range.

The leatherback sea turtle is the largest sea turtle in the world. The adult leatherback can reach lengths up to eight feet and weigh 2,000 pounds. Their shell comprises a mosaic of small bones covered by firm, leathery skin with seven longitudinal ridges. The skin is predominantly black and the flippers are black with white margins (USFWS, 2009c).

The leatherback sea turtle is the deepest diving, most migratory and wide-ranging of all of the sea turtle species. Leatherback turtles are commonly known as pelagic species, but may also forage in coastal waters. Leatherbacks mate in waters adjacent to nesting beaches and along migratory corridors. Adult females require sandy nesting beaches backed with vegetation and sloped appropriately to minimize long crawls (USFWS, 2009c). Nesting grounds are located around the world. The largest nesting assemblages occur on the coasts of South America and West Africa. Once considered one of the largest nesting colonies in the world, the Mexico leatherback sea turtle nesting population now comprises less than one percent of its estimated size in 1980 (USFWS, 2009c). The U.S. Caribbean and southeast Florida support minor nesting colonies. After nesting, female leatherbacks migrate from tropical to more temperate latitudes, which support higher densities of jellyfish in the summer (NOAA, 2019c).

Several factors have contributed to the decline of the species including exploitation by humans for eggs and meat, incidental take associated with commercial fisheries, loss or degradation of nesting habitat from coastal development, hatchling disorientation from beachfront lighting, nest predation by native and introduced species, marine pollution and debris, and watercraft strikes (USFWS, 2009c).

Loggerhead Sea Turtle

In 1978, the loggerhead sea turtle was listed under the ESA as a threatened species throughout its range.

Named for their large heads that support powerful jaws, loggerhead sea turtles have a slightly heart-shaped, reddish-brown carapace and pale yellow plastron. The neck and flippers are generally dull brown to reddish-brown. The average adult is approximately three feet long and weighs 250 pounds (NOAA, 2019b).

The loggerhead sea turtle occurs throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. The species may occur hundreds of miles offshore and in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. Adult females typically nest between the dune front and high tide line. Most nesting occurs at the western rims of the Atlantic and Indian Oceans. The densest nesting occurs along the Atlantic coast of South Florida and on Masirah Island, Oman. Adult loggerheads are known to make considerable migrations between foraging and nesting grounds. Post-hatchlings and young juveniles live an oceanic existence drifting with ocean currents and are commonly associated with sargassum rafts and open ocean drift lines. At some point, oceanic juveniles migrate to neritic waters and continue maturing until adulthood. The neritic zone provides crucial foraging habitat for juveniles, but also provides important foraging, inter-nesting, and migratory habitat for adults. Juvenile loggerheads commonly feed within the bays, sounds, and estuaries along the Atlantic and Gulf of Mexico coasts; however, adults infrequently use these inshore waters (NOAA, 2019b, USFWS, 2009a).

Threats to loggerhead sea turtle populations include loss or degradation of nesting habitat due to coastal development and beach armoring, disorientation from beachfront lighting, nest predation by native and introduced species, marine pollution and debris, disease, watercraft strikes, and incidental take due to dredging and fishing (NOAA, 2019b; USFWS, 2009a).

Giant Manta Ray

In 2018, NOAA Fisheries listed the giant manta ray under the ESA as a threatened species throughout its range.

The giant manta ray is the largest ray in the world. The giant manta ray can reach lengths up to 21 feet, weigh 5,300 pounds, with a wingspan up to 29 feet. Their large diamond shaped bodies have two distinct color types of chevron (mostly black back and white belly) and black (almost all black on both sides). (NOAA, 2019a)

The giant manta ray is a migratory species found worldwide in tropical, subtropical, and temperate bodies of water and is commonly found offshore, in oceanic waters, and near productive coastlines. As such, giant manta rays can be found in cool water, as low as 19°C. Giant manta rays tend to be solitary animals, but are known to aggregate to feed and mate. (NOAA, 2019a)

The most significant threat contributing to the decline of the species is overutilization for commercial purposes. Global fisheries throughout their range target and catch giant rays as bycatch in gillnets. (NOAA, 2019a).

4.0 ANALYSIS OF EFFECTS

The following subsections describe the potential direct, indirect, and cumulative effects for each species within the proposed project action area. Direct effects are those actions that would directly affect the species or its habitat, whether beneficial or adverse. Indirect effects are actions that occur later in time or are farther removed in distance, but are still reasonably foreseeable. Cumulative effects are effects resulting from future State or private activities, not involving Federal activities, which are reasonably certain to occur within the action area of the Federal action subject to consultation.

Due to lack of suitable habitat, known range limits, or presumed extinction (i.e. Eskimo curlew), of the species listed in **Table 1**, only the piping plover, red knot, the five species of sea turtle, and the giant manta ray are considered to potentially occur within the proposed project area.

Action Area

The limits of the action area are based upon the geographic extent of the potential physical, chemical, and biological effects on the subject species potentially resulting from the proposed action, including direct and indirect effects. The physical alteration of existing habitat would be limited to the immediate vicinity (footprint) of the recreational area and the pier. The boundary of the proposed project action area extends approximately 500 feet from the footprint of the proposed project to account for potential reduced water quality resulting from construction activities, increased recreational use (fishing, surfing, etc.), and potential spills of hazardous materials. If a hazardous material spill occurs, it would most likely be from construction equipment or from operation/maintenance vehicles and be small in nature. Natural dilution and emergency response activities should limit any harmful effects to the subject species.

Potential Direct and Indirect Effects

Potential direct and indirect effects associated with the construction and subsequent operation/maintenance of the pier and recreational area would include:

- disturbance from noise/light from construction activities and year round use of the facilities;
- deteriorated water quality from construction activities and year round use;
- removal of native vegetation;
- wildlife mortality from possible collisions with vehicles and boats;
- wildlife mortality from increased recreational fishing and surfing; and
- impacts associated with increased human presence in the action area.

The potential effects of the proposed project would be to the piping plover, red knot, the five species of sea turtles, and the giant manta ray. These impacts and the potential effect on the subject species that may be found within the action area are detailed further in the following sections.

Piping Plover

The piping plover is known to occur in the vicinity of the proposed project. Designated critical habitat for the species is located north of the proposed project in Rollover Bay on the bayside of

Bolivar Peninsula. As previously described, the Critical Habitat Unit TX-37 consists of the intertidal areas of Rollover Bay.

Potential direct effects would include temporary disturbance to resting and foraging piping plovers using intertidal habitats within the project vicinity during construction activities. The proposed project would not directly impact the critical habitat areas. A highly mobile species, piping plovers occurring near the action area during construction would easily relocate to adjacent suitable habitat that is abundant in Rollover Bay and adjacent spoil islands.

The proposed project could indirectly increase human disturbances in and adjacent to the piping plover critical habitat. Providing a recreational area may attract more birders who would access the undeveloped area north of SH 87 to view and potentially disturb the piping plover and other migratory birds. However, the proposed project would provide a centralized location for recreational users to park, which would reduce the amount of vehicle traffic using the existing Rollover Pass area north of SH 87. Also, the proposed pier would reduce the number of recreational fishers adjacent to the piping plover critical habitat north of the proposed project.

Red Knot

The red knot is known to occur in small numbers in the vicinity of the proposed project. One to several have been recorded on the Bolivar Peninsula during four of the last 12 Christmas Bird Counts and from 1 to 68 were recorded during nine of the last 12 years on nearby Pelican Island and vicinity. Potential direct effects would include temporary harassment to resting and foraging birds using intertidal habitats within the project vicinity during construction activities. A highly mobile species, red knots occurring near the action area during construction would easily relocate to adjacent suitable habitat that is abundant in Rollover Bay and adjacent spoil islands.

Providing a recreational area may attract more birders who would access the undeveloped area north of SH 87. This could permanently increase disturbance to foraging red knot and other migratory birds. However, the proposed project would provide a centralized location for recreational users to park, which would reduce the amount of vehicle traffic using the existing Rollover Pass area north of SH 87. Also, the proposed pier would reduce the number of recreational fishers adjacent to red knot habitat north of the proposed project.

Green Sea Turtle

After nest emergence, hatchlings move offshore where they feed on a variety of pelagic plants and animals. After several years, juvenile green sea turtles leave the pelagic habitat and travel to nearshore foraging grounds. Exclusively herbivorous, adults prefer shallow waters inside reefs, bays, and inlets, and are attracted to lagoons and shoals where seagrasses and algae commonly occur.

Potential direct effects to the green sea turtle are not anticipated. The action area does not contain preferred habitat for this species. It is not likely that the green sea turtle would nest within the action area. Beach erosion, primarily due to Hurricane Ike in 2008, has severely reduced viable nesting habitat on the Bolivar Peninsula. A study published in 2009 concluded that there was no nesting habitat at Rollover Pass (Landry and Hughes, 2009). The study also identified the area immediately east of Rollover Pass as poor nesting habitat due to heavy vehicular traffic, the lack

of vegetated dunes, a narrow beach, and inundation of the beach at high tide. To the west of Rollover Pass the study identified this area as fair nesting habitat as the area contained an adequate beach width, but lacked vegetated dunes, and geotube crossovers presented obstacles to nesters and hatchlings.

Potential indirect effects to the green sea turtle include collisions with boats and increased human activity. Individuals traversing the action area to access preferred habitat could collide with boats that are utilizing the area adjacent to the pier. Increased human activity could disturb individuals who may try to nest on the beach adjacent to the pier. Ruts from recreational vehicles could prevent hatchlings from reaching the sea. Increased recreational fishing could result in a green sea turtle becoming hooked or entangled in fishing line. Artificial lights in the recreational area could disrupt how sea turtles select nesting sites, how they return to the sea after nesting, and how hatchlings find the sea after emerging from the nests (Witherington and Martin, 2003). The use of the best available technology to reduce lighting effects on the sea turtles is recommended.

Hawksbill Sea Turtle

This species prefers rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. The hawksbill sea turtle feeds primarily on sponges and is most often associated with the coral reef community. These types of habitats are not located within the project vicinity; however, the species may pass through the action area as it travels to preferred habitat.

Potential direct and indirect effects to the hawksbill sea turtle are not anticipated. The proposed project does not contain preferred foraging habitat (coral reefs, rocky areas, stone jetties, etc.) and it is unlikely the species would be encountered in the action area.

Kemp's Ridley Sea Turtle

Of all five of the sea turtle species, the Kemp's Ridley sea turtle is the most frequent nester along Texas beaches. The potential exists for Kemp's Ridley sea turtles to nest in the vicinity of the action area. Swimming and foraging Kemp's Ridley sea turtles may also occur within the estuarine waters of Rollover Bay, East Bay, and the GIWW. However, nesting rarely occurs on Bolivar Peninsula beaches (ten documented nests from 1999-2008). Beach erosion, primarily due to Hurricane Ike in 2008, has severely reduced viable nesting habitat on the Bolivar Peninsula. A study published in 2009 concluded that there was no nesting habitat at Rollover Pass (Landry and Hughes, 2009). The study also identified the area immediately east of Rollover Pass as poor nesting habitat and the beach to the west of Rollover Pass as fair nesting habitat.

Potential direct effects of the proposed project include disturbance during construction activities, potential collisions, and reduced water quality. Due to the poor nesting habitat available in the action area it is unlikely a Kemp's Ridley sea turtle would nest within the action area; however, construction noise could deter an individual attempting to nest. Collisions with an individual during construction could occur on land or in the water resulting in injury or death. During construction water quality could be reduced due to the potential leakage of insignificant quantities of fuel and lubricants from vehicles spills. Proper maintenance and inspections of construction equipment would help prevent potential spills. Accordingly, the proposed action should incorporate the appropriate protection measures (as detailed in **Section 5.0**) to minimize any potential impact to both swimming and nesting Kemp's Ridley sea turtles.

Potential indirect effects include reduced water quality, collisions with boats, and increased human activity. There is potential for minor indirect effects to water quality and marine habitats adjacent to the action area from leakage of insignificant quantities of fuel and lubricants from vehicles during operation and maintenance activities. No associated adverse environmental impact is anticipated, however; proper maintenance of mechanical equipment and implementing standard protective measures would minimize fuel and oil leaks. Individuals traversing the action area to access preferred habitat could collide with boats that are utilizing the area adjacent to the pier. Increased human activity could disturb individuals who may try to nest on the beach adjacent to the pier preventing them from successfully nesting. Ruts from recreational vehicles could prevent hatchlings from reaching the sea. Increased recreational fishing could result in a sea turtle becoming hooked or entangled in fishing line. Artificial lights in the recreational area could disrupt how individuals select nesting sites, how they return to the sea after nesting, and how hatchlings find the sea after emerging from the nests (Witherington and Martin, 2003). The use of the best available technology to reduce lighting effects on the sea turtles is recommended. It is anticipated the fishing pressure that occurs at the existing Rollover Pass would continue on the proposed pier. It is possible that individual sea turtles could be taken as a result of the recreational fishing occurring on the proposed pier. Public piers with heavy fishing pressure and the consistent presence of bait in the water would be more of a concern than lightly used fishing piers for attracting sea turtles that could become hooked (Rudloe and Rudloe, 2005).

Leatherback Sea Turtle

Leatherback turtles are commonly known as pelagic species, but may also forage in coastal waters. Leatherbacks mate in waters adjacent to nesting beaches and along migratory corridors. Nesting females require sandy beaches backed with vegetation and sloped sufficiently so the crawl to dry sand is not too far. Their preferred beaches have proximity to deep water and generally rough seas.

Potential direct and indirect effects to the leatherback sea turtle are not anticipated. The proposed project is located in shallow water (less than 10 feet in depth) and at a location with narrow beaches. This is not considered preferred habitat for this primarily pelagic species of sea turtle.

Loggerhead Sea Turtle

Beach erosion, primarily due to Hurricane Ike in 2008, has severely reduced viable nesting habitat on the Bolivar Peninsula. A study published in 2009 concluded that there was no nesting habitat at Rollover Pass (Landry and Hughes, 2009). The study also identified the area immediately east of Rollover Pass as poor nesting habitat and to the west of Rollover Pass as fair nesting habitat.

Potential direct effects of the proposed project on the loggerhead sea turtle include disturbance during construction activities, potential collisions, and reduced water quality. Due to the poor nesting habitat available in the action area it is unlikely an individual would nest within the action area; however, construction noise could deter an individual attempting to nest. Collisions with an individual during construction could occur on land or in the water resulting in injury or death. During construction water quality could be reduced due to the potential leakage of insignificant quantities of fuel and lubricants from vehicles spills. Proper maintenance and inspections of construction equipment would help prevent potential spills. The proposed pier location does not

impact any foraging areas which may be utilized by the loggerhead sea turtle. Accordingly, the proposed action should incorporate the appropriate protection measures (as detailed in **Section 5.0**) to minimize any potential impact to both swimming and nesting loggerhead sea turtles.

Potential indirect effects include reduced water quality, collisions with boats, and increased human activity. There is potential for minor indirect effects to water quality in the action area from leakage of insignificant quantities of fuel and lubricants from operation and maintenance equipment. No associated adverse environmental impact is anticipated; however, proper maintenance of mechanical equipment and implementing standard protective measures would minimize fuel and oil leaks. It is anticipated the recreational fishing pressure that occurs at the existing Rollover Pass would continue on the proposed pier. It is very likely that individual sea turtles could be hooked or become entangled in fishing line and injured as a result of the recreational fishing occurring on the proposed pier. Ruts from recreational vehicles could prevent hatchlings from reaching the sea. Artificial lights in the recreational area could disrupt how sea turtles select nesting sites, how they return to the sea after nesting, and how hatchlings find the sea after emerging from the nests (Witherington and Martin, 2003). The use of the best available technology to reduce lighting effects on the sea turtles is recommended.

Giant Manta Ray

This is a migratory species found worldwide in tropical, subtropical, and temperate bodies of water and is commonly found offshore, in oceanic waters, and near productive coastlines. Giant manta rays feed on small aquatic organisms such as zooplankton. This project occurs within a coastline habitat. The species may pass through the action area as it migrates and feeds.

Potential direct effects of the proposed project include disturbance during construction activities, potential collisions, and reduced water quality. Collisions with an individual during construction could occur in the water resulting in injury or death. During construction, water quality could be reduced due to the potential leakage of insignificant quantities of fuel and lubricants from vehicles spills. Proper maintenance and inspections of construction equipment would help prevent potential spills. Accordingly, the proposed action should incorporate the appropriate protection measures (as detailed in **Section 5.0**) to minimize any potential impact to giant manta rays.

Potential indirect effects to the giant manta ray include collisions with boats and increased human activity. Individuals traversing the action area to access preferred habitat could collide with boats that are utilizing the area adjacent to the pier. Increased recreational fishing could result in a giant manta ray becoming hooked or entangled in fishing line.

Potential Cumulative Effects

For this BA, cumulative effects are defined as effects resulting from future State or private activities, not involving Federal activities, which are reasonably certain to occur within the action area of the Federal action subject to consultation, or action area (50 CFR § 402.02). These are actions which are *not* demonstrably related to the proposed action, as distinguished from actions which are indirectly attributable to the proposed action (indirect impacts).

Existing residential development occurs east, west, and north (across SH 87) of the Action Area; SH 87 is immediately north of the action area. No additional development within these areas is known to be planned at this time.

It is nevertheless possible that vacant lots within adjacent areas could be developed to provide recreational amenities, parking or retail services. Additional residential structures could be constructed on vacant lots in established neighborhoods. This development would increase human activity in the action area. The increased activity stemming from these actions could increase the incidence of turtle nest destruction and disruption of nesting behavior and hatchling dispersal of sea turtles due to increased pedestrian, vehicular, and artificial lighting impacts. This increased activity could also result in the increased incidence of fishing impacts to foraging sea turtles and giant manta rays (hooking, entanglement in fishing line). Increased activity stemming from this development could also result in increased disturbance of foraging activities of the piping plover and red knot.

5.0 CONSERVATION MEASURES

Conservation measures are actions that would reduce or eliminate the adverse effects of the proposed activity on the protected species. The GLO has pledged conservation measures during the construction, maintenance, and operational phases of the project. All crew members (contractors, workers, etc.) will attend training sessions prior to the initiation of, or their participation in, project work activities. Recommended conservation measures, or protection measures, for the giant manta ray, sea turtles, piping plover and red knot are detailed below.

- 1) All crew members (contractors, workers, etc.) will attend training sessions prior to the initiation of, or their participation in, project work activities. Training will be conducted by qualified personnel and the scope of training will include 1) recognition of giant manta rays, sea turtles, piping plovers, and red knots, their habitats, and tracks 2) impact avoidance measures 3) reporting criteria 4) contact information for different rescue agencies in the area.
- 2) Project equipment and materials will not be staged or stock-piled on the Gulf of Mexico beach or flats within Rollover Bay.
- 3) Project equipment and vehicles transiting between the staging area and project site will be kept to a minimum and will use designated routes. Vehicle access shall be confined to the immediate needs of the project.
- 4) The contractor will coordinate and sequence the work to minimize the frequency and density of vehicular traffic on the beach to the greatest extent practicable. During the beach fill phase of the project, the contractor will minimize the number of vehicles on the beach during vehicle ingress and egress and will avoid "stacking" vehicles on the beach waiting to unload fill material or waiting to leave the beach.
- 5) Beach driving shall be reduced to the maximum extent practicable.
- 6) The use of construction lighting at night shall be minimized, directed toward

the construction activity area, and shielded from view outside of the project area to the maximum extent practicable.

- 7) Only sand that meets the specifications of the local beach quality (e.g., grain size, color, and mineralogy) will be used for fill and maintenance activities. Beach quality sand will be tested in accordance with ASTM D422. Beach quality sand will have an average mean grain size greater than or equal to .10 mm and less than 1.0 mm, a silt content passing #200 sieve (0.074 mm) of less than 10 per cent, and a final composite gradation curve that fits within the gradation range shown in Appendix B.
- 8) Siltation barriers shall be made of material in which a sea turtle cannot become entangled and shall be regularly monitored to avoid sea turtle entanglement.
- 9) All marine vessels associated with the construction project shall operate at "no wake/idle" speed at all times while in the construction area and while in water depths where the draft of the vessel provides less than a 4-ft of clearance from the bottom. All vessels will follow deep-water routes to the maximum extent practicable.
- 10) A designated giant manta ray, sea turtle, piping plover, and red knot monitor(s) will be identified and who will act as the single point of contact responsible for communicating and reporting endangered species issues throughout construction of the project.
- 11) During the sea turtle nesting season of March 15 to October 1:
 - a. The TxGLO in coordination with the Corps and other project proponents will ensure that a qualified monitor(s) is onsite during work and maintenance activities and provide the Service with the names and qualifications of the monitor(s). Monitors will:
 - i. Survey the project areas (i.e., immediate project area and 100-ft buffer zone outside the project area) and vehicle access routes for turtles and turtle nests before beginning work activities each day, after work has concluded each day, once a day on non-construction days, and other such times as deemed necessary by monitors.
 - ii. Escort large vehicles when necessary to ensure that sea turtles and nests are protected.
 - iii. Determine when beach is clear for work.
 - iv. Ensure that tire ruts and other disturbed areas on the beach are smoothed out and sand loosened upon the completion of each work day.

- b. If a sea turtle or nest is located in or adjacent to work areas, work activities will immediately cease within 100 ft of the nest or turtle, and the monitor will call 1- 866-TURTLE-5 and notify the CLESFO (281-286-8282). Work activities will not resume within 100 ft of the nest site or turtle until authorization from the monitor is received to do so. Information regarding the qualification of the independent qualified monitor will be submitted to the Corps prior to starting work in the permitted area.

12) During the piping plover and red knot wintering season of July 15 to May 15:

- a. The TxGLO in coordination with the Corps and other project proponents will ensure that a qualified monitor(s) surveys the work areas and looks under equipment and vehicles for piping plovers and red knots prior to morning construction activities. A monitor will be onsite to ensure that loafing or resting piping plovers or red knots are not in the project area during project activities. Please note that piping plovers and red knots are especially vulnerable during periods of cold temperatures and when they are roosting at night, and extra care should be taken at these times.
- b. If a piping plover or red knot is found in an active construction area, work will be stopped within an area specified by the monitor until the bird(s) leave the construction site. If the bird does not relocate (e.g., injured bird) the Service will be contacted to solicit additional guidance.

6.0 DETERMINATION OF EFFECT

The following subsections describe the determination of effect for each species that could potentially be impacted by the proposed project. Based on the ESA, the effect determinations use the following language:

- *No effect* – The proposed action will not affect the federally-listed species or critical habitat.
- *May affect, but not likely to adversely affect* – The project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial.
- *May affect, and likely to adversely affect* – Adverse effects to listed species and/or critical habitat may occur as a direct result of the proposed action or its interrelated or independent actions, and the effect is not discountable, insignificant, or completely beneficial. Under this determination, an additional determination is made whether the action is likely to jeopardize the continued survival and eventual recovery of the species.

Piping Plover

Critical habitat for the species is located north of the proposed project in Rollover Bay on the bayside of Bolivar Peninsula. The proposed project would not directly impact the critical habitat areas. However, the project may result in temporary disturbance during construction to resting and foraging piping plovers using intertidal habitats within the project vicinity. After completion, the proposed project may attract more birders to the area who could potentially disturb the piping plover and other migratory birds.

The proposed project is located in an area that is currently utilized by recreational users to access the beach and for fishing. The proposed project would provide parking and fishing opportunities further away from the piping plover's critical habitat.

The proposed project may affect, but is not likely to adversely affect the piping plover and would have no effect on its critical habitat.

Red Knot

The project may result in temporary disturbance during construction to resting and foraging birds using intertidal habitats within the project vicinity. After completion, the proposed project may attract more birders to the area who could potentially disturb the red knot and other migratory birds.

The proposed project is located in an area that is currently utilized by recreational users to access the beach and for fishing. The proposed project would provide parking and fishing opportunities further away from high quality habitat located north of US 87.

The proposed project may affect, but is not likely to adversely affect, the red knot.

Green Sea Turtle

Due to the lack of available food resources (seagrasses and marine algae) and preferred foraging habitat within the project vicinity, the green sea turtle is unlikely to occur in the action area.

The proposed project would have no effect on the green sea turtle.

Hawksbill Sea Turtle

The hawksbill sea turtle very rarely occurs along the Texas coast. Due to lack of preferred foraging habitat (coral reefs, rocky areas, stone jetties, etc.), the hawksbill sea turtle is highly unlikely to occur in the project vicinity.

The proposed project would have no effect on the hawksbill sea turtle.

Kemp's Ridley Sea Turtle

The Kemp's Ridley sea turtle is the most frequent nester along Texas beaches. However, nesting rarely occurs on Bolivar Peninsula beaches (ten documented nests from 1999-2008). A 2009 study concluded that there was no nesting habitat at Rollover Pass (Landry and Hughes, 2009). The study also identified the area immediately east of Rollover Pass as poor nesting habitat and the area to the west of Rollover Pass as fair nesting habitat.

The proposed pier location does not impact any natural foraging areas which may be utilized by the Kemp's Ridley sea turtle. Public piers with heavy fishing pressure and the consistent presence of bait could attract sea turtles that could become hooked. The proposed action would incorporate appropriate protection measures to minimize any potential impact to both swimming and nesting Kemp's Ridley sea turtles.

The proposed project may affect, but is not likely to adversely affect the Kemp's Ridley sea turtle.

Leatherback Sea Turtle

Primarily a pelagic species, the leatherback sea turtle is highly unlikely to occur in the project vicinity. Nesting females require sandy beaches backed with vegetation and sloped sufficiently so the crawl to dry sand is not too far. Their preferred beaches have proximity to deep water and generally rough seas. The proposed project is located in shallow waters, 7 to 8 feet in depth.

The proposed project would have no effect on the leatherback sea turtle.

Loggerhead Sea Turtle

Swimming loggerhead sea turtles may be encountered during construction activities as they traverse the proposed action area to access foraging areas within the estuarine waters of Rollover Bay, East Bay, and the GIWW. A 2009 study concluded that there was no nesting habitat at Rollover Pass (Landry and Hughes, 2009). The study also identified the area immediately east of Rollover Pass as poor nesting habitat and the area to the west of Rollover Pass as fair nesting habitat.

The proposed pier location does not impact any natural foraging areas which may be utilized by the sea turtles. Public piers with heavy fishing pressure and the consistent presence of bait could attract sea turtles that could become hooked. The proposed action would incorporate appropriate protection measures to minimize any potential effects to both swimming and nesting loggerhead sea turtles.

The proposed project may affect, but is not likely to adversely affect the loggerhead sea turtle.

Giant Manta Ray

Giant Manta Rays may be encountered during pier construction activities as they traverse the proposed action area during migration.

The proposed pier location does not impact any natural foraging areas which may be utilized by the giant manta ray. Public piers with heavy fishing pressure and the consistent presence of bait

could attract giant manta rays that could become hooked or entangled. The proposed action would incorporate appropriate protection measures to minimize any potential impact to giant manta rays.

The proposed project may affect, but is not likely to adversely affect the giant manta ray.

7.0 SUMMARY

Due to species mobility, lack of suitable habitat or known range limits, the proposed project would have no effect on the green, hawksbill, or leatherback sea turtles. The project may affect, but is not likely to adversely affect the piping plover, red knot, Kemp's Ridley sea turtle, loggerhead sea turtle, and the giant manta ray. The appropriate protection and conservation measures to avoid and minimize potential impacts to these species would be implemented for the duration of the proposed project.

8.0 REFERENCES

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EXHIBITS

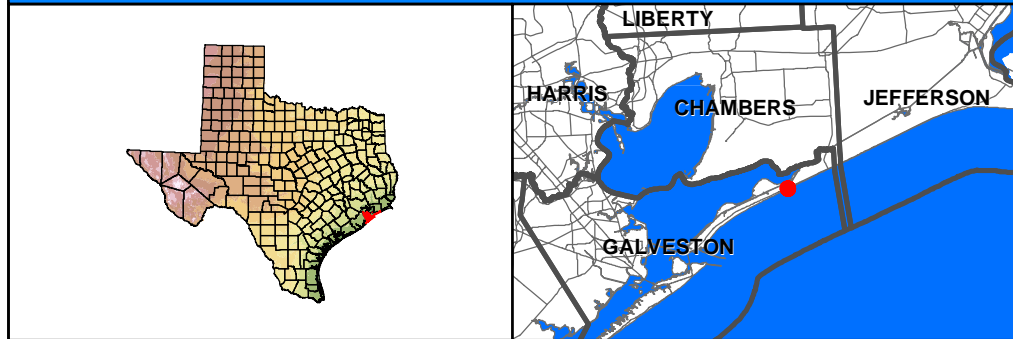


Exhibit 1: Project Location Map

Rollover Recreational
Area - Gulf Side

Galveston County, Texas



0 2 4 6
Miles

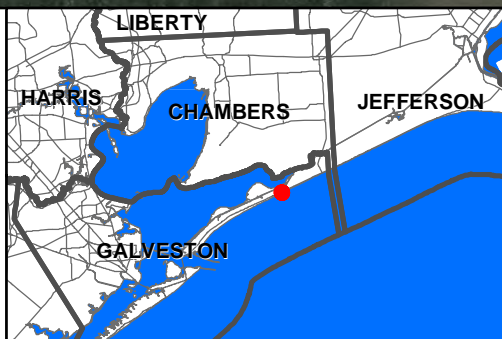
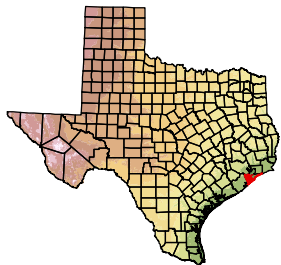
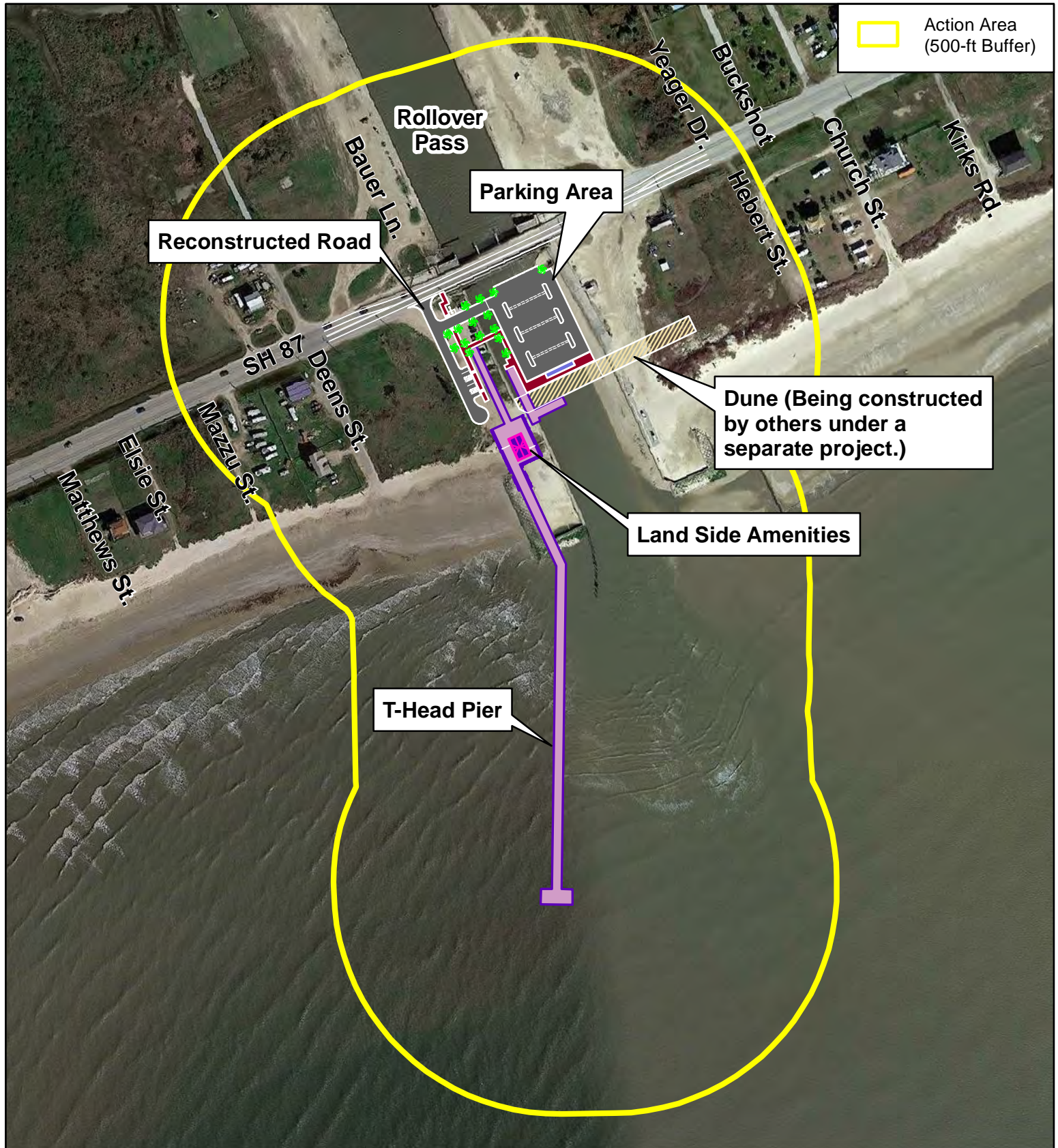


Exhibit 2: Proposed Project Layout

Rollover Recreational
Area - Gulf Side

Galveston County, Texas



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Feet

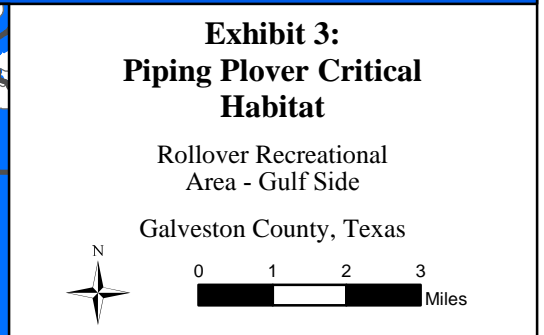
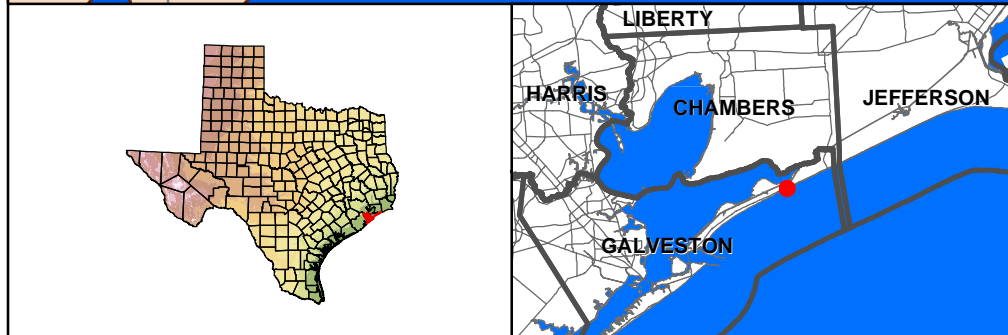
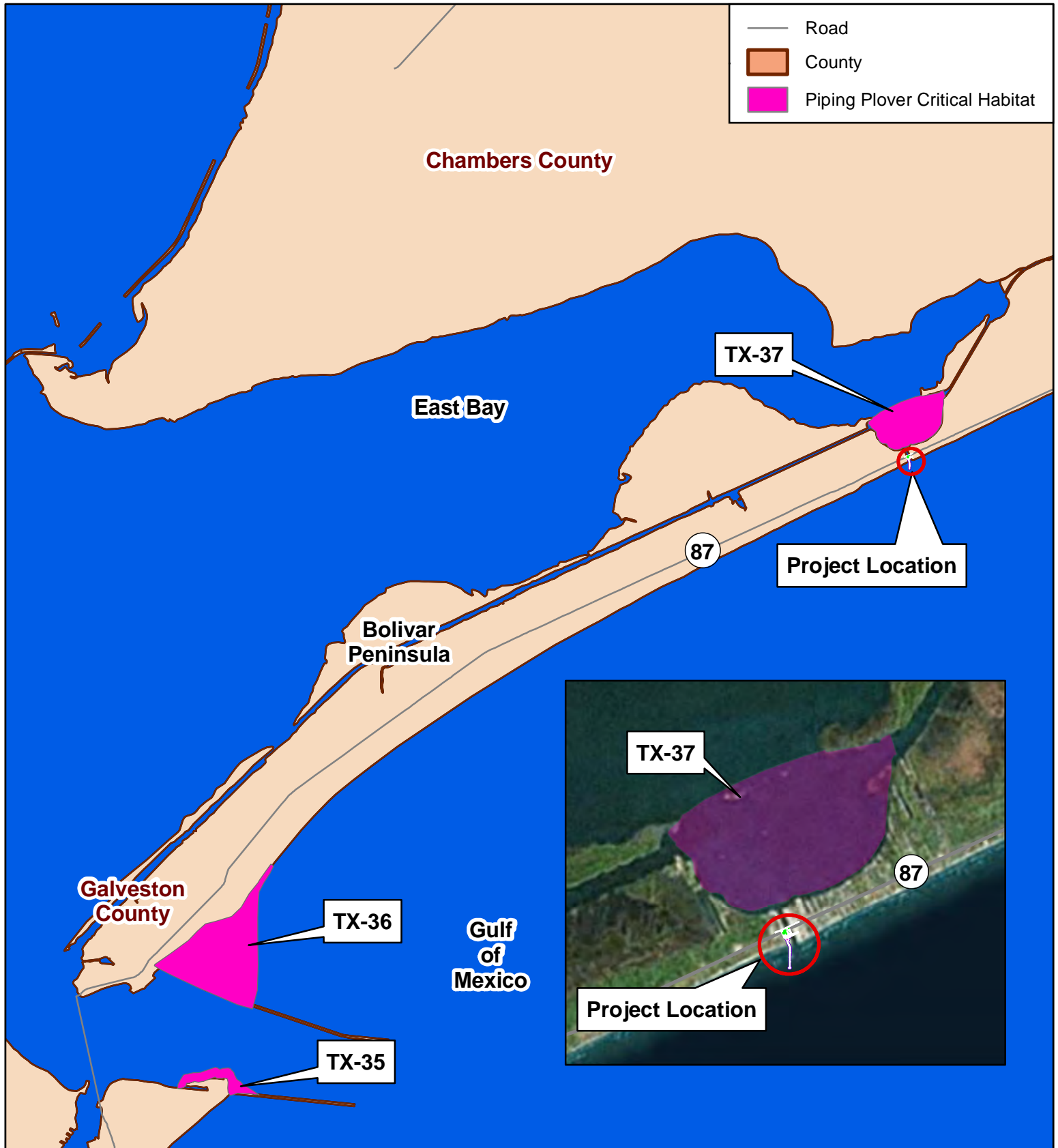


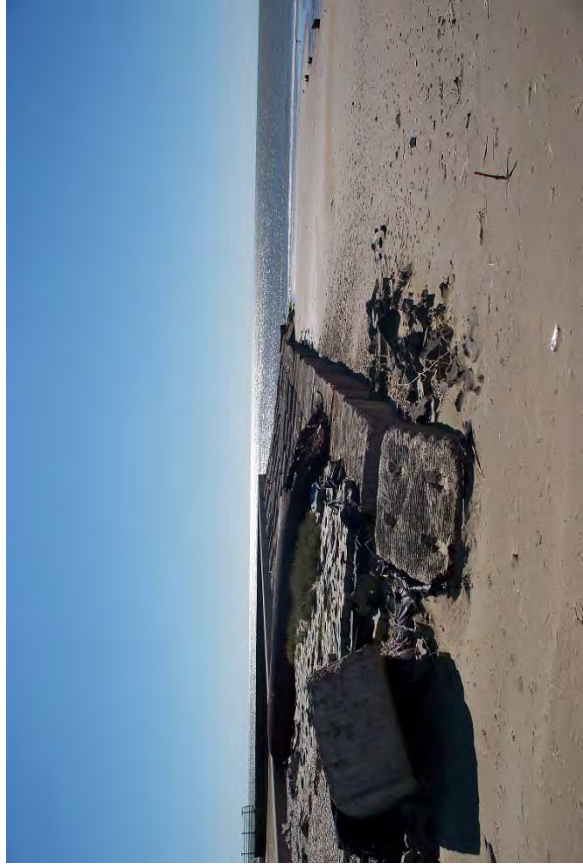
Exhibit 4: Project Photographs



Looking south toward the Gulf in the area of the proposed land-side recreational amenities.



Looking north toward SH 87 in the area of the proposed land-side recreational amenities.



Looking south toward the Gulf in the area of the proposed pier landing.



Looking easterly toward the Gulf in the area of the proposed pier landing.

APPENDIX C

TEXAS HISTORICAL COMMISSION

real places telling real stories

November 19, 2013

Layne Hedrick
Bio-West, Inc.
1018 Frost Drive
Rosenberg, TX 77471-2308

Re: Project review under the Antiquities Code of Texas
Final Report: *Maritime Archeological Survey of Proposed Pier Construction at Rollover Pass, Galveston County, Texas*
Texas Antiquities Permit #6093
COMPLETED PERMIT

Dear Colleague:

Thank you for your correspondence describing the above referenced project. This letter presents the comments of the Executive Director of the Texas Historical Commission, the state agency responsible for administering the Antiquities Code of Texas.

The Archeology Division is in receipt of the final report, a completed *Abstracts in Texas Contract Archeology*, and tagged PDF CD for the above referenced permit. The submission of the final report, abstract form, and CD demonstrates completion of your permit requirements under Permit #6093.

Thank you for your cooperation in this state review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Lillie Thompson at 512/463-1858.**

Sincerely,



for
Mark Wolfe
Executive Director

MW/lft

