

Sabine Neches Navigation Improvement Project Integrated Section 203 Feasibility Report and Environmental Assessment

Appendix A Attachment 7 HTRW Assessment



February 2026

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Addendum:

The following two bullets are to be added to the list on Section 1.1 Data Sources, the

- Texas Railroad Commission's Public GIS viewer <https://gis.rrc.texas.gov/GISViewer/>, and the
- National Response Center Database for Region 6 https://response.epa.gov/site/region_list.aspx?region=6.

A December 2025 review of the Texas Railroad Commission's Public GIS viewer identifies no wells of any kind in the project area; the well nearest to the proposed construction is more than 800 feet from edge of the proposed channel widening in the Neches River.

A December 2025 review of the National Response Center Database for Region 6 identifies no historic or recent waterbody spills and/or releases that would change the risks of incurring contaminated materials during construction.

1 Introduction

The Sabine-Neches Navigation District (SNND) is evaluating potential channel improvements to the Sabine Neches Waterway (SNWW) under Section 203 of the Water Resources Development Act of 1986, as amended. This Hazardous, Toxic, and Radioactive Waste (HTRW) Assessment Report informs the Section 203 Feasibility Report and Environmental Assessment that is currently in development and will be an appendix to the integrated Feasibility Report and Environmental Assessment. The SNND is examining measures to widen selected reaches of the federal navigation channel to increase vessel traffic efficiency and navigation safety along the SNWW. The proposed action (also referred to as the tentatively selected plan or TSP) consists of widening approximately 19.4 miles of the inshore portions of the SNWW in Jefferson and Orange Counties, Texas. The TSP would widen three discontinuous lengths of the waterway from a nominal 400 to 500 feet (+ 100 feet in width) along the left descending bank as shown in Figure 1-1.

The purpose of this HTRW Assessment Report is to identify and assess potential areas of HTRW contamination including the effects on project lands, worker health and safety, and material disposal; develop alternatives for addressing contaminated materials; and develop regulatory compliance strategies. This report is being developed during the feasibility phase of planning and therefore implements a tiered approach to the evaluation of dredged material placement into existing confined upland placement areas and is presented based on guidance provided by the Inland Testing Manual (USEPA/USACE, 1998) and the USEPA's 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged and Fill Material, 40CFR§230.60.¹ The information developed during each tier or phase of planning provides the rationale for proceeding with the next phase of project implementation (USACE, 1992).

This report confirms the presence of industrial sources of pollution on the opposite bank of the proposed widening, but no previously confirmed environmental conditions have been identified in the areas to be dredged. This evaluation has examined the type and extent of known contamination and concludes that there is very low risk for HTRW problems which could impact or be impacted by potential project features. Based on the findings in this report, this assessment does not identify any reason to believe there would be a required HTRW response action to implement the proposed widening; as such, there are no preliminary cost estimates for required HTRW response actions included in this HTRW Assessment Report. Nonetheless, because of the long industrial history of the project area, a potential contaminated material placement site has been identified and potential special material handling costs have been included in the Cost and Schedule Risk Analysis performed for the Section 203 Feasibility Report and Environmental Assessment.

Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction. Sediment sampling and analyses will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. There will be no sediment sampling during the Feasibility Phase, because these samples may not reflect the conditions at the time of construction. A Tier I evaluation as outlined in the Inland Testing Manual (USEPA/USACE, 1998) should be made during the PED phase to determine whether the dredged material is acceptable for placement at BU sites or whether more extensive evaluation (Tiers II, III and IV) may be needed. In addition, HTRW evaluations of real estate to be acquired for the project will be performed during PED prior

¹ 40CFR§230.60, Subpart G – Evaluation and Testing, General Evaluation of Dredged or Fill Material

to acquisition. Overall, HTRW assessments of the project area performed during PED will determine the type and extent of HTRW contamination, if any, and how HTRW considerations will impact project design and implementation.

1.1 Data Sources

To complete this HTRW Assessment Report, the SNND researched publicly available databases, reports, and previous USACE studies. The agency portals listed below were used to identify newly listed and previously known HTRW-related sites, their current status (January 2024), and relevant reports.

- USEPA Superfund Site Portal: [Search for Superfund Sites Where You Live | US EPA](#)
- TCEQ Superfund Sites: [Superfund Sites in Texas - Texas Commission on Environmental Quality - www.tceq.texas.gov](#)
- TCEQ Remediation: [Remediation: Cleaning up Contaminated Sites - Texas Commission on Environmental Quality - www.tceq.texas.gov](#)
- TCEQ Voluntary Cleanup Program: [Voluntary Cleanup Program - Texas Commission on Environmental Quality - www.tceq.texas.gov](#)
- TCEQ Waste Designation Decision Matrix – Industrial Generator - [Waste Designation Decision Matrix - Industrial Generator - Texas Commission on Environmental Quality - www.tceq.texas.gov](#)

In addition, the extensive research performed for:

- The 2011 Final Feasibility Report and Environmental Impact Statement for Sabine-Neches Waterway Channel Improvement Project, Southeast Texas and Southwest Louisiana, and
- the 2017 Sabine Pass to Galveston Bay, Texas Coastal Storm Risk Management and Ecosystem Restoration Final Integrated Feasibility Report and Environmental Impact Study

was also used to support the assessment of the known nature and extent of contamination for the project area and assess how potentially contaminated sediments may impact alternative widening plans.

1.2 Report Organization

The remainder of this report is organized into six sections. Section 2 describes the project area, alternative plans, and the TSP. Section 3 identifies the relevant guidance used to focus the HTRW Assessment. Section 4 discusses relevant details from the previous USACE integrated Feasibility Studies and EIS reports listed above. Section 5 provides details on the six priority HTRW sites²

² The 2011 FEIS (USACE, 2011) defined “*priority HTRW sites*” as facilities that posed a potential concern based on the nature and extent of contaminants at the site, their location relative to the placement areas and the waterway, and the number of pathways in which the contaminants could reach the placement areas and the waterway, and this document continues that usage.

within the project area. Section 6 presents the conclusions of the Assessment Report. Section 7 provides the full list of references used.

2 Final Alternatives and the Tentatively Selected Plan (TSP)

The three final alternatives being evaluated in detail by the Section 203 Integrated Feasibility Report and Environmental Assessment are as follows:

- Alternative 1 (TSP) – Selected Sabine-Neches Canal (SNC) and Neches River Channel (NRC) reaches would be widened by 100 feet on the red side channel for a total width of 500 feet;
- Alternative 2 – The same SNC and NRC reaches identified in Alternative 1 would be widened by 200 feet on the red side channel for a total width of 600 feet; and
- Alternative 3 – Like Alternative 1, selected Sabine-Neches Canal (SNC) and Neches River Channel (NRC) reaches would be widened by 100 ft on the red side channel for a total width of 500 feet. In addition, the Sabine Pass Channel (SPC) and Port Arthur Canal (PAC) selected reaches would be widened by 200 feet, with 100 feet of widening on each side of the channel for a total width of 700 feet.

Table 2-1 provides a comparison of dredging volumes by alternative.

**Table 2-1
Dredging Volumes by Alternative**

Alternative	Dredging Volume (CY) by Alternative			
	SNC	NRC	SPC/PAC	Total
1 (TSP)	6,546,000	5,102,000	0	11,648,000
2	18,110,000	13,540,000	0	31,650,000
3	6,546,000	5,102,000	7,160,000	18,808,000

Figure 2-1 shows the extent of the SNWW federal navigation channel (blue line in the inset) and the channel reaches proposed for widening (the TSP) in yellow. Those reaches proposed for widening are:

- NRC from Station 122+40 to 640+00;
- SNC (North) from Station NRC 81+510 to 121+517 and 00+00 to 40+00; and
- SNC (South) from Station 63+500 to 72+700.



Figure 2-1
SNWW Areas for Proposed for Widening

The following discussions provide descriptions of land cover, land use, and notable municipal and industrial uses of the land along the waterway for all three alternatives being evaluated in detail.

2.1 Neches River Channel

The portion of the NRC proposed for widening is an approximately 9.8-mile-long waterway located in Jefferson County, Texas and Orange County, Texas. Located along the southwest side of the NRC is the City of Port Neches. This city includes older residential neighborhoods primarily located adjacent to NRC stations 337+00 to 390+00, commercial development along state highways and arterial roadways, and some civic buildings located mostly in the central business district (Figure 2-2). The existing waterway has several designated confined Dredged Material Placement Areas (PAs) immediately adjacent to the Neches River Channel. The PAs are used to place new work and maintenance dredged materials to improve and/or maintain authorized channel depths. Existing PAs located along the NRC are also shown in Figure 2-2. Industrial uses are located along the NRC from station 293+00 to 337+00 and 455+00 to 521+00. Notable industrial uses located to the south of NRC include Chemours Company, Sunoco Partners, Phillips 66 Gulf Coast, Huntsman Petrochemical, Ashland, Motiva Enterprises, ExxonMobil Corp, Trans Global Solutions, and Total Petrochemicals. To the north of the Neches River, north of Port Neches, land uses are mostly vacant land, wetlands, and open water (Figure 2-3).

For the TSP, approximately 5.1 million cubic yards (MCY) of new-work material, within an approximate 136-acre area of disturbance,³ along the red side (left descending side) of the NRC, would require dredging and placement.

³ The 'area of disturbance' includes the footprint of disturbance below and above the water line.

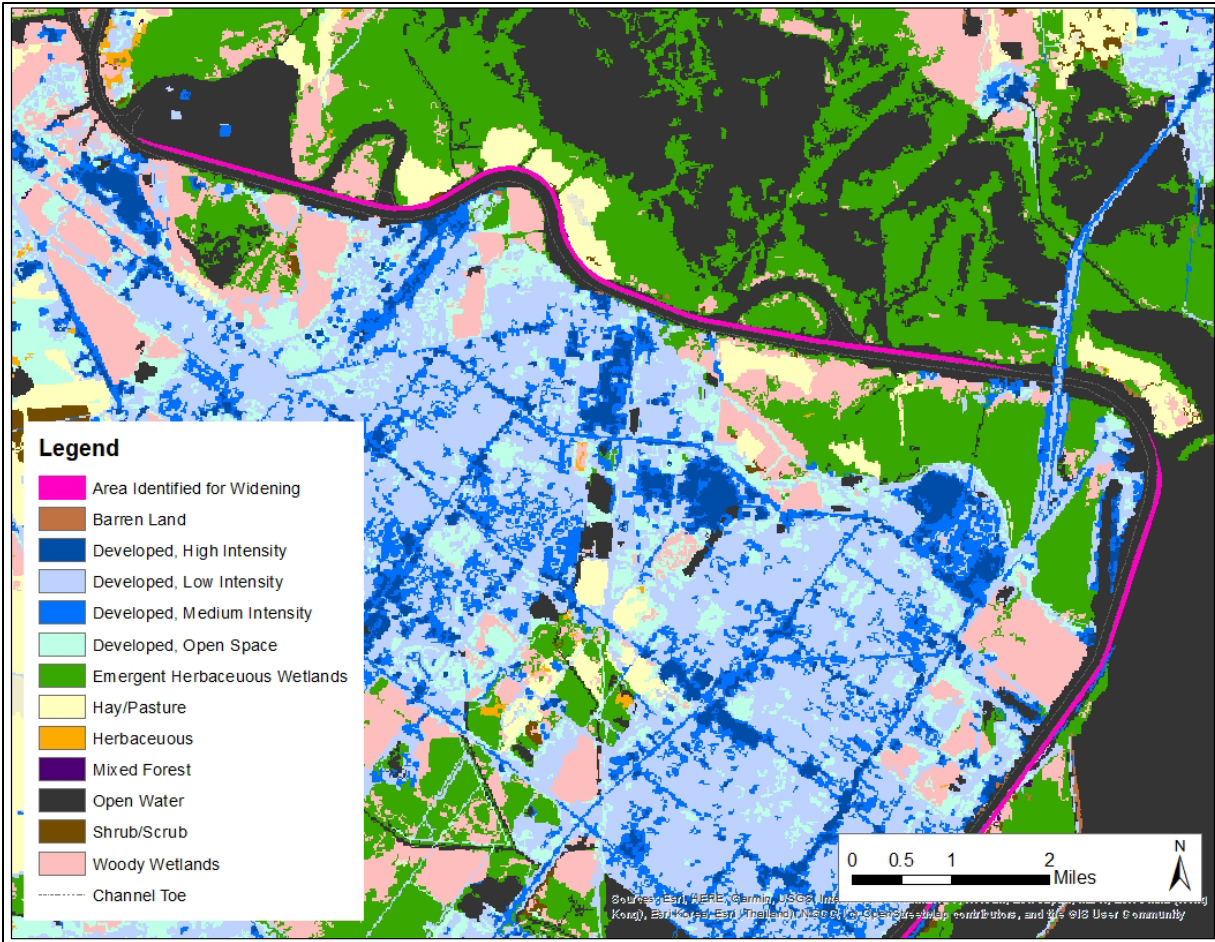


Figure 2-3
Land Cover in the Vicinity of the Neches River Channel

2.2 Sabine-Neches Canal (North)

The northern portion of the Sabine-Neches Canal identified for widening, SNC (North), is an approximately 8.3-mile-long waterway on the west side of Sabine Lake, extending up to the Neches River in Jefferson County, Texas. At the north side approximately at SNC station 108+500, the SNC (North) divides Pleasure Island and Sabine Lake from mainland areas west of the channel. Pleasure Island, an artificially created band of land, is a long, narrow island that extends from the SNC northward to the vicinity of the confluence of the Sabine and Neches rivers. The 18.5-mile man-made island was created from deposits dredged while constructing the Port Arthur Canal, completed in 1899, and the Sabine Neches Intracoastal Waterway completed in 1908.

The Pleasure Island portion of the widening improvement for SNC (North) (from station 81+800 to 108+500) consists primarily of vacant land made up of uplands, shoreline, and open water, and confined upland Placement Area PA 11. A portion of the widening improvement from approximately station 101+000 to 105+000 is within about 70 feet from the PA 11 containment dikes. There are some developed areas on Pleasure Island south of station 84+800 and directly across from downtown Port Arthur (Figure 2-4). These developed areas consist of the Port Arthur

Marina and Yacht Club, the abandoned Palms at Pleasure Island Golf Course,⁴ Logan Park, City Hall Park, residential areas, and buildings and facilities operated by the United States Coast Guard (USCG), the U.S. Army Reserve, USACE offices, and Lamar University (USACE, 2011). West of the Pleasure Island and the SNC (North) is the City of Port Arthur, where land uses include commercial development mostly along state highways and arterial roadways, as well as residential neighborhoods, offices, parks, and wetlands. This area surrounding Port Arthur is characterized by heavy industry south, southwest, and north of the city. Notable industrial uses located south of Port Arthur include Gulf Copper & Manufacturing and PABFAC bulk storage terminal (Figure 2-5).

For the TSP, approximately 5.7 MCY of sediment in an approximate 100-acre footprint along the red side of the SNC (North) reach will be new-work material requiring dredging and placement. In addition, approximately 53,000 CY of existing, non-continuous shoreline protection will be removed as described in Section 5.6 of the engineering appendix. The removal, reuse, and/or disposal of this rubble/concrete debris will need to be considered during the preconstruction engineering and design phase.

⁴ The Palms at Pleasure Island Golf Course was damaged in Hurricanes Rita and Ike and has not re-opened since 2008.

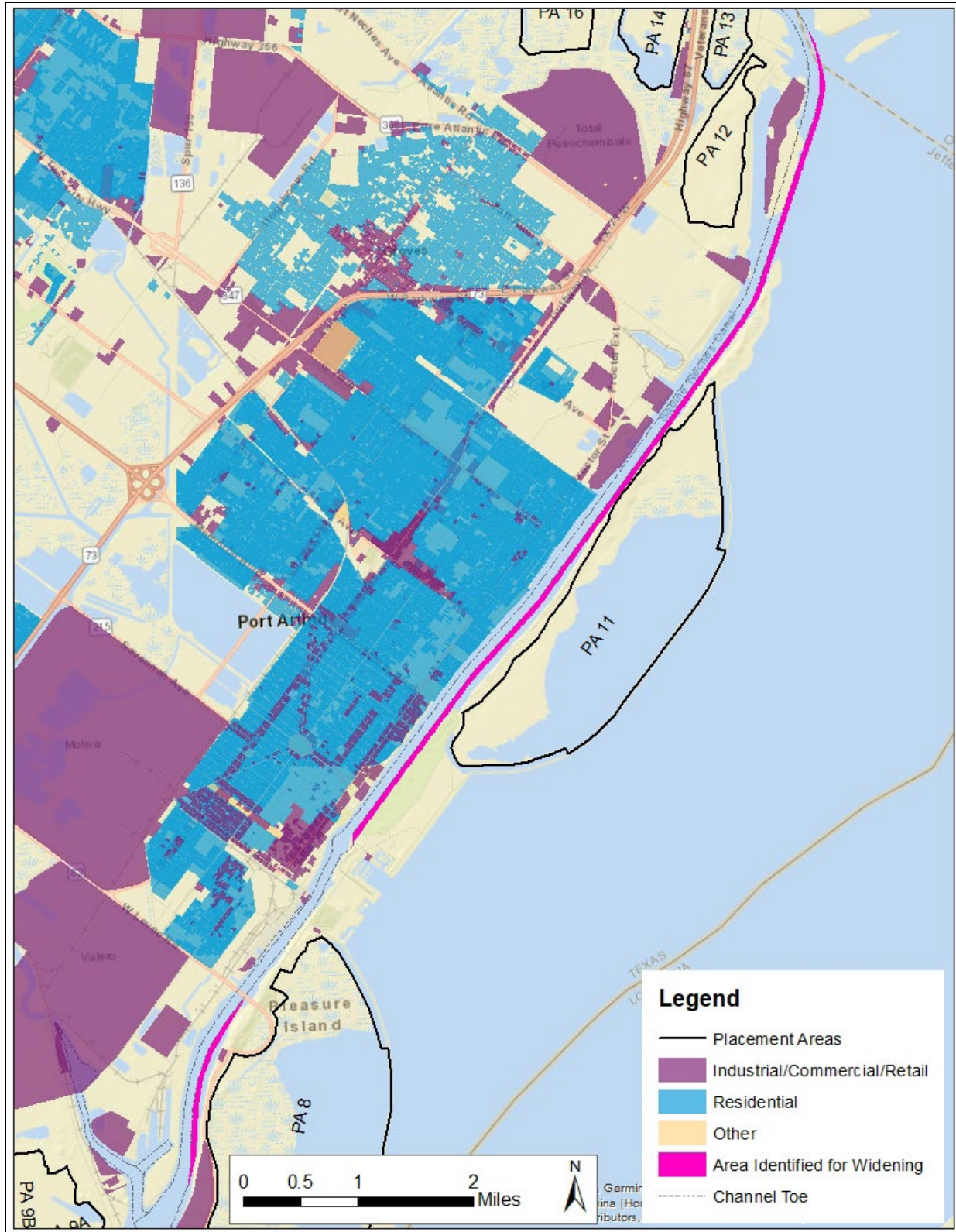


Figure 2-4
Land Use in the Vicinity of the Sabine-Neches Canal

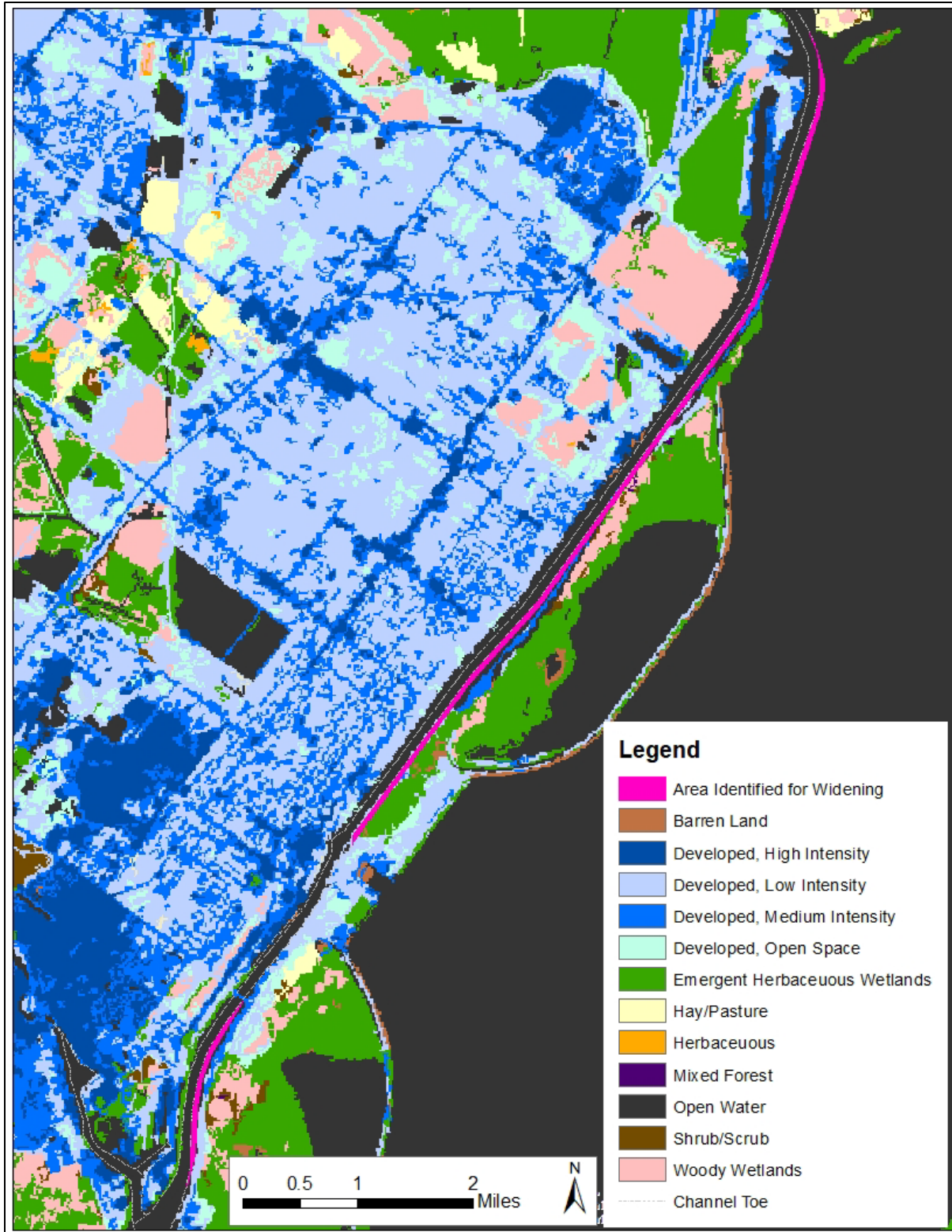


Figure 2-5
Land Cover in the Vicinity of the Sabine-Neches Canal

2.3 Sabine-Neches Canal (South)

The southern portion of the Sabine-Neches Canal identified for widening, SNC (South), is an approximately 1.6-mile-long segment of the waterway wedged between the northern portion of Pleasure Island and the City of Port Arthur. The Pleasure Island portion adjacent to the widening improvement of the SNC (South) consists primarily of vacant land made up of uplands and confined Placement Area PA 8 as well as cabin rental business and Martin Luther King Jr. Drive/Texas Route 82 (Figure 2-4). Land uses within the area of City of Port Arthur along the SNC (South) from station 63+800 to 72+400 include commercial development, vacant lands with open water, and wetlands. Notable industrial uses located south of Port Arthur include Motiva Enterprises LLC, Chevron, and the Texaco Terminal. For the TSP, approximately 0.9 MCY of sediment in an 18-acre footprint along the red side of the SNC along Pleasure Island (approximately 300 feet away from the shoreline) will be new-work material requiring dredging and placement (Figure 2-5). The 100-foot widening for the TSP would all occur underwater and would not result in any changes to the shoreline or upland areas adjacent to the SNC (South).

2.4 Port Arthur Canal and Sabine Pass Channel

Widening improvements are not proposed in the Port Arthur Canal and Sabine Pass Channel as part of the TSP, although widening would occur in these river segments under Alternative 3 (See Table 2-1). Sabine Pass Channel forms at the southern entrance of the Sabine-Neches Ship Channel from the Gulf into the study area. In this area, on the Texas (western) side of the channel, is the Texas Point National Wildlife Refuge and the Sabine Pass Battleground State Historical Park (Figure 2-6). Farther west along the Gulf coastline is Sea Rim State Park and the McFaddin Marsh National Wildlife Refuge (USACE, 2011). This area is characterized by mostly undeveloped marshland and beaches, with numerous small lakes and wetland areas (Figure 2-7). The western side of the channel includes the proposed area for the future Sempra LNG export facility and the Golden Pass LNG export facility that is currently under construction. Except for the Sabine Pass LNG export facility, the Louisiana (eastern) side of Sabine Pass Channel consists almost entirely of undeveloped marshland, wetlands, and beaches (Figure 2-7).

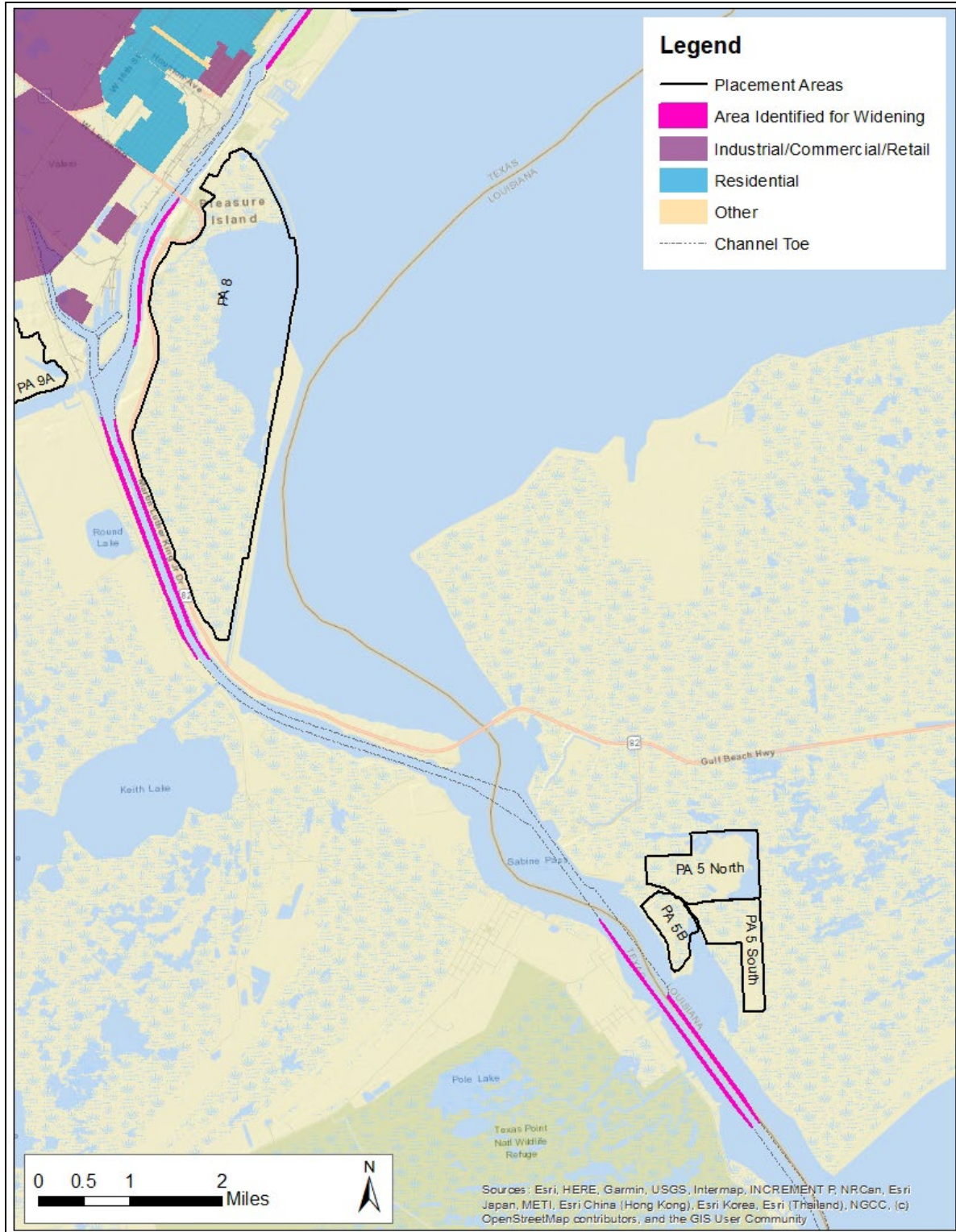


Figure 2-6
Land Use in the Vicinity of the Port Arthur Canal and Sabine Pass Channel

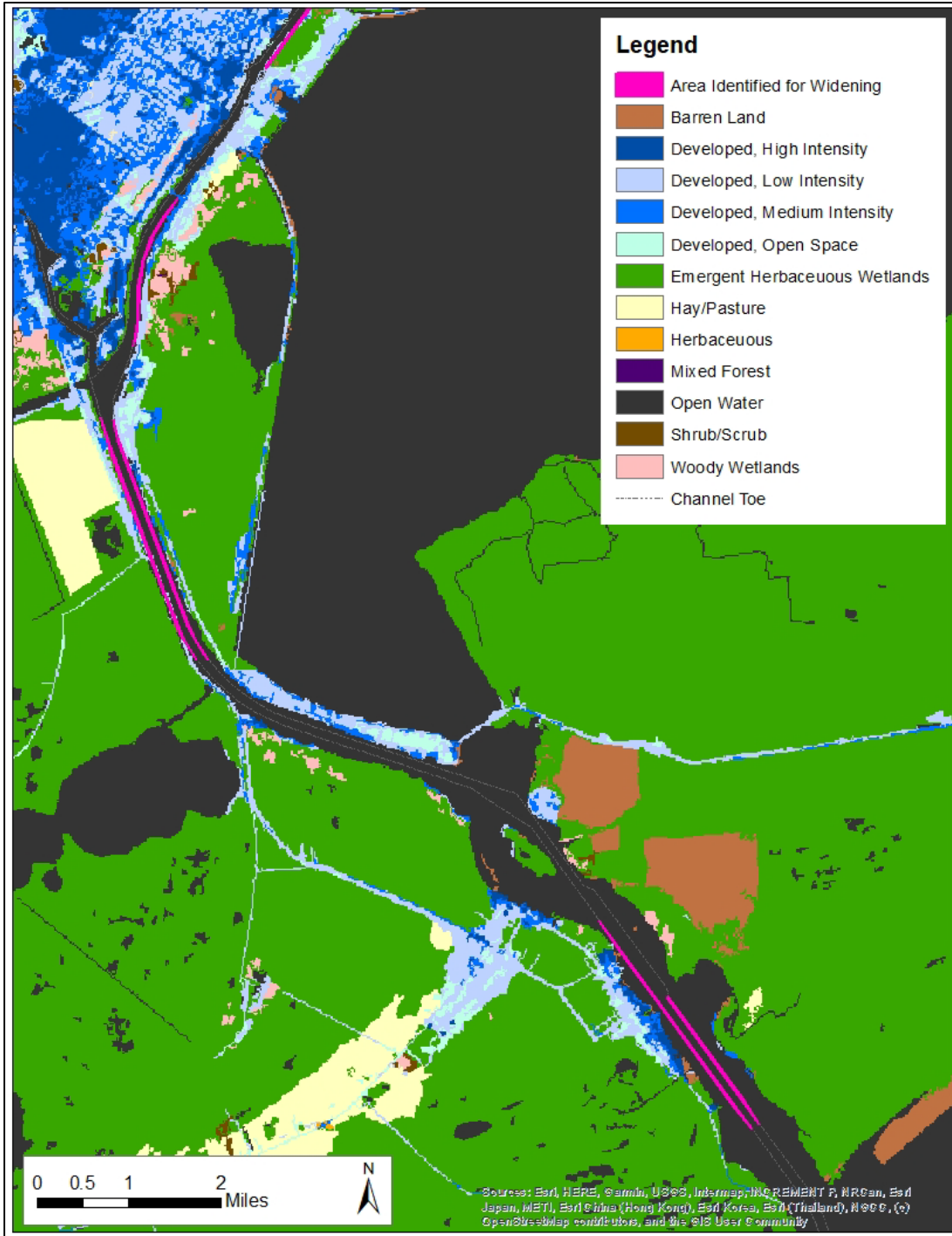


Figure 2-7
Land Cover in the Vicinity of the Port Arthur Canal and Sabine Pass Channel

3 Regulatory Policies, Guidance, and Compliance

According to ER 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects (USACE, 1992):

“Dredged material and sediments beneath navigable waters proposed for dredging qualify as HTRW only if they are within the boundaries of a site designated by the EPA or a state for a response action (either a removal action or a remedial action) under CERCLA⁵, or if they are a part of a National Priority List (NPL) site under CERCLA. Dredged material and sediments beneath the navigable waters proposed for dredging shall be tested and evaluated for their suitability for disposal in accordance with the appropriate guidelines and criteria adopted pursuant to Section 404 of the Clean Water Act and/or Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA) and supplemented by the Corps of Engineers Management Strategy for Disposal of Dredged Material: Containment Testing and Controls (or its appropriate updated version) as cited in Title 33 Code of Federal Regulations, Section 336.1.”

The HTRW assessments during the feasibility phase determine the type and extent of HTRW contamination, if any, and how HTRW considerations impact on the alternative project plans (USACE, 1992). The HTRW portion of the feasibility phase includes 1) a determination of the nature and extent of contamination, and 2) a qualitative analysis of the impacts of any contamination in the absence of response action (USACE, 1992). Sections 4 and 5 of this report provide the necessary information to evaluate the nature and extent of contamination and to provide a qualitative analysis of the contamination in the absence of a response action.

As directed by the Inland Testing Manual (USEPA/USACE, 1998), this HTRW report reflects a tiered approach to the evaluation and testing of disposal operations and is used to (1) make a factual determination of the effects of dredged material placement, and (2) to determine compliance with federal restrictions on discharge. Section 3.1 of the Inland Testing Manual allows that factual determinations do not require intensive investigations if the disposal operation will have a low environmental impact (USEPA/USACE, 1998).

As prescribed, Tier I is a comprehensive analysis of all existing and readily available information on the proposed dredging project, including all previously collected physical, chemical, and biological data for both the proposed dredging and discharge sites.

According to the USACE ER 1130-2-520 – Navigation and Dredging Operations and Maintenance Policies, dredging should be done in an efficient, cost-effective, and environmentally acceptable manner to improve and maintain the waterways to make them suitable for navigation and consistent with federal laws and regulations. ER 1105-2-100 and 33 CFR§335-338 recommend that new-work projects investigate beneficial uses (BUs) when specifying a placement method for the dredged material. Therefore, where applicable, the dredged material should be used for BUs as a way of enhancing and maximizing environmental benefits.

33 USC 401 and 33 USC 403 are related to structural construction and dredge-and/or-fill activities, respectively, within U.S. navigable waterways. The USACE authorizes permits under this statute.

⁵ Reference added: Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA).

While the USACE would not issue a permit for its own actions, the USACE would meet and be consistent with all applicable elements of the statute.

Additionally, dredged material testing may be required under the related Regulatory Guidance Letter 06-02, Guidance on Dredged Material Testing for Purposes of Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, dated July 6, 2006 (USACE, 2006).

4 2011 SNWW Channel Deepening FEIS

Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction. Sediment sampling and analyses for this Section 203 Project will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. As such, there will be no sediment sampling during this feasibility phase of planning, because samples during the feasibility phase may not reflect the conditions at the time of construction. Nonetheless, conditions evaluated for the SNWW channel deepening project in the 2011 Final Environmental Impact Statement (FEIS) inform this HTRW feasibility level assessment.

The SNWW's inshore channels are being deepened from -40 to -48 feet mean lower low water (MLLW) based on a Channel Improvement Project Final Feasibility Report and Final Environmental Impact Statement (USACE, 2011). This deepening project is currently under construction. The areas of the proposed widening evaluated in this report are immediately adjacent to the channel being deepened. The 2011 FEIS included an extensive evaluation of potential contaminants that could be encountered during the deepening (see Section 4.1 below). The 2011 FEIS included data evaluation of sediment and water quality data from surface locations and from the dredged material placed during maintenance events, to determine any "cause for concern" based on the data available at that time (USACE, 2011).

The project area for the TSP described in Section 2 is immediately adjacent, and parallel to, the project area evaluated in the 2011 FEIS. Data searches performed as recently as January 2024 indicate that there have been no new HTRW sites listed or consequential hazardous spills/events in the area in the intervening period. Therefore, pertinent information from the 2011 FEIS HTRW analysis has been used to inform this current report.

The pertinent information from the 2011 FEIS includes an evaluation of encountering potentially contaminated material during dredging, as well as best management practices described in the Dredged Material Management Plan to reduce environmental impacts (USACE, 2010b). The following sub-sections summarize the findings from the 2011 FEIS as they relate to the currently proposed widening TSP (Figure 2-1).

4.1 HTRW Evaluation in the 2011 FEIS

The purpose of the HTRW evaluation conducted as part of the 2011 FEIS was to identify indicators of potential hazardous materials or waste issues relating to the study area. Sediment and water quality data evaluated in the 2011 FEIS were primarily based on the following references:

- PBS&J. 2002. Hazardous, toxic, and radioactive waste survey of the Sabine-Neches Waterway (PBS&J, 2002);

- Contaminant Assessment, Sabine-Neches Waterway Entrance Channel (PBS&J, 2004a);
- Sediment Transport Modeling of Dredged Disposal Material, Cheniere Sabine Pass Liquefied Natural Gas Terminal (PBS&J, 2004b); and
- Historic Properties Identification, Oyster Reef Identification, and Pipeline and Obstruction Identification for the Sabine/Neches Waterway Widening and Deepening (PBS&J, 2005).

The evaluation included review of databases maintained by federal, state, and local regulatory agencies as listed below, an aerial photographic review, and interviews with officials from the TCEQ and the USACE to determine the location and status of HTRW sites regulated by the State of Texas and the USEPA. Sources included the:

- National Priority List (NPL);
- State Equivalent Priority Sites list (State Sites or SPL);
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) Database;
- Resource Conservation and Recovery Act (RCRA) Generators and Violators List (RCRA-G);
- The RCRA Corrective Actions List (CORRACT);
- The RCRA Treatment, Storage, or Disposal Facility List (RCRA-TSDF);
- Texas Commission on Environmental Quality (TCEQ) and Louisiana Department of Environmental Quality (LDEQ) Underground and Aboveground Storage Tank Databases;
- Leaking Underground Storage Tank Listings (LUST);
- City/County and Parish Solid Waste Landfill listings (SWL);
- Emergency Response Notification System (ERNS) database;
- TCEQ and LDEQ Spills Incident Information System database;
- National Pollution Discharge Elimination System (NPDES) database;
- Toxic Release Inventory System (TRIS) database; and
- Facility Index System (FINDS) database.

A total of 1,789 records were identified within the study area during the various regulatory agency database searches. Several of the records were associated with the same facility or property (e.g., a facility/property containing multiple petroleum storage tanks was also the site of several reported spills or emergency response actions). The 1,789 database records were associated with a total of 598 facilities or properties within the study and the highlights of those investigations are listed below.

4.2 Sediment Quality in the 2011 FEIS

The following sections of the 2011 FEIS were reviewed to assess the potential for encountering contaminated material during dredging operations under the current 203 study.

- 2011 FEIS: Section 3.4 Sediment Quality under Affected Environment
- 2011 FEIS: Section 4.7.2 HTRW consequences under the Environmental Consequences

The 2011 FEIS Section 3.4 included a summary of historical data for the SNWW full project area, including the reaches of proposed widening under the current 203 study. The sediment quality assessment provided in the 2011 FEIS appears to be limited to the sediment within the footprint

of the federally approved navigation channel, whereas the project area being evaluated for widening under the current 203 study extends outside of this footprint. However, the sediment quality assessment provided in the 2011 FEIS is helpful in assessing the likelihood of encountering contaminated material during dredging under the current 203 study.

The project area sediment quality assessed in the 2011 FEIS includes maintenance dredging material from routine maintenance and new-work material from the deepening. The sediment quality of the new-work evaluated water and sediment quality data, including characterization of existing conditions in the project area and the results of physical and chemical analyses (PBS&J, 2004a).

Sediment data included USACE maintenance dredging data collected periodically before dredging events (USACE, 2011). Historical data for detected compounds from the years 1987, 1990, 1992, and 1998 presented in the FEIS were also reviewed for these reaches (USACE, 2011). The 2011 FEIS review only provided reference to the data cited in the (PBS&J, 2004a) report which included a summary of heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polycyclic aromatic hydrocarbons (PAHs) detected in each reach from 1987 to 1992 (USACE, 2011). The quantitative data tables from the cited reports were not included in the 2011 FEIS. The sediment quality section also referenced that throughout the 1980s, oil, grease, and elevated metals and/or PAHs were detected at most of the sampling stations in the NRC, SNC (North), and SNC (South) reaches. Along with the historical data, the most recent sediment sampling (in 2008 and 2009) indicated slightly elevated arsenic in the NRC, SNC (North), and SNC (South) reaches (USACE, 2011).

Section 4.7.2 of the 2011 FEIS included a summary of HTRW consequences stating:

“Industrial activity on the SNWW has caused measurable impacts to the surface water, sediment, soil, and groundwater in localized areas within the study area. However, chemical analysis of sediment and surface water samples collected from the waterway indicate that these impacts have apparently been limited to the industrial facilities and adjoining properties. The nature and potential for any HTRW site to impact the surrounding environment varies considerably and most of the regulated facilities and incident locations identified in the regulatory agency database review do not pose an environmental concern for the [deepening] project. However, several facilities within the study area do pose a greater potential to impact the environment. These facilities pose a potential concern based on the nature and extent of contaminants at the site, their location relative to the PAs and the waterway, and the number of pathways in which the contaminants could reach the PAs and the waterway.”

Based on an examination of the sediment data presented in (PBS&J, 2004a), and sediment data collected in March 2008 and April 2009, the 2011 FEIS indicated “no cause for concern” with respect to the sediment quality, except for elevated PAHs in one reach of the Neches River and the nine sites identified as "priority HTRW sites" identified along the waterway (USACE, 2011).

As summarized in Section 3.6, Hazardous, Toxic and Radioactive Waste of the FEIS, all nine priority sites were further evaluated as part of the assessment and determined that the “chemical analyses of sediment, elutriate, and surface water samples collected from the waterway, indicate that the impacts from these sites have apparently been minimal” (USACE, 2011). Sediments to be dredged from the SNWW were evaluated to be “of sufficient quality to be used for beneficial uses” (USACE, 2011). Because the source of the maintenance material was not to have changed

and the method of placement was not to have changed, the environmental effects were determined to be “*no cause for concern*” to implement the entire SNWW deepening (USACE, 2011).

The elutriate samples from the higher-PAH reach of the Neches River did not exhibit PAH contamination, indicating a low likelihood that these contaminants would be mobilized and released during dredging and/or placement (USACE, 2011). The 2011 FEIS additionally asserted “*there appear to be no reaches of the SNWW that exhibit a cause for concern*” (USACE, 2011). The FEIS further indicated that “*there may be potential for encountering contaminated material during construction of the project, especially near industrial facilities that have not yet completed remediation efforts*” (USACE, 2011). The FEIS (USACE, 2011) also described this potential as minimal, asserting “*...based upon recent chemical analyses of water and sediment collected from within the channels, the potential for encountering contaminated material during dredging operations is considered minimal.*”

The segment of the Neches River (from stations 750+000 to 950+000) with elevated levels of PAHs had sediments tested and the elutriate tests for those sediment sampling stations did not reveal high concentrations of PAHs (USACE, 2008). Therefore, it was concluded that PAHs were not expected to be released during dredging and/or placement, and asserted that there were no channel reaches within the SNWW that exhibited a chemistry cause for concern (USACE, 2008).

4.3 The 2011 Dredged Material Management Plan

The channel deepening feasibility study included a Dredged Material Management Plan (DMMP) to guide the placement of material to be dredged from the channel. The 2008 Engineering Appendix (USACE, 2008) to the feasibility study evaluated available information to determine the probability and severity of encountering HTRW problems at the existing PAs and BU sites identified in the DMMP.⁶

Based upon the HTRW assessment and additional research conducted for the 2011 FEIS, it was determined that there were no known HTRW sites that would impact the SNWW project except for sites of unknown significance in PA 17 (USACE, 2008). At the time, regulatory agency investigations around PA 17 were monitored by USACE, and it was determined that, if USEPA investigations were to identify problems within PA 17, the affected area would need to be removed from the PA as a site for dredged material placement (USACE, 2011). It was also assumed that any modification to the PAs required based on the investigations would be done as part of the normal engineering and design of the project (USACE, 2008).

In 2021, USACE used a portion of PA 17 for placement of new-work material dredged from Turning and Anchorage Basin No. 1 as part of the ongoing deepening, which may indicate that PA 17 has been cleared for use as a disposal site; however, no updates on the EPA investigations were found during an online search. For the proposed channel widening, the usability of all PAs will be reconfirmed during PED.

Based on the HTRW evaluation provided in the 2008 Engineering Appendix, it was also assumed that there would be limited level of risk for additional HTRW investigations, especially in the upper three reaches of the Neches River (USACE, 2008). For preparing the DMMP, the 2011

⁶ See Section 7.1, HTRW Evaluation and Section 18.4.2, HTRW Risk and Uncertainty of the 2008 Engineering Appendix (USACE, 2008).

FEIS concluded that sediment quality data presented (PBS&J, 2004a) and from the 2008 and 2009 sampling events indicated no cause for concern related to the new-work material and maintenance dredging material placement (USACE, 2011).

4.4 The 2011 Interagency Coordination Team - Contaminants Work Group Findings

In support of the FEIS for channel deepening, all relevant sediment and water quality data for both new-work and maintenance dredging material were reviewed by a team of state and federal resource agencies as part of the Interagency Coordination Team's Contaminants Work Group (ICT CW). This ICT CW included representatives of the TCEQ and LDEQ and "*found no cause for concern over water or sediment quality in any channel reach*" (USACE, 2011). The ICT CW concluded that new-work sediments from the deepening within the NRC and SNC were deemed suitable for use in constructing restoration or mitigation sites, BU features, and placement in and upland confined PAs (USACE, 2008).

The USACE and Interagency Coordination Team (ICT) determined that channel deepening materials proposed for placement at potential BU sites be tested based on Regulatory Guidance Letter 06-02, Guidance on Dredged Material Testing for Purposes of Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, dated July 6, 2006 (USACE, 2006). Based on the results of this dredged material testing, USACE received §401 State Water Quality Certification from Texas and Louisiana for the deepening project (USACE, 2011). Both states have determined that the requirements for water quality certification have been met and have concluded that the placement of fill material will not violate water quality standards of each state.

SNWW deepening project dredged material testing and results were reviewed by a team of State and Federal resource agencies (the Contaminants Workgroup of the ICT), including the TCEQ and LDEQ during development of the 2011 FEIS. The 2011 FEIS concluded that all relevant sediment and water quality data for both new work and maintenance dredging material for the SNWW deepening project indicated no cause for concern over water or sediment quality in any channel reach. Therefore, new work sediments were deemed suitable for use in constructing BU or mitigation sites and upland confined PAs, although excess new work material would have to be placed in upland confined PAs (USACE, 2011). These historical test results and conclusions imply that dredging activity for the TSP under the current 203 study likely would meet all applicable elements of 33 USC 401 and 33 USC 403, when materials are tested during the PED phase of planning.

4.5 2011 FEIS Data Gaps and Considerations

The sediment and water quality data information available at the time of the 2011 FEIS evaluation is now over 15 years old and does not cover the entire proposed footprint of the channel widening under the current 203 study. However, the sources of the information referenced in the 2011 FEIS could be used to further confirm risk associated with potential of encountering contaminated sediments, if any, for the current 203 Study for the widening project. The PBS&J reports (PBS&J, 2004a; PBS&J, 2004b) and data that supported the conclusions of the 2011 FEIS were not available for review but should be reviewed during PED, if they become available.

During PED, recent maintenance and construction dredging reports with contaminant assessments should also be explored to gather additional sediment and water quality data, including sample locations, times, depths, and observations which may help confirm potential environmental impacts, if any, within the NRC and SNC reaches.

Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction. Sediment sampling and analyses will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. There will be no sediment sampling during the Feasibility Phase, because these samples may not reflect the conditions at the time of construction. A Tier I evaluation as outlined in the Inland Testing Manual (USEPA/USACE, 1998) should be made during the PED phase to determine whether the dredged material is acceptable for placement at BU sites or whether more extensive evaluation (Tiers II, III and IV) may be needed. In addition, HTRW evaluations of real estate to be acquired for the project will be performed during PED prior to acquisition. Overall, HTRW assessments of the project area performed during PED will determine the type and extent of HTRW contamination, if any, and how HTRW considerations will impact project design and implementation.

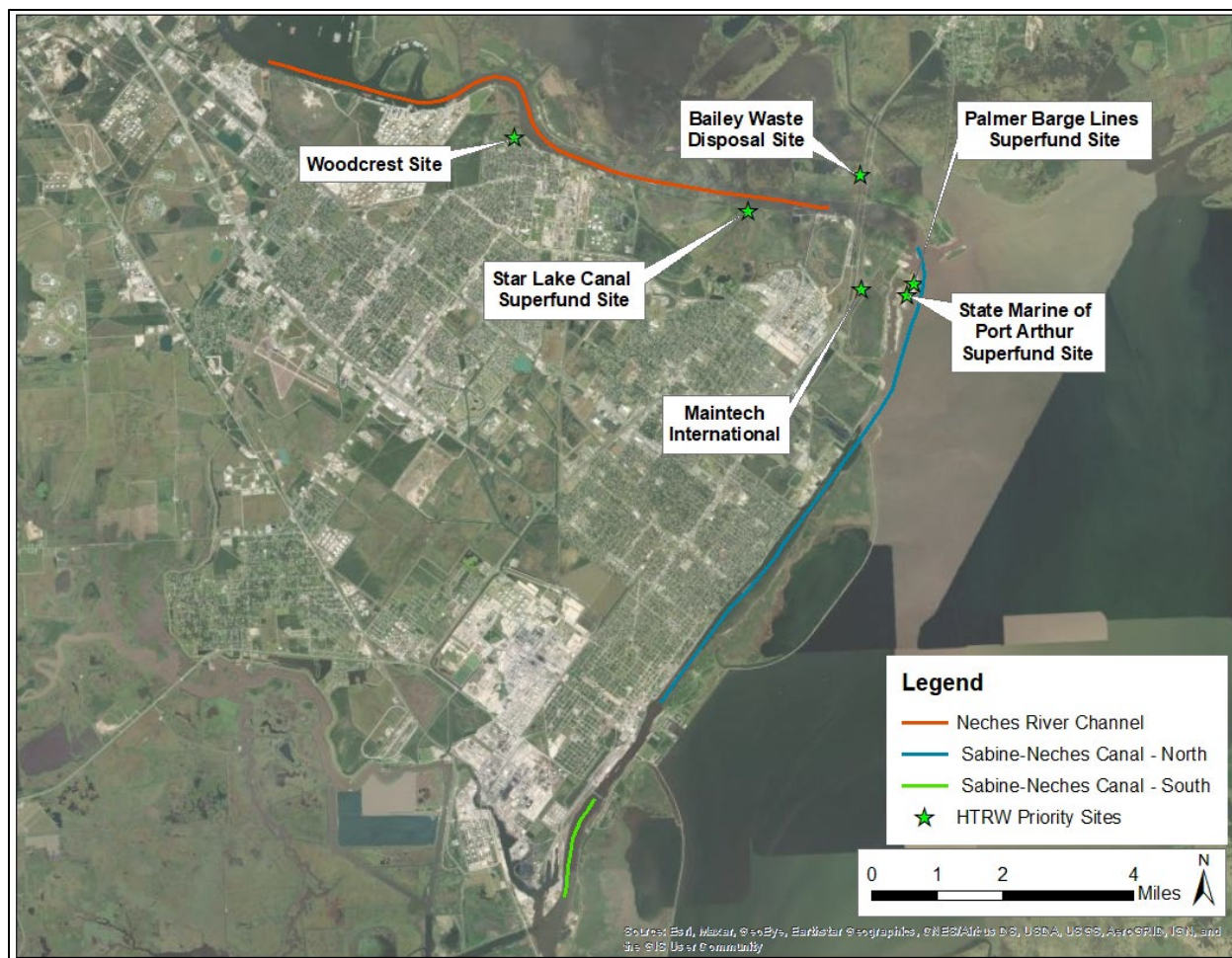
5 Widening Project Priority HTRW Sites

The NRC, SNC (North), and SNC (South) reaches were evaluated for the presence of hazardous materials, hazardous waste, and the potential for sediment contamination by current or past industrial or other activities. The areal extent of the investigation is the tentative footprint of the widening areas as described and depicted in Sections 2.1 through 2.5 of this report.

During preparation of the 2011 FEIS, the locations of nine HTRW areas of concern were identified along the waterway. The potential for HTRW areas of concern to impact the surrounding environment was evaluated based on the nature and extent of contaminants at each site, the location of the site relative to the waterway, and the number of pathways from the site in which the contaminants could reach the waterway site. As mentioned previously, the 2011 FEIS concluded that the potential for encountering contaminated material during dredging operations was considered minimal (USACE, 2011).

The findings of the HTRW assessment conducted under the 2011 FEIS were taken in consideration when determining the potential for encountering contaminated material during construction of the widening project, especially near priority HTRW sites that may not have completed remediation efforts. These nine priority HTRW sites identified in the 2011 FEIS were considered for evaluation in this HTRW Assessment Report. Three of the nine priority sites were eliminated from further evaluation, as they are not proximate to the proposed alternatives for widening. The remaining six priority sites were evaluated based on the most recent data available on the USEPA and TCEQ site portals. The six sites are listed below and shown in Figure 5-1. The evaluations of the following sites are described in Sections 5.1-5.6:

- Woodcrest Site;
- Star Lake Canal Superfund Site;
- Maintech International;
- Bailey Waste Disposal Site;
- Palmer Barge Lines Superfund Site; and
- State Marine of Port Arthur Superfund Site.



**Figure 5-1
HTRW Priority Sites**

As shown in Figure 5-1, Woodcrest Site, Star Lake Canal Superfund Site, Maintech International, and Bailey Waste Disposal Sites are along the NRC (orange line); and Palmer Barge Lines Superfund Site and State Marine of Port Arthur Superfund Site are near the northern end of the SNC (North) reach (blue line). There are no HTRW priority sites identified proximate to the SNC (South) reach (green line).

Five of the six HTRW priority sites identified for further evaluation are located on the on the right descending bank (i.e., the Port Arthur and Port Neches side or green side of navigation channel) of the waterway, and the proposed footprint for the widening improvement under the current 203 study is on the left descending bank (i.e., red side of the navigation channel) of the waterway across the 400-foot wide regularly maintained navigation channel. Based on the chemical analyses of water and sediment collected from dredged material within this 400-foot-wide navigation channel, the 2011 FEIS conducted for the deepening project concluded that the potential for encountering contaminated material during dredging operations was determined to be minimal (USACE, 2011).

In addition to the 2011 FEIS, the HTRW assessment (referenced as the 2017 SWG FEIS) conducted during the Sabine Pass to Galveston Bay, Texas Coastal Storm Risk Management and Ecosystem Restoration Final Integrated Feasibility Report and Environmental Impact Study

(USACE, 2017) was also reviewed for HTRW evaluation for the widening project. The study area evaluated for the 2017 SWG FEIS included the Jefferson County and Port Arthur levee and floodwall alignment corridor comprised of approximately 45.6 miles around the cities of Port Arthur, Groves, and Port Neches, as well as around the Exxon Mobil refinery in Beaumont, Texas. The NRC, SNC (North), and SNC (South) reaches are subset of the larger 2017 SWG FEIS study area. Except for the Star Lake Canal Site, the Jefferson County-Port Arthur project area evaluated in the 2017 SWG FEIS was classified as a generally low risk for HTRW along the NRC, SNC (North), and SNC (South) reaches.

The risks of TSP construction encountering contaminated sediments in the vicinity of the priority HTRW sites and environmental concerns related to the dredged material placement were investigated through a review of state and federal databases, such as the online portals for the TCEQ and the USEPA. Based on the 2011 FEIS/FS HTRW evaluation, it was concluded that most small HTRW sites such as commercial gas stations or sites or already remediated under the State Program do not pose an environmental risk to the project. Therefore, only priority HTRW sites were evaluated further.

In addition to priority HTRW sites, there are numerous points along the channel/canals where pipelines or other conveyances cross the waterway transporting hazardous materials for shipment or processing. These pipeline crossings are identified as points of concern along the widening project areas where special caution should be exercised during TSP construction to avoid damage to the pipelines and release of hazardous materials into the environment. It is understood that any existing pipelines or other conveyances crossing the waterway transporting hazardous materials will either be avoided, removed, or relocated prior to construction.

Based on the information provided in the 2011 FEIS and 2017 SWG FEIS, and the location of the widening being across the deepened and maintained navigation channel from priority HTRW sites, it is not anticipated for TSP construction to encounter contaminated material requiring specific handling and remediation under CERCLA. However, the risk of encountering unsuitable material for BU or placement in existing PAs must be considered and is further discussed below.

5.1 Woodcrest Site – Site ID No. 584

According to the VCP List of Sites dated September 2023 (the most current listing as of this writing) from the TCEQ website (TCEQ 2024a), the Woodcrest Site is part of the VCP program and is located to the west of Woodcrest Street and Block Street in Port Neches TX, on the opposite side of the federal navigation channel and approximately 750 feet from the proposed widening alternatives (NRC stations 370+00 and 380+00). However, the street address (1422 Lee Avenue) provided on the VCP list does not match the location description; therefore, the exact Woodcrest site location is unknown, and the possible land parcels matching the street address and location description are shown in Figure 5-2. The Woodcrest site soil was contaminated with VOCs, and investigation was underway at the time of the 2011 FEIS. The current cleanup status of the Woodcrest site is complete and no active remediation exists on-site. No further information was found on the TCEQ or USEPA online database during this HTRW site review. Based on the approximate location of the Woodcrest site and its distance from the NRC, as well as its small size and status of remediation being complete, the level of risk for encountering contaminated sediment in the vicinity of the Woodcrest Site is low.

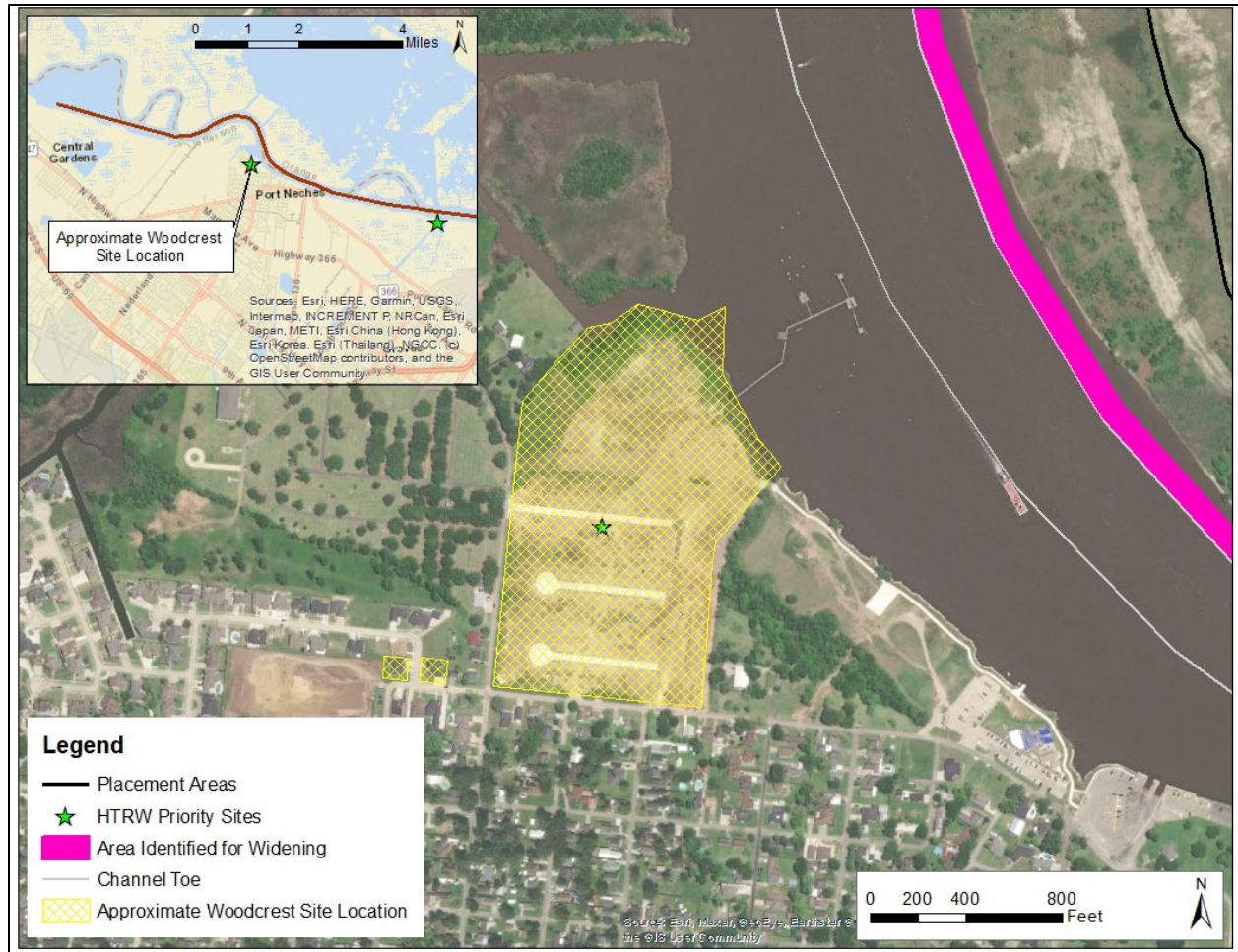


Figure 5-2
Approximate Woodcrest Site

5.2 Star Lake Canal Superfund Site – Site ID No. 471

The Star Lake Canal Superfund Site is located adjacent to the boundary of the cities of Port Arthur and Port Neches, Texas. The site lies midway between PAs 16 and 17 and is along the green side of the channel approximately 1,200 feet from the proposed widening alternatives (Figure 5-3). The Star Lake Canal site consists of two industrial canals, the Star Lake Canal and the Jefferson Canal, which both discharge to the Neches River between stations 130+00 and 230+00. The Star Lake Canal site also includes parts of the Molasses Bayou wetland that is connected to the Star Lake Canal, as well as the Jefferson Canal Spoil Pile Area where dredged material from the Jefferson Canal was deposited. The canals have served as industrial wastewater and stormwater outfalls since the late 1940s and have been impacted by unpermitted discharges. Currently, industrial discharges are treated at a wastewater treatment plant and then discharged in accordance with a Texas Pollutant Discharge Elimination System Permit and remedial design was approved in 2022 (USEPA, 2024a).

Site specific contaminants of concern (COCs) include chromium, copper, PAHs, and polychlorinated biphenyls (PCBs) in surface water and sediment (USACE, 2011). The Star Lake Canal Site was added to the NPL in 2000 (USEPA, 2013).

Heavy metals, PCBs, and PAHs had been identified as having migrated or have the potential to migrate to Molasses Bayou, Star Lake Canal, the Neches River, and Sabine Lake. Pentachlorophenol (PCP) and toxaphene had been found limited to Jefferson Canal sediments (USEPA, 2013).

A 2013 Record of Decision (ROD) selected a remedy for the Star Lake Canal site involving a combination of impacted sediment removal/dewatering/off-site disposal, containment with soil/armored/composite caps, and monitored natural recovery (MNR) for the on-site areas only (USEPA, 2013). The remedial design commenced in October of 2016 and is still ongoing (GHD, 2018b). The USEPA will produce an Explanation of Significant Differences (ESD) to document changes to some areas identified in the ROD. Remedial Design was approved in 2022 (USEPA, 2024a). Due to the presence of toxic sediments, the Star Lake Canal site was considered a high risk for the 2017 SWG FEIS (USACE, 2017). It is important to note that the high risk classification was designated to the area surrounding the Star Lake and Jefferson Canal areas because the proposed action evaluated for 2017 SWG FEIS involved levee and floodwall alignment corridor in close proximity to the Star Lake Canal.

The nature and extent of contamination and the risks posed to human health and the environment were listed as unknown for the Star Lake Canal Superfund Site at the time when 2011 FEIS was prepared due to the lack of the data at the time. However, the 2011 FEIS determined that there is no cause of concern for encountering HTRW sources requiring specific handling and remediation under the CERCLA in the vicinity of the Star Lake Canal Superfund Site based on the overall 2011 FEIS HTRW evaluation.

The Screening Site Inspection and Expanded Site Inspection investigations conducted from 1997 to 1999, included a collection of background sediment samples from near the Neches River (USEPA, 2013). These samples were collected to support the on-site human health and ecological risk assessment that was conducted as part of the Remedial Investigation/Feasibility Study before the 2013 ROD. The risk assessment determined that there is no unacceptable risk to human health at the Site (USEPA, 2013). The risk assessment also determined a high probability of ecological toxicity to small animals and insects, and to animals higher in the food chain for the on-site areas only. A remedial action selected in the 2013 ROD was to address this ecological risk in the on-site areas that consist of surface water and sediments in the Star Lake Canal, Jefferson Canal, and the Molasses Bayou and Wetland. The area proposed for the widening under the current 203 study is along the opposite side of the federal navigation channel from the Star Lake Canal Site, across the deepened and regularly maintained 400-ft wide navigation channel.

Based on the most recent risk assessment data provided in the 2013 ROD and the fact that future site remedy is limited to only on-site areas and the location of the areas proposed for the widening being on the opposite side of the Neches River across the 400-ft wide navigation channel, the potential for encountering contaminated sediments in the vicinity of the Star Lake Canal site within the proposed widening area is low. However, because the history of Star Lake Canal had been receiving industrial wastewater and stormwater outfalls since the late 1940s, extensive network of miscellaneous easements (piping network) in the area, and the fact that remedial action has not yet taken place, a Tier I evaluation as outlined in the Inland Testing Manual (USEPA/USACE, 1998)

should be made during the PED phase to determine whether the dredged material is acceptable for placement at BU sites or whether more extensive evaluation (Tiers II, III and IV) may be needed for beneficial use in marsh restoration.

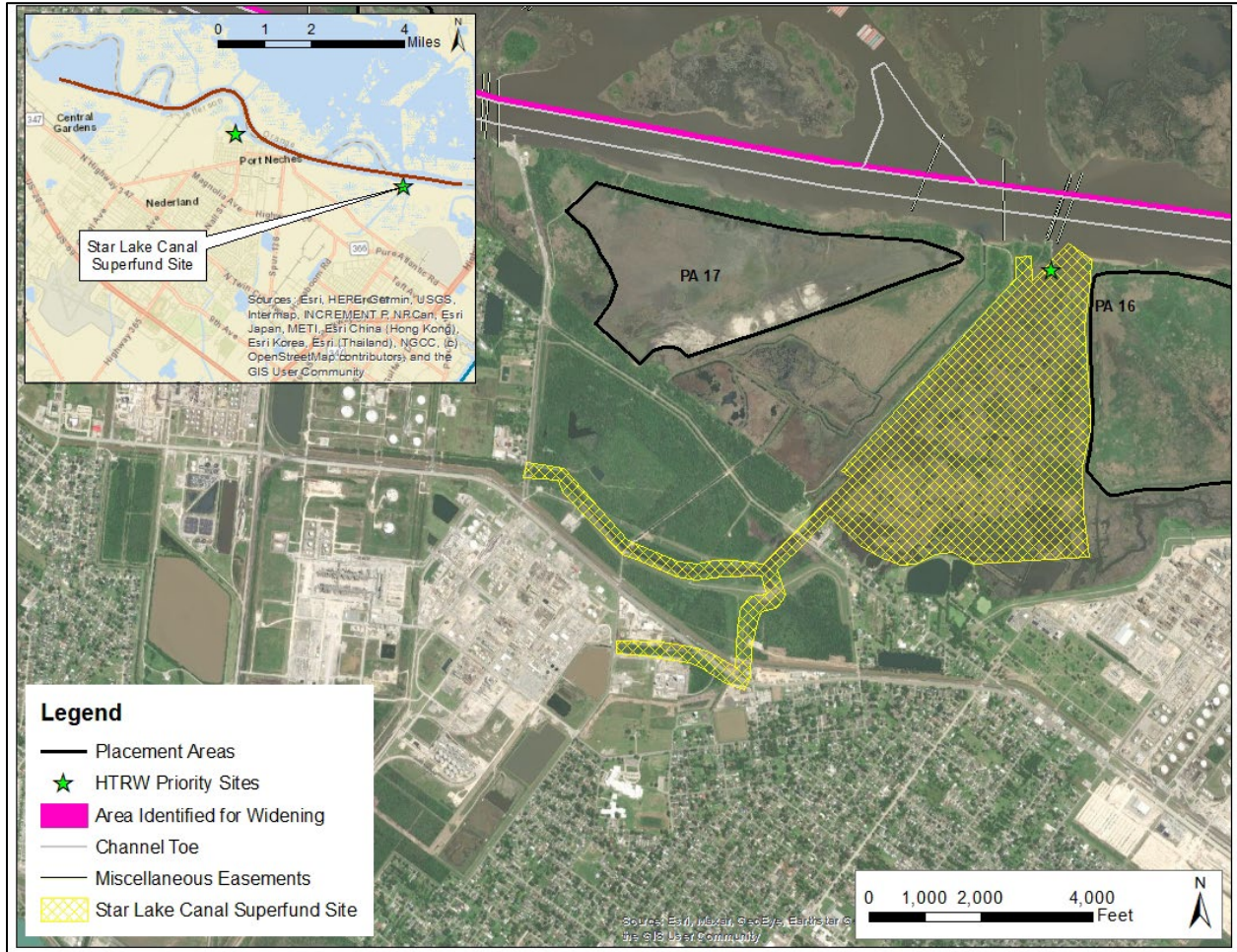


Figure 5-3
Star Lake Canal Superfund Site

5.3 Bailey Waste Disposal Superfund Site – Site ID No. 512

The 280-acre Bailey Waste Disposal Site (Bailey site) is in Bridge City, Texas in a tidal marsh just north of where the Neches River meets Sabine Lake and is approximately 2,000 feet from the limits of the proposed widening alternatives for the NRC (Figure 5-4). Disposal of industrial and municipal waste took place at the site until 1971, resulting in contamination of surface water, groundwater, and soils (USEPA, 2020). The COCs identified at the Bailey Site are arsenic compounds, benzene, phenols, pyridenes, naphthalenes, and chlorinated hydrocarbons (USACE, 2011). The site was placed on the NPL in 1986 (USEPA, 1996).

The 1988 ROD prepared for consolidating and capping the on-site waste included a 1987 Remedial Investigation (RI) (USEPA, 2020) determination that site groundwater and surface water were not impacted by the waste disposal activities. However, groundwater contamination was later identified and found to be limited to the site's shallow aquifer within the limits of the site. Per a 1996 ROD Amendment (USEPA, 1996), the final remedy included the following components to prevent human contact and future migration: consolidation of contaminated sediment, placement of waste beneath lightweight composite caps on site, installation of stormwater management controls, construction of a wastewater treatment plant, and air monitoring. The 1996 ROD Amendment determined that the very soft clay to silty clay, which extends to a depth of 25 to 35 feet at the site, would underlie and surround the caps, providing adequate containment against vertical and lateral migration of contaminated groundwater (USEPA, 2020).

Cleanup activities at the Bailey site were conducted from 1992 to 1998, addressing over 156,000 cubic yards of on-site hazardous materials. Operation and maintenance have been underway since 1999, and USEPA removed the site from the NPL in 2007 (USEPA, 2020). The 2020 Five-Year Review indicated that the caps were generally in good condition and appeared effective in isolating the waste and preventing releases (USEPA, 2020).

Based on the effectiveness of the remedy and the 2,000-ft distance of the site from the proposed NRC channel widening, the Bailey Waste Disposal Site has been determined to pose very low risk for encountering contaminated sediments in the vicinity.

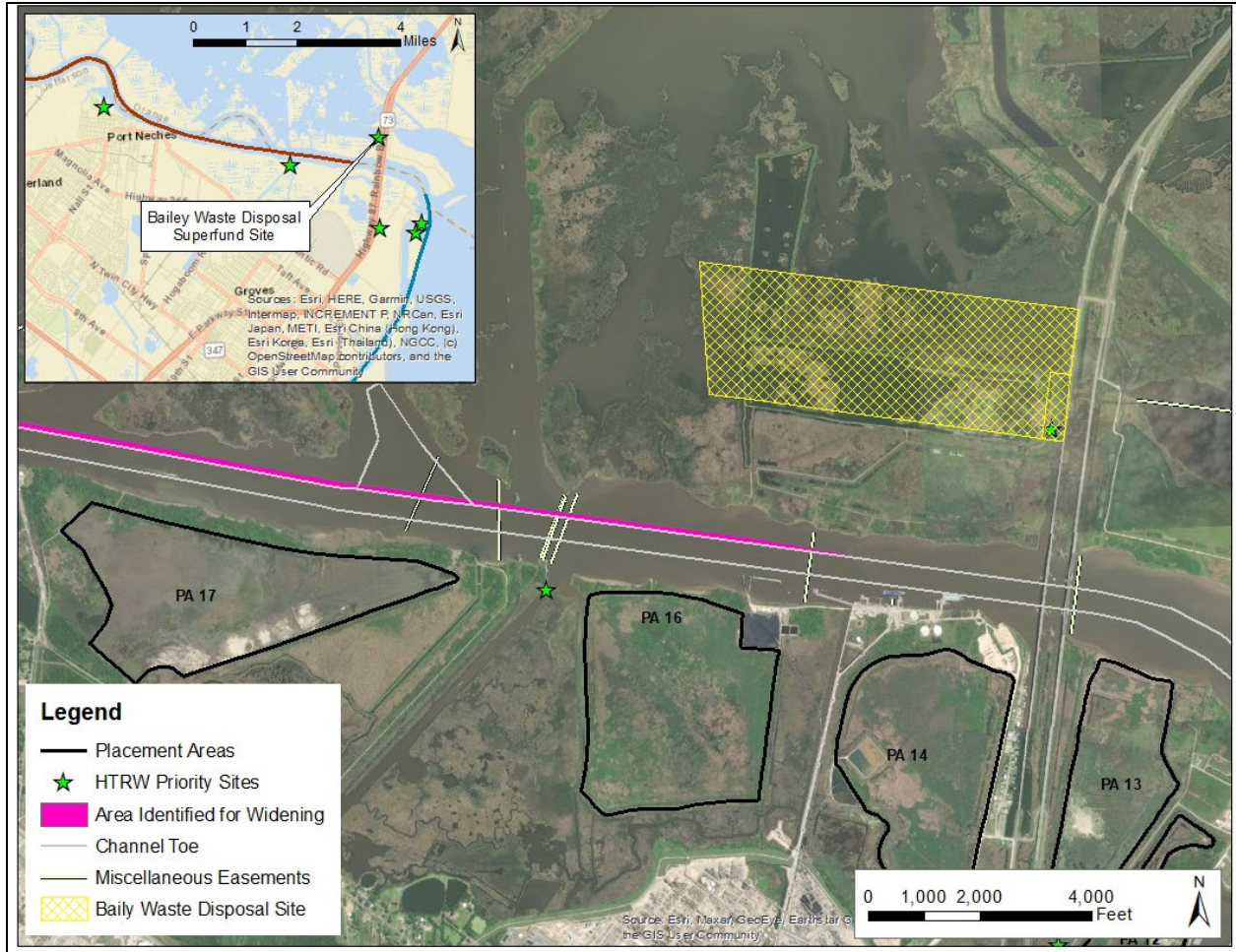


Figure 5-4
Bailey Waste Disposal Superfund Site

5.4 Maintech International Site – Site ID No. 410

The Maintech International Site (the Maintech site) is located on the opposite side of the river from the proposed widening at 8300 Old Ferry Road in Port Arthur. The 10-acre Maintech site is approximately 0.25-mile northwest of the point where the Neches River empties into Sabine Lake (Figure 5-5). Prior to 1975, the property was used for wastewater disposal from a barge-cleaning facility: a bermed area was used as a pit for collected ballast and cleaning water from oil barges (TCEQ, 2024b). In 1975, facilities were built to provide support for chemical cleaning and equipment hydro blasting services to area petrochemical plants and refineries. Included at the Maintech site were three wastewater collection ponds with a total capacity of about 2 million gallons. Activities at the Maintech site were halted in 1986, and all facilities have remained out of service since then. These activities resulted in PAH contamination of site soil and groundwater. The Maintech site was entered into the state Superfund registry in 1988 (TCEQ, 2024b).

The selected remedial action consisted of capping the soils that contained contamination exceeding the cleanup levels in tandem with institutional controls on the property to prevent exposure to the underlying soil contamination. The construction of the soil cap was completed in 2000 and the

cap is maintained and routinely inspected to verify the integrity of the cap and ensure it remains protective of human health and the environment. Maintech site contaminants in groundwater were present at concentrations below cleanup levels; however, a groundwater monitoring program was established to document any significant changes that may have occurred following implementation of the remedy. The annual groundwater monitoring program was discontinued in 2006 with the approval of TCEQ (TCEQ, 2024b).

In July of 2006, the responsible party completed the fifth year of post-closure operations and maintenance monitoring and submitted a written request to have the Maintech site deleted from the Superfund registry. The request is currently under evaluation (TCEQ, 2024b). In September of 2017, a soil sample collected to evaluate potential effects from Hurricane Harvey determined that the remedial action for the Maintech site is operating as intended and site conditions remain protective of human health and the environment (TCEQ, 2017a). Given that the Maintech site is fully contained and more than 4,000 feet from the proposed channel widening measures, the level of risk for encountering contaminated sediment in the vicinity of the Maintech International Site is low.

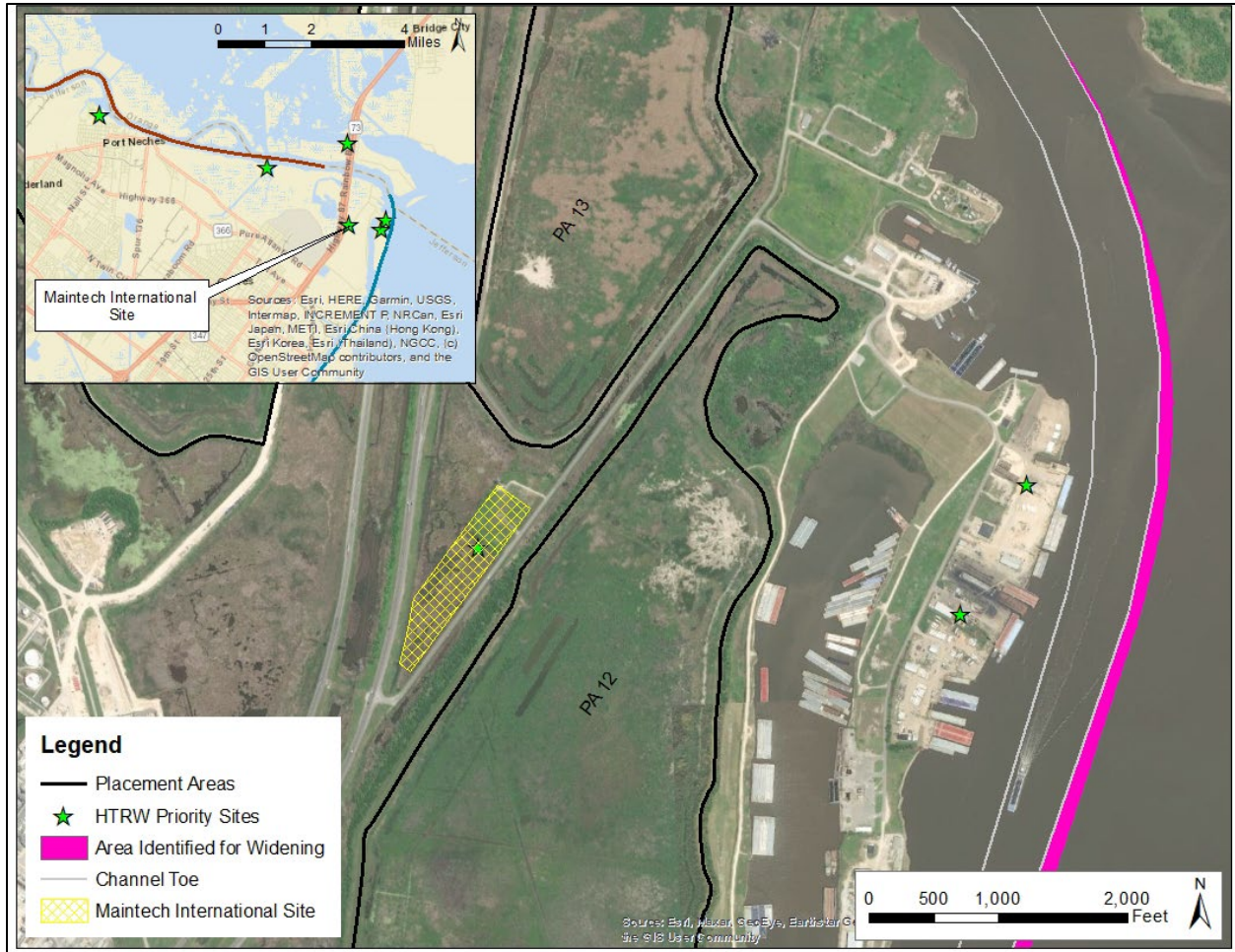


Figure 5-5
Maintech International Site

5.5 Palmer Barge Line Superfund Site – Site ID No. 548

The Palmer Barge Line Site (Palmer site) is in Port Arthur, Texas on Pleasure Islet, a man-made peninsula on Sabine Lake, near the transition from the SNC to NRC (Figure 5-6). The Palmer Site is on the opposite side of the federal navigation channel approximately 700 feet from the limits of the proposed widening alternative. The Palmer site is bordered to the south by the State Marine of Port Arthur Superfund Site. Pleasure Islet was constructed using dredging spoils generated during the construction and maintenance of the SNC and became developed after 1957 following construction of a land bridge across an abandoned portion of the canal. From 1956 to 1987, the Palmer site served as a municipal landfill. From 1982 to 1997, the Palmer site was used for a barge cleaning facility. These previous operations contaminated the soil and groundwater (USEPA, 2015a). Palmer site COCs include Aluminum, barium, chromium, cobalt, iron, lead, magnesium, nickel, zinc, pesticides, VOCs, PAHs, PCP, and benzene (USACE, 2011). The Palmer site was entered to the NPL in 2000 (USEPA, 2017). The Remedial Action and cleanup was completed according to the requirements of the Record of Decision (USEPA, 2024)

URS Corporation (URS) conducted a Remedial Investigation (RI) at the Palmer site in July 2003, which characterized the nature and extent of constituents present in environmental media at the Palmer site and in adjacent Sabine Lake surface water and sediments (USEPA, 2005b). Sediment sampling results indicated low levels of several PAHs, no pesticides, PCBs, or VOCs detected, and metals detected in the sediment samples included chromium, copper, lead, manganese, nickel, and vanadium (USEPA, 2005a & 2005b). Additionally, barium and zinc results had more variation, and there were some detections of mercury (USEPA, 2005a & 2005b). Organic carbon results ranged from 8,630 milligrams per kilogram (mg/kg) to 16,300 mg/kg (USEPA, 2005a & 2005b).

The Palmer site's long-term remedy from the 2005 ROD included excavation and off-site disposal of contaminated soils, backfilling of excavated areas with clean soil, abandonment of five existing groundwater monitoring wells, sludge removal, decontamination and off-site disposal, and implementation of institutional controls (USEPA, 2005b). A total of 181 tons of contaminated soils were excavated and disposed at a permitted disposal facility. Each response area was then backfilled with clean soil. Additionally, approximately 78,340 pounds of oil were skimmed from the 10,000-barrel AST and recycled for fuel blending, and approximately 854,886 pounds of the remaining sludge material within the AST were incinerated. As required by the 2005 ROD, five permanent ground water monitoring wells were plugged and abandoned. After cleanup, USEPA took the site off the NPL in 2012 (USEPA, 2017a).

In 2011, an unknown quantity of offshore material closer to the edge of the Palmer site (Figure 5-7) was dredged and placed on the Palmer site for purposes unrelated to the site remedy (note that this action was not prohibited by the 2005 ROD) (USEPA, 2017a). In May 2016, samples were collected from the dredged material and analyzed for metals, VOCs, SVOCs, dioxins, pesticides, and herbicides using Toxicity Characteristic Leaching Procedure (TCLP) methods, as well as total cyanide and total petroleum hydrocarbons (USEPA, 2017a). Constituent concentrations were compared to Texas Class 2 Regulatory Levels, the Texas waste classification levels. Class 2 waste is classified as any industrial solid waste that cannot be described as hazardous, Class 1, or Class 3 (TCEQ, 2024c). These wastes are less threatening to human health and the environment and may be disposed of at a permitted municipal landfill. In August 2016, the dredged material exceeding the Texas Class 2 Regulatory Levels were disposed of at an off-site permitted disposal

facility. The 2016 disposal action disposed of an estimated 30-percent of the dredged material that had been placed on the Palmer site during the 2011 offshore removal action (USEPA, 2017a).

Based on the 30-percent exceedance rate during the 2016 dredged sediment disposal action, the Palmer site’s documented contamination, and the history of Palmer site uses, the potential exists for encountering contaminated sediments in the vicinity of the Palmer site. Even though the Palmer site ROD did not identify federal navigation dredging as a potential risk, a Tier I evaluation as outlined in the Inland Testing Manual (USEPA/USACE, 1998) should be made during the PED phase to determine whether the dredged material is acceptable for placement at BU sites or whether more extensive evaluation (Tiers II, III and IV) may be needed.

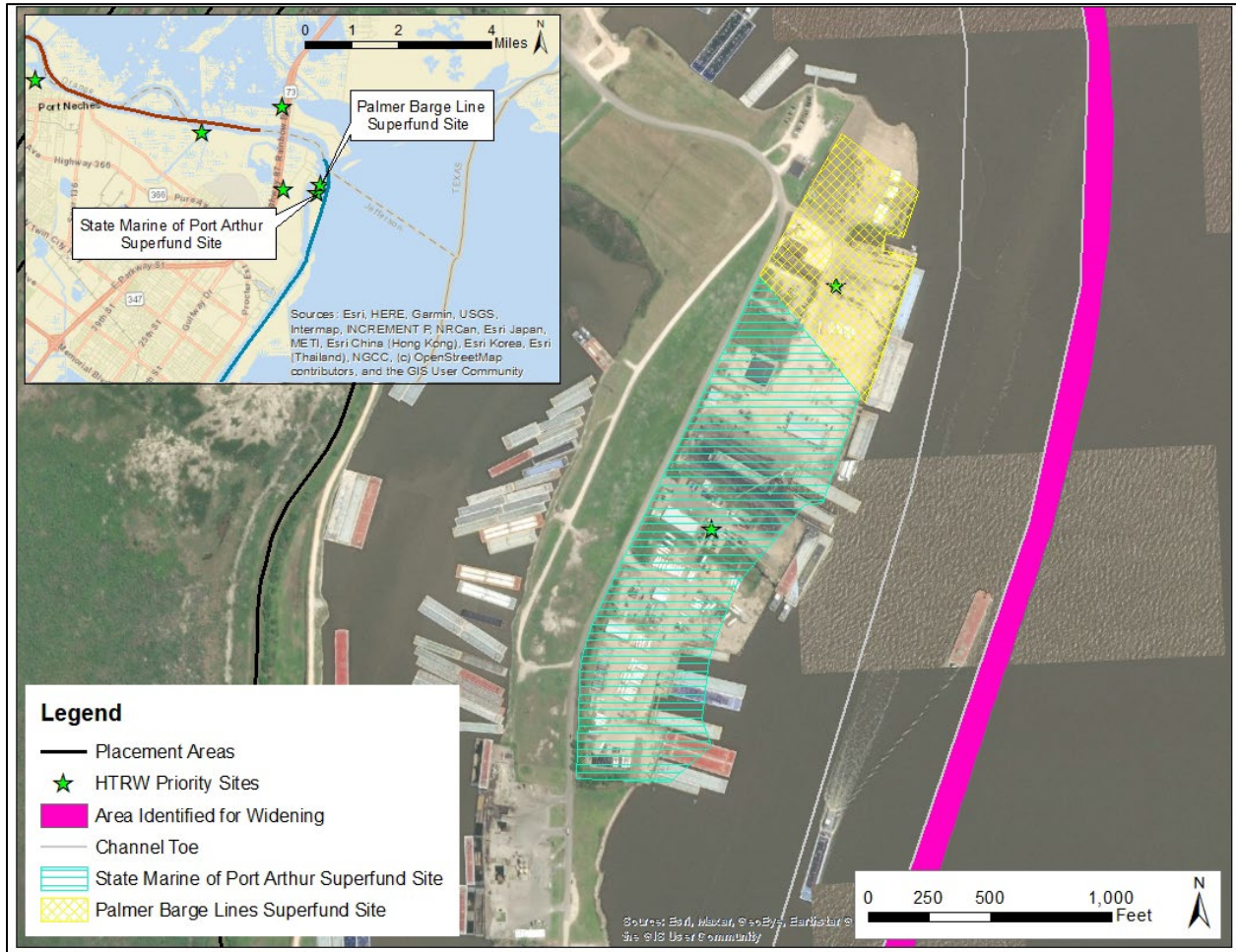


Figure 5-6
Palmer Barge Line and State Marine of Port Arthur Superfund Sites

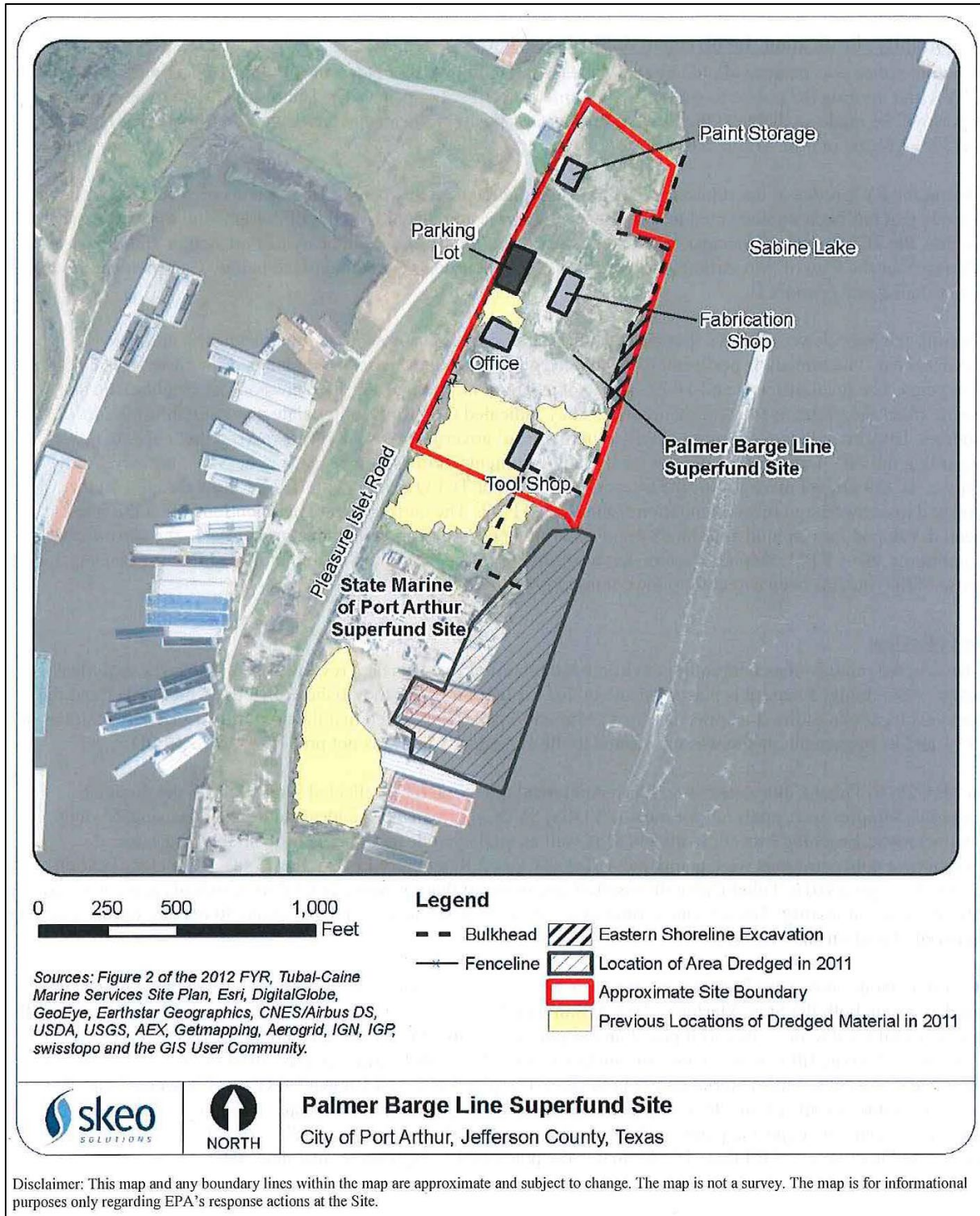


Figure 5-7
Past Dredging and Placement Near Palmer Barge Line and State Marine

5.6 State Marine of Port Arthur Superfund Site – Site ID No. 203

The State Marine of Port Arthur Site (State Marine site) is in Port Arthur, Texas on Pleasure Islet, a man-made peninsula on Sabine Lake, near the transition from the SNC to NRC. The State Marine site is on the opposite side of the federal navigation channel approximately 500 feet from the limits of the proposed SNC (North) widening alternatives. The State Marine site is bordered to the north by the Palmer site (Figure 5-8). Pleasure Islet was constructed using dredging spoils generated during the construction and maintenance of the Sabine-Neches Canal and became developed after 1957 following construction of a land bridge across an abandoned portion of the canal. From 1963 to 1974, the State Marine site served as a municipal landfill, including burn pit operations up to 1969. Beginning in 1973, the State Marine site was used for a barge maintenance and cleaning and salvage facility (USEPA, 2007). These previous activities resulted in the contamination of soils and groundwater (USEPA, 2024b). State Marine site COCs include PAHs and metals (USACE, 2011). The State Marine site was placed on the NPL in August 1998 (USEPA, 2015c). In June 1998, EPA requested to conduct a preliminary Remedial Investigation and feasibility study (RI/FS) and prepare technical memorandum (TM) to document the findings (USEPA, 1999). From 1980 to 1983, an observation of direct discharge of barge contents to Sabine Lake was mentioned based on the site inspection reports utilized to prepare the RI/FS TM (USEPA, 1999). In 1995, sediment sampling around the barges indicated the presence of PAHs and metals (USEPA, 1999). A reference to oil seeps being observed at the shoreline during the 1995 field investigation was also included among the summary of the history of waste management area provided in the RI/FS TM (USEPA, 1999). Offshore areas with sunken and floating docks and sunken barges considered as one of the waste management areas during the RI (see Figure 5-8, sourced from the 2007 ROD (USEPA, 2007)).

The USEPA completed a Time Critical Removal Action in August 2001 that addressed contamination at the State Marine site that posed a risk to human health and the environment (USEPA, 2007). The 2001 removal action included removal and disposal of aboveground storage tanks, oil pits, drums, and debris materials; water treatment; oil/water separation; and stabilization and off-site disposal of sludge materials (USEPA, 2007). Following the removal action, a Human Health and Ecological Risk Assessment (USEPA, 2007) conducted during the RI phase determined that there was no risk to human health and the environment, and USEPA selected “no further action” based on industrial/commercial land use as the final remedy in the 2007 ROD (USEPA, 2007).

The selected remedy, “*no further action*,” did not require any environmental monitoring; however, while not specifically listed as part of the selected remedy, the ROD stated that sediment monitoring should be considered in Sabine Lake next to the State Marine site to ensure the remedy remains protective of ecological receptors (USEPA, 2017b). Monitoring of sediment from Sabine Lake was not conducted during the five-year review period; however, it was reported in the review that an unknown quantity of offshore material was dredged in 2011 and was placed on-site (USEPA, 2017b). It should be noted that the dredging of offshore material in 2011 and its placement on the State Marine site was not related to the site remedy, and was not prohibited by the ROD (USEPA, 2017b). Following the 2011 dredging, offshore sediment samples, which also included sediments within and around the sunken barges from the dredged area were collected and evaluated to determine if offshore sediment in Sabine Lake posed an unacceptable risk to ecological receptors. Based on the 2011 sampling results, the evaluation found that the maximum concentrations of mercury, nickel, total PCBs and 4,4' -DDT exceeded their respective protective

concentration levels in offshore sediment. However, further evaluation concluded that those constituents in offshore sediment were not likely associated with the State Marine site and were unlikely to cause harm to aquatic life (USEPA, 2017b). The offshore sediment investigation area referenced in the second five-year review report (USEPA, 2017b) and associated with the State Marine site is located approximately 600 feet from the limits of the proposed alternatives, with the nearest sediment sample P-SD5-1 (from December 2011) being approximately 625 feet away. These offshore sediment investigation areas, as depicted in Figure 5-8, are located on the right descending side of the navigation channel (i.e., the river bottom and slope between the shoreline and the right descending toe of the navigation channel). Subsequently, the USEPA removed the site from the NPL in 2012 (USEPA, 2015c).

Based on the State Marine site's documented contamination and the history of waste management activities conducted at the site, the potential exists for encountering contaminated sediments in the vicinity of the site. Even though the State Marine Site ROD did not identify federal navigation dredging as a potential risk (USEPA, 2007), a Tier I evaluation as outlined in the Inland Testing Manual (USEPA/USACE, 1998) should be made during the PED phase to determine whether the dredged material is acceptable for placement at BU sites or whether more extensive evaluation (Tiers II, III and IV) may be needed.



Figure 5-8
State Marine of Port Arthur Superfund Site

6 Conclusions

This review has examined substantial work in applicable references (USACE, 2017; USACE, 2011), probed relevant databases (USEPA and TCEQ), identified the location of the proposed action and alternatives, and considered the design details of the proposed widening. This assessment identified known sources of contamination and incidents (i.e., spills and releases) with the potential to affect the project. This review also considered whether the release of contaminants was ongoing or had been effectively eliminated through remedial efforts.

The HTRW evaluation finds:

- The conditions at the Woodcrest site (Section 5.1), Bailey site (Section 5.3), and Maintech site (Section 5.4) are such that no additional investigations would be recommended. These sites present a lesser threat due to effective corrective actions and distance from the proposed widening improvements;
- There is no reason to believe there are new releases of contamination from the Star Lake Canal site (Section 5.2), Palmer site (Section 5.5), and the State Marine site (Section 5.6). Although these sites are physically separated from the areas for proposed channel widening by the existing federal navigation channel, there is a slight potential risk for encountering contaminated sediments from these sites and further evaluation during PED is recommended; and
- The review of the regulated facilities and current agency database reviews (USEPA and TCEQ) for events (i.e., spills and releases) do not identify any recognized environmental conditions that would affect project alternatives.

Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction.⁷ Therefore, sediment sampling and analyses will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. There will be no sediment sampling during the Feasibility Phase, because these samples may not reflect the conditions at the time of construction. A Tier I evaluation as outlined in the Inland Testing Manual (USEPA/USACE, 1998) should be made during the PED phase to determine whether the dredged material is acceptable for placement at BU sites or whether more extensive evaluation (Tiers II, III and IV) may be needed. In addition, HTRW evaluations of real estate to be acquired for the project will be performed during PED prior to acquisition. Overall, HTRW assessments of the project area performed during PED will determine the type and extent of HTRW contamination, if any, and how HTRW considerations will impact project design and implementation.

Because these evaluations would be completed in PED, the SNND has identified the risk of incurring areas of contaminated sediments during project execution within the Feasibility Study

⁷ The USEPA and USACE Inland Testing Manual (USEPA/USACE, 1998) states that the sediment testing data being relied upon to make disposal placement decisions should be re-evaluated every three years or with the frequency of the dredging cycle, whichever is longest. For the SNWW's inshore reaches proposed for widening, the dredging cycle is five years (USACE, 2023). The Galveston District relies upon the Regional Implementation Agreement (RIA) between the USEPA Region 6 and USACE New Orleans and Galveston Districts (USEPA/USACE, 2003) to inform the need for, and timing of, sediment testing. While the RIA is written specifically for offshore placement under the Ocean Dredged Material Disposal Program and the proposed widening in the TSP assumes upland confined placement adjacent to the areas being dredged, the 2003 RIA is the basis for the Galveston District policy.

Risk Register. Therein, Item ENV-11 acknowledges the risk of incurring "Contaminated Dredge Material" stating "*There are Superfund sites in the area, but the widening is being completed on the far side of the channel. Widening material is material that was originally dredged from the initial construction of the channel. Material is exempt from RCRA in Texas, but does need to follow CERCLA rules if contamination meets those levels.*"

Should sampling and analyses during PED identify any recognized environmental condition that required a response action, the development and execution of any federal, state, and/or locally required HTRW response action would be at 100 percent cost to the SNND (USACE, 1992). If areas of contaminated sediments ineligible for placement into the confined upland placement areas are identified, they would typically be removed by a mechanical (i.e., backhoe/bucket) dredge that collects contaminated sediments for placement in a hopper or container. If this was necessary, there are appropriate vendors to provide material transportation and disposal nearby.⁸

⁸ Vendors include CWM Lake Charles Management Facility (<https://www.wmsolutions.com/locations/details/id/176>) and Veolia Environmental Services, 7665 TX-73, Beaumont, TX 77705.

Table 6-1
Updated Summary of List of Priority HTRW Sites within Study Area

Site Name	Site ID	Constituents of Concern	Media Impacted	Status (as of 2011 FEIS)	Updated Status (as of January 2024)	Comments	Further Evaluation Recommended ?
Bailey Waste Disposal Site	512	Arsenic compounds, benzene, phenols, pyridenes, naphthalenes, and chlorinated hydrocarbons	Surface water, groundwater soils	Cleanup complete in 1998; Operation and Maintenance underway since 1999.	EPA deleted the Site from the NPL in 2007.	Bailey site is ~2,000 feet away from the edge of the proposed alternatives. The remedy included consolidating and stabilizing the on-site waste to prevent human contact and future migration. The FYR Site inspection indicated that the caps were generally in good condition and appeared effective in isolating the waste and preventing releases. It was determined in the December 1996 ROD Amendment that the 25-35 feet of very soft gray clay to silty clay underlying and surrounding the cap provides adequate containment against vertical and lateral migration of contaminated groundwater. Groundwater contamination was limited to the shallow aquifer at the Site. The 1988 ROD stated that the Remedial Investigation determined that the groundwater and surface water are not currently impacted by the Site.	No

Site Name	Site ID	Constituents of Concern	Media Impacted	Status (as of 2011 FEIS)	Updated Status (as of January 2024)	Comments	Further Evaluation Recommended ?
State Marine	203	PAHs, metals	Surface water	Evaluation and cleanup are underway, but the nature and extent of contamination and the risks posed to human health and the environment are unknown.	<p>Following cleanup, EPA took the site off the NPL in 2012. Site cleanup consisted of a removal action, or short-term cleanup, to address immediate threats to human health and the environment. The removal action in 2001 removed and disposed of aboveground storage tanks, oil pits, drums, and debris materials. Removal activities also included water treatment, oil/water separation, and stabilization and off-site disposal of sludge materials.</p> <p>Following the removal action, EPA selected "no further action" as the final remedy.</p>	<p>State Marine site property boundary is ~1000 feet away from the edge of the proposed alternatives. Offshore sediment investigation areas are ~600 feet and nearest sediment sample P-SD5-1 is ~625 feet away. Areas with the dock barges (sunken and/or floating) and sunken barges that were considered waste management areas during RI and included sediments within and around the barges are ~700 feet away from the edge of the proposed alternatives. From 1980 to 1983, direct discharge of barge contents to Sabine Lake were observed. Sediment sampling around barges in 1995 indicated presence of PAHs and metals. Oil seeps seen at the shoreline during 1995 field investigation (USEPA, 1999). Possible sediment contamination between stations SNC 119+00 to 121+500 and NRC 00+00 to 10+00. Based on the site's documented contamination and the history of waste management activities conducted at the site, the potential exists for encountering contaminated sediments in the vicinity of the site. Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction. Therefore, sediment sampling and analyses will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. There will be no sediment sampling during the Feasibility Phase, because these samples may not reflect the conditions at the time of construction.</p>	Yes

Site Name	Site ID	Constituents of Concern	Media Impacted	Status (as of 2011 FEIS)	Updated Status (as of January 2024)	Comments	Further Evaluation Recommended ?
Palmer Barge Lines	548	Aluminum, barium, chromium, cobalt, iron, lead, magnesium, nickel, zinc, pesticides, volatile organic compounds (VOCs), PAHs, pentachlorophenol (PCP), and benzene	Surface water	Evaluation and cleanup underway since 2000; the EPA is considering various remedial alternatives.	The site's long-term remedy, selected in 2005, included excavation and off-site disposal of 181 tons of contaminated soils, backfilling of excavated areas with clean soil, abandonment of five existing groundwater monitoring wells, sludge removal, decontamination and off-site disposal, and implementation of institutional controls. After cleanup, EPA took the site off the NPL in 2012.	Sediment sampling results indicated low levels of several PAHs. No pesticides, PCBs, or VOCs were detected in the sediment samples collected. Metals detected in the sediment samples included chromium, copper, lead, manganese, nickel, and vanadium. Barium and zinc results had more variation, and there were some detections of mercury. Organic carbon results ranged from 8,630 mg/kg to 16,300 mg/kg. Possible sediment contamination between stations NRC 00+00 to 20+00. Based on the site's documented contamination, and the history of site uses, the potential exists for encountering contaminated sediments in the vicinity of the site. Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction. Therefore, sediment sampling and analyses will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. There will be no sediment sampling during the Feasibility Phase, because these samples may not reflect the conditions at the time of construction.	Yes

Site Name	Site ID	Constituents of Concern	Media Impacted	Status (as of 2011 FEIS)	Updated Status (as of January 2024)	Comments	Further Evaluation Recommended ?
Star Lake Canal	471	Chromium, copper, PAHs, and PCBs	Surface water, sediment	Evaluation and cleanup underway since 2001, but the nature and extent of contamination and the risks posed to human health and the environment are unknown.	Currently, industrial discharges are treated at a wastewater treatment plant and then discharged in accordance with a Texas Pollutant Discharge Elimination System Permit. A 2013 Record of Decision (ROD) selected a remedy for the Site: a combination of impacted sediment removal/dewatering/off-site disposal, containment with soil/armored/composite caps, and monitored natural recovery (MNR). The remedial design was commenced in October of 2016 and is ongoing. The USEPA will produce an Explanation of Significant Differences (ESD) to document changes to some	<p>The Star Lake Canal site consists of contaminated surface water and sediments in the Star Lake Canal, adjoining Jefferson Canal, and Molasses Bayou (USEPA, 2006). The Jefferson Canal and the Star Lake Canal have served as industrial wastewater and stormwater outfalls since the late 1940s. Heavy metals, PCBs, and PAHs have been identified as having migrated or have the potential to migrate to Molasses Bayou, Star Lake Canal, the Neches River, and Sabine Lake. Pentachlorophenol (PCP) and toxaphene had been found in on-site areas in Jefferson Canal sediments (USEPA, 2006). The preliminary on-site area of concern lies outside the eastern and southern boundaries of PA 17. The potential exists for encountering contaminated sediments in the vicinity of the site. Analytical data characterizing the sediments to support dredged material placement and beneficial use decisions need to reflect conditions at the time of construction. Therefore, sediment sampling and analyses will be evaluated and conducted during the Preconstruction Engineering and Design (PED) phase of planning. There will be no sediment sampling during the Feasibility Phase, because these samples may not reflect the conditions at the time of construction.</p>	Yes

Site Name	Site ID	Constituents of Concern	Media Impacted	Status (as of 2011 FEIS)	Updated Status (as of January 2024)	Comments	Further Evaluation Recommended ?
					areas identified in the ROD. Remedial Design was approved in 2022.		
Main-tech International	410	PAHs	Groundwater soils	Cleanup completed in 2000; undergoing Operation and Maintenance.	July 12, 2006, the responsible party has completed the fifth year of post-closure operations and maintenance monitoring and has submitted a written request to have the site deleted from the Superfund registry. The request is being evaluated. In April 20, 2010, TCEQ conducted site visit.	The Maintech International site (the site) is located at 8300 Old Ferry Road in Port Arthur. The 10-acre site is approximately 0.25 miles northwest of the point where the Neches River empties into Sabine Lake. Prior to 1975, the property was used for wastewater disposal from a barge-cleaning facility. A bermed area was used as a pit for collected ballast and cleaning water from oil barges. In 1975, facilities were built to provide support for chemical cleaning and equipment hydroblasting services to area petrochemical plants and refineries. Included at the site were three wastewater collection ponds with a total capacity of about 2 million gallons. Activities at the site were halted in 1986, and all facilities have been out of service since then. No reports or other information available.	No

Site Name	Site ID	Constituents of Concern	Media Impacted	Status (as of 2011 FEIS)	Updated Status (as of January 2024)	Comments	Further Evaluation Recommended ?
Woodcrest Site	584	VOCs	Soil	Investigation underway.	No information was found on the TCEQ or EPA online database except for a site listing in the VCP List of Sites dated September 2023.	According to the VCP List of Sites dated September 2023 (the most recent available at the time of this writing) from the TCEQ website, the Woodcrest Site is part of the VCP program. The exact site location is unknown, but site is more than 500 feet away from the Neches River Channel. The site soil was contaminated with VOCs, and investigation was underway at the time of the 2011 FEIS. The current cleanup status of the site is complete and no active remediation exists on-site.	No

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