2.0 PROPOSED PROJECT AND ALTERNATIVES

This chapter describes the proposed project and project alternatives, as follows:

- proposed project, including:
  - overview,
  - project location and existing conditions at the proposed project site,
  - project components and detailed project elements,
  - project construction, and
  - associated operations and maintenance activities; and
- project alternatives, including:
  - the process through which project alternatives were identified,
  - alternatives that were considered and eliminated, and
  - alternatives that are carried forward for analysis in this Environmental Impact Report (EIR).

2.1 PROPOSED PROJECT OVERVIEW

WesPac Energy–Pittsburg LLC (WesPac) proposes to modernize and reactivate the existing oil storage and transfer facilities located at the NRG Energy, Inc. (NRG, formerly GenOn Delta, LLC) Pittsburg Generating Station. The proposed WesPac Energy–Pittsburg Terminal (Terminal) would be designed to receive crude oil and partially refined crude oil from trains, marine vessels, and pipelines, store oil in existing or new storage tanks, and then transfer oil to nearby refineries. For the delivery of crude oil and partially refined crude oil by train, a new Rail Transload Operations Facility (Rail Transload Facility) would be constructed on a 9.8-acre vacant rail yard, to be leased from BNSF Railway Company (BNSF). All products handled at the facility would be transported by rail, ship, barge, or pipeline; no products would be transported by truck as part of the proposed project. The proposed project would involve the repair, upgrade, and replacement of existing facilities and equipment to bring facilities into compliance with industry standards and with applicable regulatory requirements. The capital cost of the proposed project is estimated to be approximately $200 million for the marine terminal, storage terminal, Rail Transload Facility, and pipeline operations.

Crude oil (virgin crude oil) is oil that is minimally treated to reduce water content to merchantable grade, which is typically less than 3 percent water. Partially refined crude oil is oil that has been processed in an oil refinery by heating the oil and running it through a distillation tower. The specific partially refined crude oil products considered in the proposed project are commercially known as fuel oil, gas oil and vacuum gas oil. These are the products that remain after distillation where lighter products, such as gasoline components, have been removed. All 16 storage tanks within the proposed Terminal would be replaced, repaired, or retrofitted to be suitable for storing crude oil and gas oil (or vacuum gas oil). The only tanks that would be suitable for storing fuel oil are those tanks with heating capability, which include all six tanks in the East Tank Farm (Tanks 1, 2, 3, 4, 5, and 6) and two tanks in the South Tank Farm (Tanks 8 and 9).

The tank piping system would be designed to allow transfer of products from one tank to another. Tank transfers may be of the same product or may be the blending of two different products. When blending two products, both products would be crude oils (though perhaps different grades of crude oil); partially refined products would not be blended with crude oil or with other partially refined products.

The Terminal would operate with an average throughput of 242,000 barrels (BBLs)[1] of crude oil or partially refined crude oil per day, and would have a maximum capacity throughput of 375,000 BBLs per day. The estimated annual throughput for each tank in the Terminal would be:

- 2,078,000 BBLs of crude oil and/or partially refined crude oil per year for each 162,000-BBL tank (East Tank Farm, Tanks 1 through 6);
- 6,414,000 BBLs of crude oil and/or partially refined crude oil per year for each 500,000-BBL tank (South Tank Farm, Tanks 8, 9, 13, 15 and 16);
- 8,517,000 BBLs of crude oil/partially refined crude oil per year for 200,000-BBL Tanks 10, 11 and 12 (South Tank Farm);
- 18,250,000 BBLs of crude oil/partially refined crude oil per year for 200,000-BBL Tank 14 (South Tank Farm); and
- 600,000 BBLs of crude oil/partially refined crude oil per year for the 54,000-BBL Tank 17 (South Tank Farm).

The total annual throughput for the entire Terminal would be approximately 88,300,000 BBLs of crude oil and/or partially refined crude oil per year.

In accordance with federal, State, and local regulations, oil storage tanks in both the East Tank Farm and South Tank Farm are surrounded by secondary containment systems that can accommodate at least 110 percent of the contents of the largest tank within each containment area, plus an allowance for stormwater accumulation. In the East Tank Farm, each tank has a concrete wall enclosure capable of containing at least 110 percent of the capacity of the enclosed 162,000-

[1] One barrel is equal to 42 gallons.

BBL tank plus an allowance for stormwater accumulation. In the South Tank Farm, there is one large retention basin that can contain the full contents of three tanks plus allowance for stormwater accumulation.

2.2 PROJECT LOCATION

The proposed Terminal is located at 696 West 10th Street in the City of Pittsburg (City) in Contra Costa County (County),California, approximately 32 miles northeast of Oakland and along the shores of Suisun Bay (see Figure 2-1: Project Location Map). The main highway into the City is State Route 4. Suburbs generally lie to the south of State Route 4, and most of Pittsburg's industrial areas lie to the north of the highway.

The Terminal would consist of approximately 125 acres of land situated within the current NRG property/facility. The land and facilities for the project, including storage tanks and the dock, are expected to be purchased from NRG by WesPac. Following ownership transfer, the Terminal would be immediately adjacent to (south and east of) the remaining NRG facility (see Figure 2-2: Project Site Aerial). In addition, approximately 43 acres of submerged tidelands would be leased from the City of Pittsburg for the marine terminal portion of the facility in accordance with California State Senate Bill 551. The project is further bounded by Suisun Bay to the north, primarily single-family residences and several school sites to the east, industrial facilities with open space beyond to the west, and more industrial/heavy commercial facilities immediately south (with residential uses to the far south). Access to the site would be from the south, via West 10th Street. The onshore project areas are within the General Industrial land use zoning classification, as established by the City of Pittsburg Planning Department. Detailed information about land use is provided in Chapter 12.0: Land Use and Recreation.

The Rail Transload Facility would be located on a 9.8-acre vacant rail yard, to be leased from BNSF. The vacant property is located approximately 0.25 mile south of the Terminal, in between existing BNSF and Union Pacific Railroad (UPRR) rail lines, along the north side of North Parkside Drive and between Magnolia Court and Jimno Avenue. In addition, an approximately 9,000-foot long landing track would be constructed between BNSF and UPRR rail lines, to the north of North Parkside Drive, between Magnolia Court and the intersection of Summer Way and Seasons Drive. Proposed facility access would be via an existing private property to the east of the Rail Transload Facility.

Connection pipelines connecting the Rail Transload Facility (Rail Pipeline) and KLM third party common-carrier pipeline (KLM Pipeline connection) to and from the onshore storage terminal would run adjacent to one another, extending south from the Terminal's pipeline pump station (located near the facility's security guard booth) within the shoulder of the Terminal's access road. Connection pipelines would continue south, crossing West 10th Street, and extend into the proposed Rail Transload Facility yard, where the Rail Pipeline would terminate. Pipelines to and from the KLM common-carrier pipeline would continue south, extending across the Rail Transload Facility yard and North Parkside Drive, and finally terminate at the KLM Pipeline, near the intersection of North Parkside Drive and Maidenhair Street.

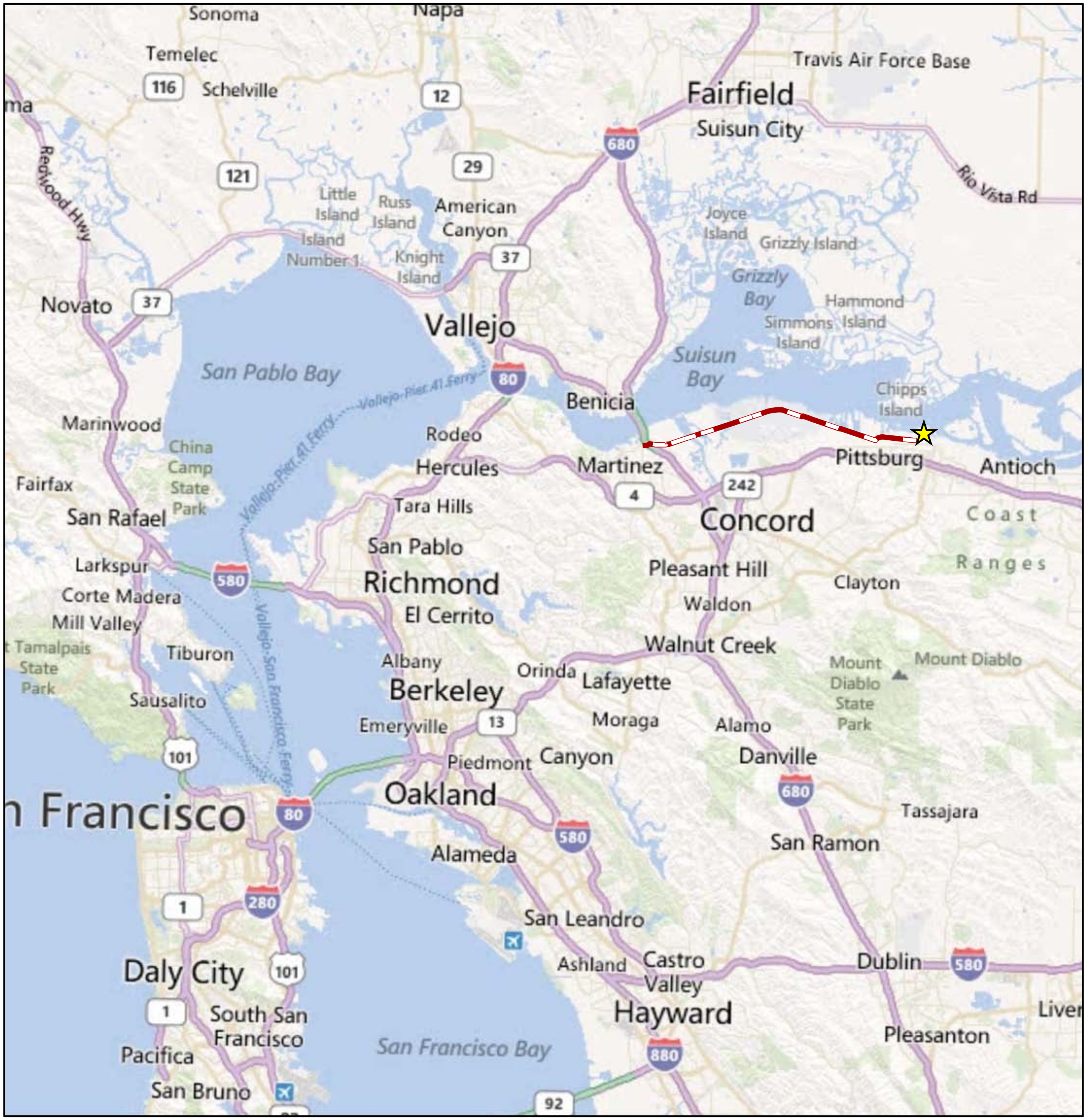
2.3 PROJECT COMPONENTS

The project consists of the modernization and reactivation of the following components at the NRG facility: (1) marine terminal; (2) onshore storage terminal, including both East and South Tank Farms; and (3) the existing San Pablo Bay Pipeline. In addition, the project consists of the construction and operation of new facilities, including: (1) Rail Transload Facility; (2) Rail Pipeline; (3) KLM Pipeline connection; and (4) new ancillary facilities, including an office and control building, warehouse, electrical substation, and others as described below.

2.3.1 Marine Terminal

The marine terminal was historically used to berth and moor vessels, and to support the required equipment to transfer product between the vessels and the onshore storage tanks. The original marine terminal was constructed in the 1950s and is predominantly comprised of timber structures. In the 1970s, the marine terminal was expanded to allow for a greater range of vessels to call. This expansion consisted primarily of concrete and steel structures. The existing marine terminal was placed into “caretaker status” in 2003 and is not currently in service. Between March and July 2011, most existing structures within the marine terminal (and storage terminal) were evaluated for compliance with Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS), Chapter 31F, Title 24, Part 2 of the California Code of Regulations (CCR). MOTEMS apply to all existing and new marine oil transfer and storage terminals in California, and include rigorous criteria for inspection, structural analysis and design, mooring and berthing, geotechnical considerations, and mechanical and electrical systems. Conformance to MOTEMS is regulated by the Marine Facilities Division of the California State Lands Commission (CSLC). MOTEMS inspection and design criteria include: dead loads (weight of permanent structures); live loads (non-environmental loads that are not permanent, such as vehicles); mooring loads (including loads from both the lines and breasting forces from the vessels onto the wharf); berthing loads (loads resulting from impacts from the vessels onto the fender system at the time of docking); geotechnical loads; seismic loads; and environmental loads, such as wind, wave, and current forces (including rising sea level and tides).

Figure 2-1 Project Location Map
City of Pittsburg
WesPac Pittsburg Enerrgy Infrastructure Project



Approximate Terminal Location

Existing San Pablo Bay Pipeline

N

1 inch = 6 miles

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0 5 10 mi

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CH X:\WesPac\2 Project Description\mxd\Figure 2-1 Project Location Map.mxd

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Figure 2-2
Project Site Aerial
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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6/11/2013

- Terminal Boundary
- Existing San Pablo Bay Pipeline
- Existing KLM Pipeline
- Proposed Pipeline from Rail Transload Facility
- Proposed KLM Pipeline Connection

N

1:12,000

1 inch = 1,000 feet

0 395 790 ft

Based on the results of MOTEMs evaluations, the following description provides a summary of both the existing condition of marine terminal components and what associated construction work is anticipated (e.g., repair, retrofit, or replacement). See Figure 2-3: Existing Marine Terminal Aerial for an aerial photograph detailing the existing equipment within the marine terminal, and see Figure 2-4: Proposed Marine Terminal Layout for a detailed drawing depicting the proposed marine terminal equipment.

2.3.1.1 Access Trestle

The existing access trestle is a pile-supported wood structure over the water. It provides vehicular and pedestrian access from the shore to the unloading platform. The access trestle currently consists of a series of three pile bents that support a roadway above and cantilevered dock pipelines along each side. The existing deck of the access trestle is supported by timber piles. The deck is approximately 650 feet long and extends perpendicularly from the shoreline northward toward the south side of the existing barge unloading platform in the deeper channel.

The existing access trestle (timber trestle) would be repaired as necessary to comply with MOTEMS for vehicular and pedestrian access. However, existing cantilevered dock pipelines on the east and west sides of the timber trestle would be removed, and new pipelines—including crude oil piping, flush product piping, fire water piping, potable water piping, vapor piping, stormwater piping, electrical conduit, and cable trays containing wiring (collectively called dock piping)—would be installed along a new pipeline trestle adjacent and parallel to the existing timber trestle.

<u>Pipeline Trestle</u>

A new pipeline trestle, approximately 650 feet long and 25 feet wide, would be installed approximately 7 to 8 feet upstream of, and parallel to the existing timber trestle. The pipeline trestle would extend from the rear of the unloading platform back to the shut-off valves onshore. The cap width and bent spacing would be controlled by the number of pipes and the allowable span of these pipes. In addition to supporting piping, the cap beams would also need to be sized to support an access walkway as well as a cable tray for cable and wiring. The size of the cable tray would be dictated by the amount and size of cable and wiring required for support. The walkway would be approximately 3 feet wide. Along the pipeline trestle, a new 650-foot-long, 30-inch-diameter dock pipeline would be installed for the transport of crude oil. An additional 650-foot-long, 12-inch-diameter dock pipeline would be installed for the transport of crude oil and flush product. Isolation valves, isolating the marine terminal piping from the onshore storage terminal piping, would be installed at the main unloading arm platform and onshore at the base of the dock. The cap elevation for the new pipelines would be installed approximately +10 feet mean lower low water level (MLLW)[2] to +9 feet MLLW. Other existing dock pipelines supported by the pipeline trestle, such as pipes for transporting potable water, firewater, tanker cargo vapors, stormwater, and electrical conduit would also be installed.

Table 2-1 summarizes components related to the new 30-inch-diameter dock pipeline proposed to be installed along the pipeline trestle for transportation of crude oil.

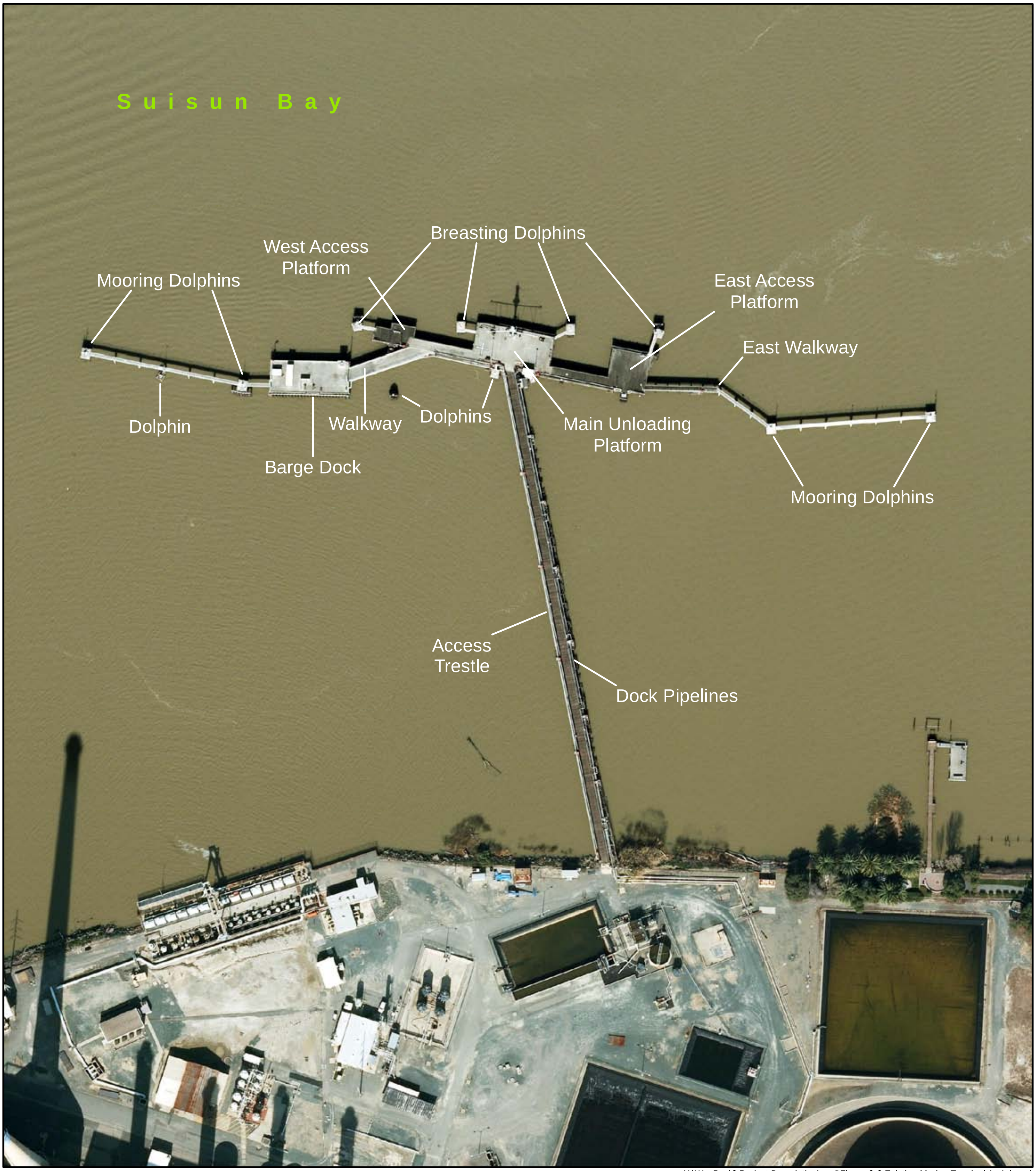
2.3.1.2 Main Unloading Platform

The existing main unloading platform is approximately 100 feet by 50 feet, supported on timber plumb and batter piles. The existing platform deck is composed of timber decking and concrete paving. When active, the unloading arm platform serviced barges and larger vessels that called on the north side of the marine terminal. The main unloading platform supported equipment and piping used for the loading and unloading of fuel oil from vessels.

It is anticipated that the existing platform would be replaced with a new unloading platform, approximately 100 feet by 45 feet, in approximately the same location as the existing platform. The existing hose mast system on the unloading platform, previously used for offloading fuel oil from barges and ships, would be replaced with two new 16-inch-diameter, 120-foot-long hydraulically operated marine loading arms.

The new ‘loading arms’ refers to the piping connections between the ships and the marine terminal piping that transports the crude oil between the ship and the Terminal. The loading arms would be used for both loading and unloading the vessel and they would consist of a system of rigid piping and swivel joints to provide a solid connection system with flexibility. The loading arms, compared with the existing hose connections, offer significant improvement in the transfer of liquids between vessel and shore because they provide easier and more ergonomic operation, give longer service life, and permit connections to the ship without spillage of product. The loading arms are maneuvered into place by electronic hand controls and they would be equipped with environmental fail safes (such as hydraulically operated quick-release connections) to assist in secure connections, allow for quick-release (in case of emergency), and to protect from spills. They would also accommodate any movement of the ship from the dynamics of changing draft, changing tide, wind or other factors during the transfer operation, without human intervention.

[2] Tides in the San Francisco Bay area are mixed. Usually two cycles of high and low tides, each cycle characterized by varying height, occur daily. Occasionally, the tidal cycle will become diurnal (only one cycle of tide in a day). Depths in the Bay are based on Mean Lower Low Water Level, which is the average daily low tide whereby the lowest low tide is averaged.



X:\WesPac\2 Project Description\mxd\Figure 2-3 Existing Marine Terminal Aerial.mxd

Figure 2-3
Existing Marine Terminal Aerial
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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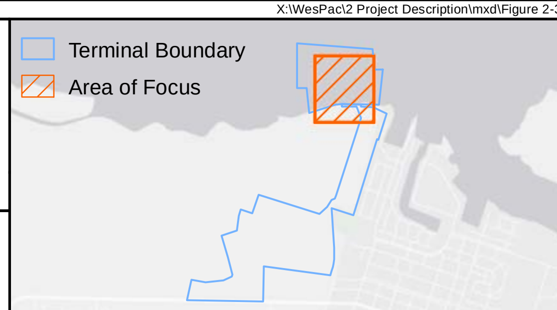

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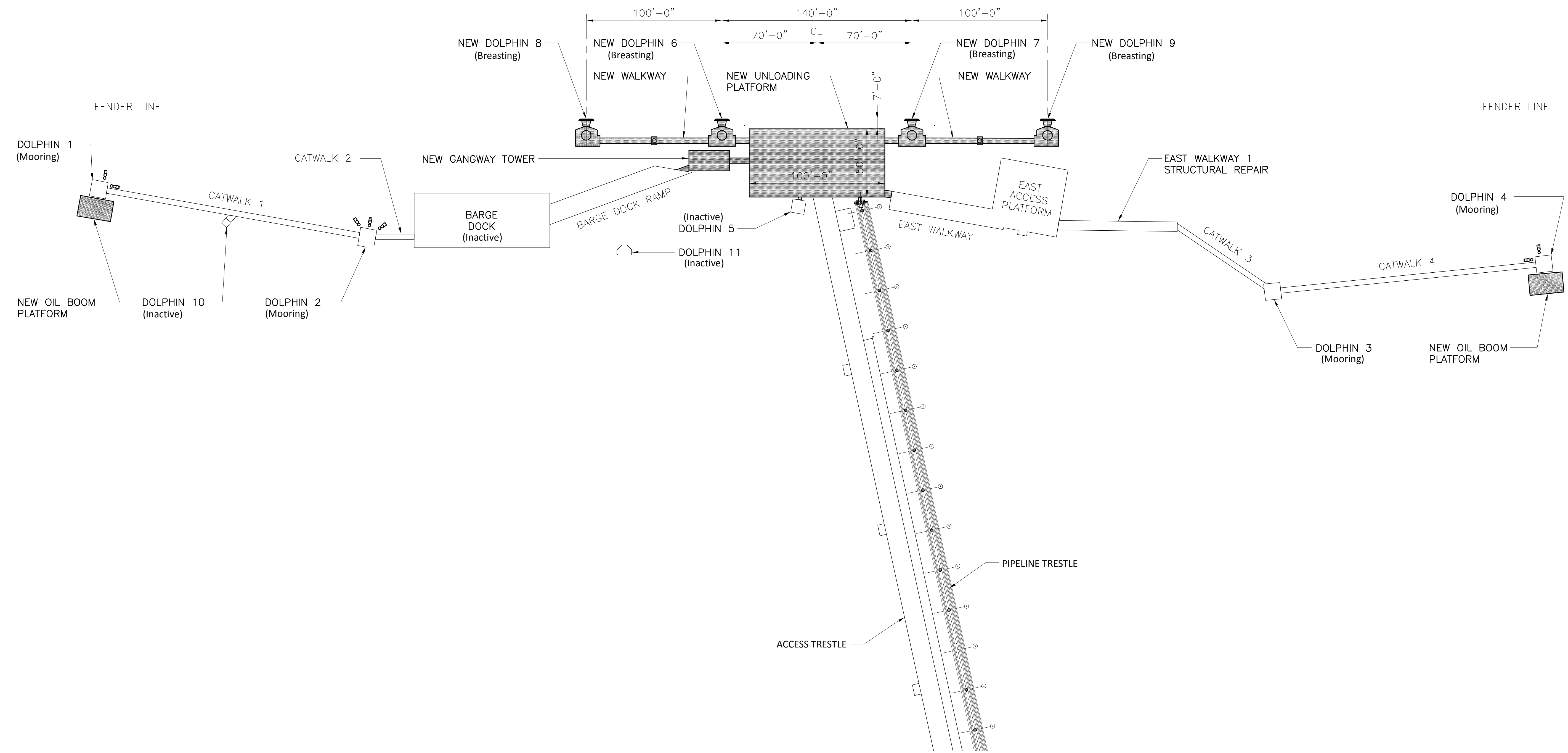
1:2,000

1 inch = 167 feet

0 70 140 ft

Preliminary and subject to change based on final engineering and other factors.



X:\WesPac\2 Project Description\mxd\Figure 2-4 Proposed Marine Terminal Layout.mxd

Figure 2-4
Proposed Marine Terminal Layout
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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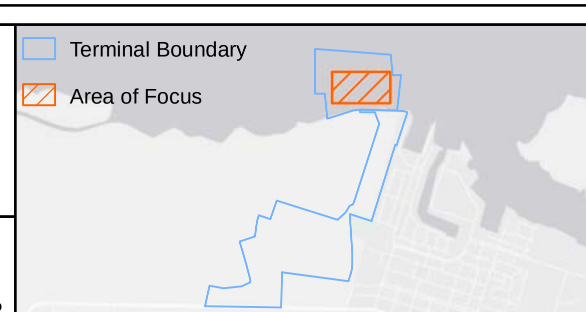


N

1:940

1 inch = 78 feet

0 50 100 ft

Table 2-1: Detailed Marine Terminal to Storage Terminal Pipeline Connection Components

Detail	Pipeline Connection
Year constructed/installed	New (proposed project)
Pipeline connection diameter	30 inches
Pipeline connection thickness	0.5 inch
Operating pressure	285 pounds per square inch
Length of pipeline connection	650 feet (0.12 mile)
Operating temperature	Typical ambient maximum 140 degrees Fahrenheit
Operating flow rate	Ranging from approximately 18,000 to 45,000 barrels per hour(dependent on product viscosity and tank location)
Pipeline connection coating	Painted
Supervisory Control And Data Acquisition (SCADA) system	Yes
Pipeline connection type	Carbon steel, electric resistance weld, or double submerged arc weld
Type of product transported	Virgin and partially refined crude oil
Isolation valves	At main unloading arm platform and onshore, approximately 650 feet apart

To provide additional fire protection to the berth, two new fire monitors would be installed on the new unloading platform.

Gangway Tower

Construction of a new gangway tower, approximately 30 feet by 15 feet, is proposed to provide access for boarding and disembarking safely between the berth and vessels. The new gangway tower would be located on a small platform westerly adjacent to the unloading platform. The tower would be sized to accommodate vessel deck elevation ranging from +22 feet MLLW to +61 feet MLLW. The location of the tower would be downstream of the unloading platform. The offset from the fender line would be dictated by the tower reach.

2.3.1.3 Barge Dock

The existing barge dock was constructed in the 1970s and is supported by prestressed, precast concrete piles. When active, the barge dock serviced smaller barges that called on the south side of the marine terminal, and was used to support equipment and piping used for the loading and unloading of crude oil from vessels. The existing deck is composed of concrete.

The existing barge dock is not planned to be returned to operation as part of the scope of this project; therefore, no construction is anticipated on this portion of the existing facility. The existing barge unloading platform has not been assessed for compliance with MOTEMS; should it be returned to operation in the future, the dock would need further evaluation to ensure appropriate compliance. The existing equipment would be left in place, but would not be utilized by operating staff for any function. Any future proposed barge loading and/or unloading from this dock would be treated as a separate project and equipment would be assessed for MOTEMS compliance as part of that project.

Three existing barge berth dolphins (dolphins 5, 10, and 11, refer to Figure 2-4) are also located near the barge dock, and were previously used to guide and secure ships. These dolphins are also not planned to be returned to operation as part of the scope of the project, and, therefore, no construction is anticipated on dolphins 5, 10, and 11.

2.3.1.4 Breasting Dolphins

Dolphins are discrete structures designed primarily to accommodate the lateral forces associated with vessel berthing and mooring, and are typically supported by piles founded in the soils. The primary function of breasting dolphins is to absorb the impact from the berthing vessel and to resist breasting forces while the vessel is moored at the terminals. Breasting dolphins also are often equipped with mooring hardware for spring lines. Dolphins are typically installed when either the wharf or pier is too small to provide adequate support for berthing vessels or when the vessel loads are desired to be isolated from the wharf or pier. Breasting dolphins are designed to carry the lateral loads during vessel impact, transferred through a fender system that absorbs the energy generated by impact. The existing marine terminal is currently equipped with four breasting dolphins (dolphins 6, 7, 8, and 9, refer to Figure 2-4). The existing four breasting dolphins, approximately 10 feet by 10 feet, are comprised of concrete decks, multiple steel piles, cell fenders, fender panels, and restraint chains. These dolphins are also equipped with spring line mooring points. The existing dolphin deck elevation is approximately +15 feet MLLW.

It is anticipated that all four breasting dolphins would be replaced, one for one, with new breasting dolphins. The exterior breasting dolphins (dolphins 8 and 9) would be offset by 170 feet from the center of the unloading arms. This distance is controlled by the overall length of the largest ship and the location of flat sides of smaller vessels. The interior dolphins (dolphins 6 and 7) would be offset by 70 feet from the center of the unloading arms. This offset would allow barges with lengths of approximately 200 feet or greater to call at the marine terminal. Locating the dolphins at this offset provides protection to the unloading platform.

The fender line heading and location would remain the same as the existing fender line. The elevation of the breasting dolphins, location of the fender, and extents of the fender panel are controlled by water level, hull pressure, and minimum freeboard of barges. The proposed deck elevation of the new dolphins is +16 feet MLLW. The plan area size of the dolphins required is based upon the size of the mooring hardware and the necessary access around the mooring hardware. Breasting dolphins would be approximately 14 feet by 16 feet and would be supported by a single large (84-inch) diameter steel pile (whereas the existing dolphins are currently supported by multiple smaller-diameter steel piles). New breasting dolphins would be comprised of concrete decks, cell fenders, fender panels, and restraint chains, similar to the existing breasting dolphins.

2.3.1.5 Mooring Dolphins

Mooring dolphins are structures that support a vessel's mooring lines. They are typically supported by piles. There are four primary mooring dolphins at the existing marine terminal (dolphins 1, 2, 3, and 4, refer to Figures 2-3 and 2-4). These were built in the 1970s and consist of steel piles supporting a concrete deck. Each mooring dolphin is equipped with multiple quick-release hooks. Vessels connect breasting, bow, and stern lines to these dolphins. The existing mooring dolphins are located approximately 100 feet behind the fender line.

It is anticipated that all four mooring dolphins would be retrofitted for compliance with MOTEMS. The existing piles on all four mooring dolphins would be wrapped with a Stac Splash Pro System, and three of the retrofitted mooring dolphins would be strengthened by the installation of extra 24-inch steel piles for additional support. The locations, elevations, and deck plan areas of all of the mooring dolphins would remain approximately the same.

2.3.1.6 Walkways and Access Platforms

There are two existing access platforms adjacent to the main unloading platform: The east access platform and the west access platform (refer to Figure 2-3). The west access platform would be demolished to accommodate new structures (e.g., gangway tower) and the east access platform would remain in place and would be repaired as necessary. Other existing timber walkways provide pedestrian access between the unloading platform and existing access platforms. Existing concrete catwalks provide pedestrian access between the mooring dolphins.

It is anticipated that existing walkways, catwalks, and access platforms would require minor structural repairs to meet MOTEMS. In addition, new walkways would be installed between breasting dolphins. Concrete walkway landings on steel monopiles would support these walkways.

Two additional platforms (oil boom platforms) would be installed to provide storage for spill boom reels. One would be located upstream of the main unloading dock (at the eastern end of the marine terminal) and the other would be located downstream of the main unloading dock (at the western end of the marine terminal) (refer to Figure 2-4). The oil boom platforms would be approximately 15 feet by 28 feet and would consist of precast concrete decks supported by a single steel pipe pile. Each platform would store approximately 1,800 feet of spill boom, for a total of 3,600 feet. The elevation of the platforms would match the adjacent existing mooring dolphins.

2.3.2 Storage Terminal

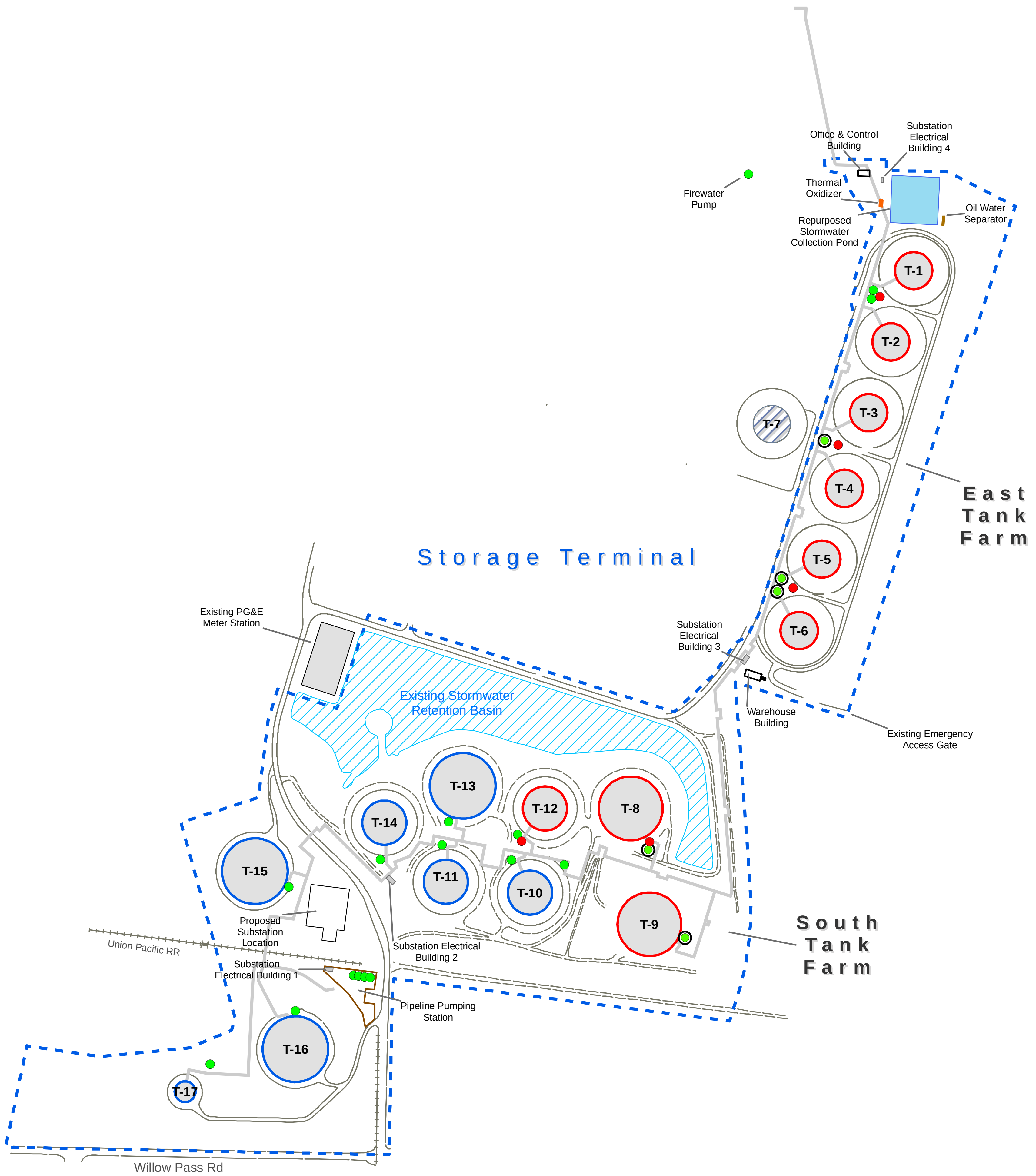
Onshore storage terminal piping would extend from the marine terminal to a total of 16 existing storage tanks—six within the East Tank Farm and 10 within the South Tank Farm (refer to Figure 2-2 and see Figure 2-5: Proposed Storage Terminal Layout).

2.3.2.1 Onshore Storage Terminal Crude Oil Pipelines

Newly installed dock pipelines (30-inch-diameter dock pipeline for the transport of crude oil and 12-inch-diameter dock pipeline for the transport of crude oil and flush-product) extending along the pipeline trestle from the berth would terminate within the East Tank Farm (between Tanks 1 and 2 at the first pump and heater). From there, two existing header lines (one 20-inch-diameter header line and one 12-inch-diameter header line) would transport product south through the storage terminal (within both the East and South tank farms) and to outgoing connecting pipelines (see Figure 2-6: Onshore Storage Terminal Crude Oil Pipelines). One additional 30-inch-diameter header line would be installed parallel to the two existing pipelines for a total of three header lines that would be utilized to transport product throughout the storage terminal. Existing header lines would be repaired, retrofitted, or replaced as necessary to safely operate under the design operating conditions. Isolation valves would be installed between the dock pipelines and the new and existing header lines. Multiple header lines may be used simultaneously for different purposes (e.g., one header line may be used to transport oil from a berthed vessel to a particular storage tank while another header pipeline is being used to transport oil from a different storage tank to one of the two outgoing pipelines).

New tank fill/suction lines would be installed between the header lines and each storage tank (20-inch-diameter tank fill/suction lines at Tanks 1 through 16 and 12-inch-diameter tank fill/suction line at Tank 17).Isolation valves would be installed at the connection between the header line and the tank fill/suction line and at the base of the tanks as shown on Figure 2-6. Replaced tank pumps and heaters would be located along the onshore storage terminal pipelines, as shown on Figure 2-5. Between Tanks 14 and 15 the new 30-inch-diameter header line would terminate but would continue as a 20-inch-diameter header line, and the existing 20-inch-diameter header line would terminate but would continue as a 16-inch-diameter header line. Additional header line isolation valves would also be installed at this location. The 20-inch-, 16-inch- and 12-inch-diameter header

Preliminary and subject to change based on final engineering and other factors.



* Pumps with proposed noise barrier walls as described in Appendix L: WesPac Energy Infrastructure Project, Noise Assessment Report, and Chapter 13.0: Noise and Vibration.

X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-5 Proposed Storage Terminal Layout.mxd

Figure 2-5
Proposed Storage Terminal Layout
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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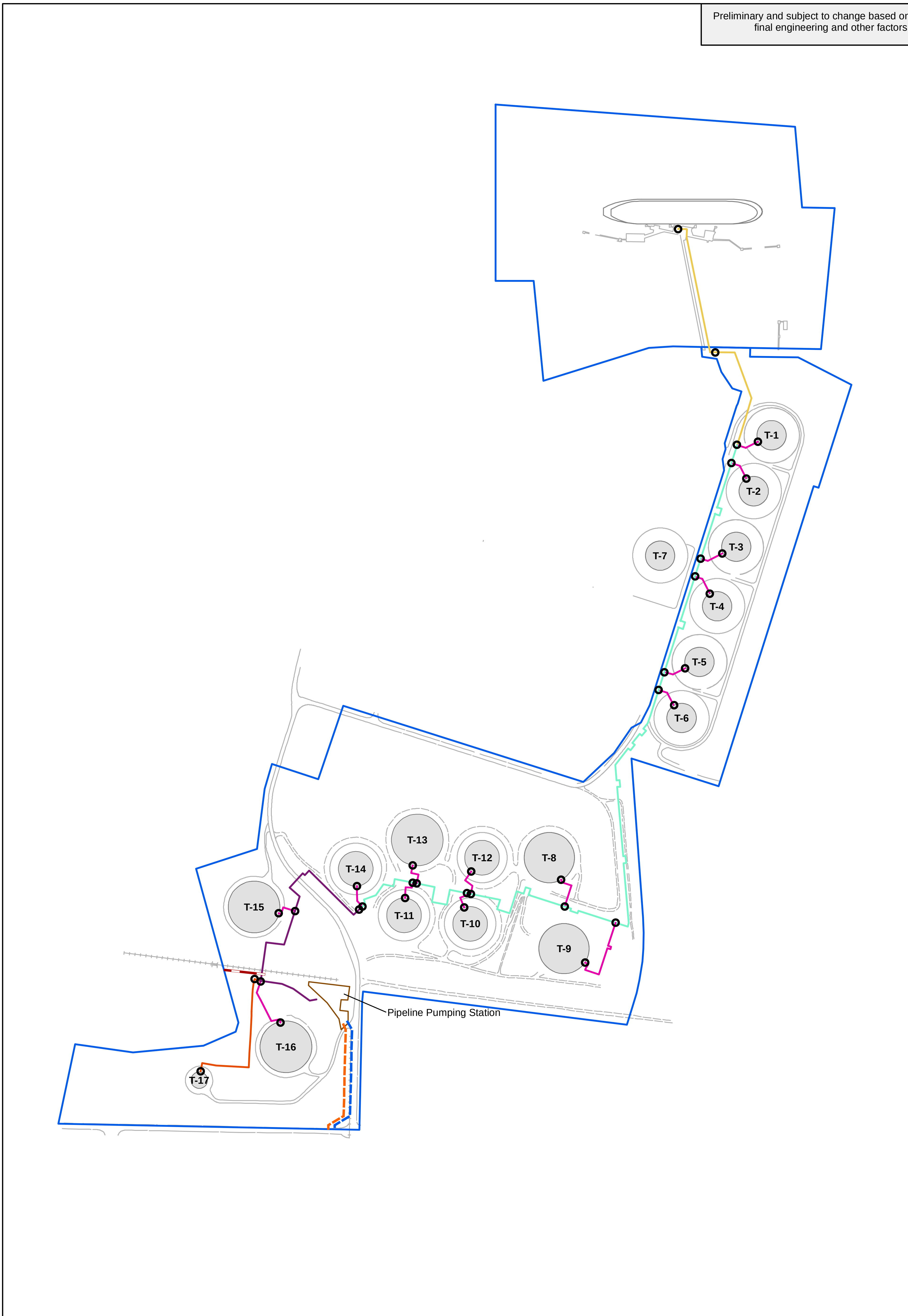
- Pump
- Pump with Noise Barrier Wall*
- Heater
- Onshore Storage Terminal Pipelines
- Crude Oil Tank
- Crude Oil Tank with Heating Potential
- Existing GenOn Tank
- Terminal Boundary

1:6,000

1 inch = 500 feet

0 250 500 ft



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-6 Onshore Storage Terminal Crude Oil Pipelines.mxd

Figure 2-6
Onshore Storage Terminal Crude Oil Pipelines
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

TRC

6/19/2013

- Terminal Boundary
- 30" and 12" Dock Lines
- 30", 20", and 12" Header Lines
- 20", 16", and 12" Header Lines
- 20" Tank Fill/Suction Line
- 12" Tank Fill/Suction Line
- Existing San Pablo Bay Pipeline
- Proposed Pipeline from Rail Transload Facility
- Proposed KLM Pipeline Connection
- Isolation Valve

N

1:6,000

1 inch = 500 feet

0 250 500 ft

lines would continue to the pipeline pump station in the South Tank Farm, where they would terminate. The pipeline pump station would contain other onshore pipeline components, including: an electrical building (10 feet wide by 20 feet long), a valve manifold to access the existing San Pablo Bay and KLM common-carrier pipelines, shipping pumps, oil quantity measurement meters, drain sumps, and pig traps. Onshore storage terminal pipeline characteristics and operational components are summarized in Table 2-2.

2.3.2.2 East Tank Farm

The existing East Tank Farm is approximately 29 acres and includes six 162,000-barrel cone-roof storage tanks (Tanks 1 through 6). Originally built in 1953, Tanks 1 through 6 would be upgraded with a new internal floating roof installed within each tank. The existing fixed cone exterior roofs would remain. The internal floating roofs would float on the liquid stored in the tank, with the objective to minimize or eliminate oil vapors above the liquid. New tank bottoms featuring secondary containment and leak-detection systems would also be installed. In addition to the tanks, the proposed East Tank Farm would include upgrades or replacement to ancillary equipment, such as pumps, heaters, manifolds, a thermal oxidizer, firewater pumps, and a stormwater collection pond and oil water separator (OWS). Storage tanks in the East Tank Farm would be suitable for storing virgin crude oil, gas oil (or vacuum gas oil),and fuel oil as all six tanks would have heating capabilities.

<u>New Buildings</u>

The East Tank Farm would also include the installation of a new office and control building equipped with remote monitoring equipment, meeting room, two or three offices, personnel change room, lavatory, and kitchen. Surrounding the office and control building, improvements would be made to accommodate seven employee parking spaces and a trash enclosure. A new warehouse building would also be constructed to store spare parts and other materials. The office and control building would be located west of the repurposed stormwater collection pond, and the warehouse building would be located southwest of Tank 6 (refer to Figure 2-5).Construction details for the warehouse building and new office and control building are provided in Section 2.4.2.7. Two electrical (modular) buildings would also be placed on site (refer to Substation Electrical Buildings 3 and 4 shown on Figure 2-5).Connections to local utilities would be required for electricity, potable water, wastewater, and natural gas.

Proposed project components within the East Tank Farm are summarized in Table 2-3.

Table 2-2: Onshore Storage Characteristics and Operational Components

Characteristic or Operational Component	Onshore Storage Terminal Pipeline
Year constructed	Some segments constructed as early as 1973, and some segments new
Pipeline connection diameter	Range from 12 to 30 inches
Pipeline connection thickness	0.375 inch
Maximum operating pressure	285 pounds per square inch
Length of pipeline	0.025 to 0.5 mile
Operating temperature	Typical Ambient (Maximum 140 degrees Fahrenheit)
Operating flow rate	When transferring through the San Pablo Bay Pipeline, ranging from approximately 6,800 to 11,000 barrels (BBLs) per hour; when transferring through the KLM Pipeline connection, ranging from approximately 3,300 to 5,700 BBLs per hour; when transferring through the Rail Pipeline, ranging from approximately 1,500 to 11,000 BBLs per hour
Pipeline connection coating	Fusion-bonded epoxy
Cathode protection system in place	Yes
Supervisory Control And Data Acquisition (SCADA) system	Yes
Pipeline connection type	Carbon Steel, electric resistance weld
Type of crude oil transported	Light (e.g., virgin crude oil and gas oil) and heavy (e.g., fuel oil)
Isolation valves	Header lines contain isolation valves at three locations; isolation valves also located at each connection between header lines and tank suction/fill lines and at the base of tanks (refer to Figure 2-6)

Table 2-3: Proposed East Tank Farm Components

Component	Description
Tanks	Six existing 162,000-barrel cone-roof crude oil tanks retrofitted with internal floating roofs and new tank bottoms
Marine vapor handling	Marine terminal vapor blower and thermal oxidizer
Pumping equipment	Crude oil transfer pumps, recirculation pumps, and sump pumps
Buildings	Office and control building, warehouse building, and two electrical control (modular) buildings
Firefighting system	Existing fire-water systems would be reviewed for compliance with National Fire Protection Association and county/city fire standards and upgraded as necessary
Electrical substation	From South Tank Farm
Electrical service line	From South Tank Farm
Parking	Seven spaces located at the office and control building
Site security	Security guards, lighting, and surveillance cameras; security perimeter fencing shared with NRG
Site lighting	Existing lighting and additional as required for safe operation, in accordance with City of Pittsburg building codes
Stormwater system	Sumps, pumps, piping, and surface impoundment; see Section 2.3.5 and forthcoming Stormwater Management Plan
Heating equipment	Natural gas-fired heaters

2.3.2.3 South Tank Farm

The South Tank Farm consists of nine existing 500,000-BBL tanks and one existing 54,000-BBL nominal-capacity tank situated over an approximately 96-acre area. As with the East Tank Farm, storage tanks would be used for temporary storage and transfer of crude oil and partially refined crude oil. However, as discussed in Section 2.1, while all 16 storage tanks (located within both the East Tank Farm and South Tank Farm) would be replaced, repaired and/or retrofitted to be suitable for storing virgin crude oil and gas oil (or vacuum gas oil), only Tanks 8 and 9 would have heating capability, and therefore, would be suitable for storing fuel oil.

The project proposes to demolish four existing 500,000-BBL tanks (three of which are currently equipped with external floating roofs [Tanks 10, 11, and 14] and one of which has a cone-roof [Tank 12]) and replace them with four new 200,000–BBL tanks equipped with internal floating roof tanks. An internal floating roof has a fixed roof constructed outside the tank above an internal floating roof. An internal floating roof minimizes wind blowing over the roof thereby reducing potential for air emissions. The remaining five existing 500,000-BBL tanks (Tanks 8, 9, 13, 15, and 16) would be upgraded to current industry and regulatory standards and would have retrofitted internal floating roofs installed. New bottoms would be installed in the existing 500,000-BBL tanks and would feature secondary containment and leak-detection systems. New 200,000-BBL tanks would also be equipped with secondary containment and leak-detection systems. The 54,000-BBL tank (Tank 17) is already equipped with an external floating roof, double bottom with secondary containment, and leak detection system. An external floating roof is a floating roof with an open top (i.e., there is no fixed roof above it). The existing external floating roof would be refurbished to meet current industry and regulatory standards. In addition to the tanks, the South Tank Farm would include upgrades or replacement of ancillary equipment such as pumps, manifolds, heaters, electrical equipment, stormwater retention basin (see Section 2.3.5) ,and pipeline pump station (see Section 2.3.4). In addition, two electrical (modular) buildings would be included on-site (refer to substation electrical buildings 1 and 2, shown on Figure 2-5).

Proposed project components within the South Tank Farm are summarized in Table 2-4 and proposed storage tank details are included in Table 2-5.

Table 2-4: Proposed South Tank Farm Components

Component	Description
Tanks	• Five existing 500,000-barrel (BBL) cone-roof crude oil tanks retrofitted with internal floating roofs and new tank bottoms (Tanks 8, 9, 13, 15, and 16) • Three existing 500,000-BBL external floating roof crude oil tanks demolished and replaced with 200,000-BBL internal floating roof tanks (Tanks 10, 11, and 14) • One existing 500,000-barrel (BBL) cone-roof crude oil tank demolished and replaced with a new 200,000-BBL internal floating roof tank (Tank 12) • One 54,000-BBL external floating roof tank refurbished (new bottom with secondary containment and leak detection system previously installed in 1992) (Tank 17)
Pumping equipment	Crude oil transfer pumps, mixing pumps, and sump pumps
Buildings	Two electrical control (modular) buildings
Fire-fighting system	Existing firewater systems would be reviewed for compliance with National Fire Protection Association and county/city fire standards and upgraded as necessary
Electrical substation	WesPac substation to provide electrical power to the storage terminal
Electrical service line	From Pacific Gas and Electric Company
Sanitary sewer connection	City of Pittsburg
Site security	Security guards, lighting, and surveillance cameras; security perimeter fencing shared with NRG
Site lighting	Existing lighting and additional as required for safe operation, in accordance with City of Pittsburg building codes
Stormwater system	Sumps, pumps, piping, and surface impoundment; see Section 2.3.5 and forthcoming Stormwater Management Plan
Heating equipment	Natural gas-fired heaters

Table 2-5: South Tank Farm Storage Information

Tank No.	Nominal Capacity (barrels)	Year Built	Proposed Roof Type
8	500,000	1972	Internal floating roof
9	500,000	1974	Internal floating roof
10	200,000	1973	Internal floating roof
11	200,000	1973	Internal floating roof
12	200,000	1974	Internal floating roof
13	500,000	1973	Internal floating roof
14	200,000	1973	Internal floating roof
15	500,000	1974	Internal floating roof
16	500,000	1974	Internal floating roof
17	54,000	1975	External floating roof

2.3.2.4 Electrical Substation

A one bank 115/4.16- or 66/4.16-kilovolt (kV) distribution substation would be constructed within the South Tank Farm to provide electrical service to the Terminal. Electric service would be provided by Pacific Gas and Electric Company (PG&E), which provides natural gas and electricity to the project area and a 70,000-square-mile service area in northern and central California. While electric service would be provided by PG&E, the substation itself would be constructed, owned, and operated by WesPac.

The permanent footprint of the substation (i.e., fenced-in areas) would measure approximately 170 feet by 240 feet (approximately 1 acre). The substation would be located within the South Tank Farm immediately east of Tank 15, just north of the Union Pacific Railroad and west of the main access road within the Terminal facility[3]. The location is relatively flat and previously graded, and would not require additional grading or slope stabilization efforts.

The proposed substation layout is provided on Figure 2-7: Proposed 66 kV or 115 kV Substation Conceptual Layout and a corresponding profile view of the substation is provided on Figure 2-8: Proposed 66 kV or 115 kV Substation Conceptual Profile. The major equipment required for the substation installation would include: steel bus support racks, high-voltage circuit breakers, a three-phase 115/4.16- or 66/4.16-kV power transformer (rated for 21 megavolt amperes and 8 percent impedance), isolation switches, control cabinet with 125-volt battery system, an approximate 5-kV outdoor switchgear enclosure with switchgears and metering, and an approximately 30- to 50-foot-tall dead-end structure for connecting to the power line. The expected maximum load is approximately 16 megawatts at 90 percent power factor.

Four substation electrical buildings (substation electrical buildings 1, 2, 3, and 4) would be installed within the storage terminal for related substation electric equipment, including disconnecting switches, neutral grounding reactors, instrument transformers, protective relaying, metering and control system, and electric grounding system equipment (refer to Figure 2-5). Substation electrical building 1 is located to the north of Tank 16; substation electrical building 2 is located south of Tank 16; substation electrical building 3 is located southwest of Tank 6, and substation electrical building 4 is located northwest of Tank 1 (refer to Figure 2-5). Equipment footings and pads would be impervious and would account for approximately 1,000 square feet. Substation buildings would be raised off the ground with a pervious area underneath, and the remaining substation area would consist of pervious, graded rock. An aboveground conduit system would be installed throughout the Terminal, following the same path as the onshore storage terminal piping, where feasible, to connect the main 115/4.16- or 66/4.16- kV

[3] The location and orientation of the substation is subject to change based on the interconnection to Pacific Gas and Electric Company power lines, final engineering, and other factors.

substation to associated electrical equipment and relay power to different portions of the facility.

The tallest piece of equipment within the substation would be an approximate 30-foot-tall dead-end structure that supports the looped line. The switchgear enclosure is used to house sensitive recording and communication equipment that require weather protection. The enclosure would also house the controls and relays for the lines and circuit breakers. A chain-link fence would border the substation footprint for security purposes. Double-swing entry and exit gates would allow access into the substation. Security lighting for the substation arrangement would consist of either lamps mounted on structures and equipment or free-standing light poles within the substation. Lighting fixtures would be located and designed to avoid casting light or glare toward off-site locations, in accordance with the requirements of the City of Pittsburg Municipal Code (PMC) section 18.82.030.

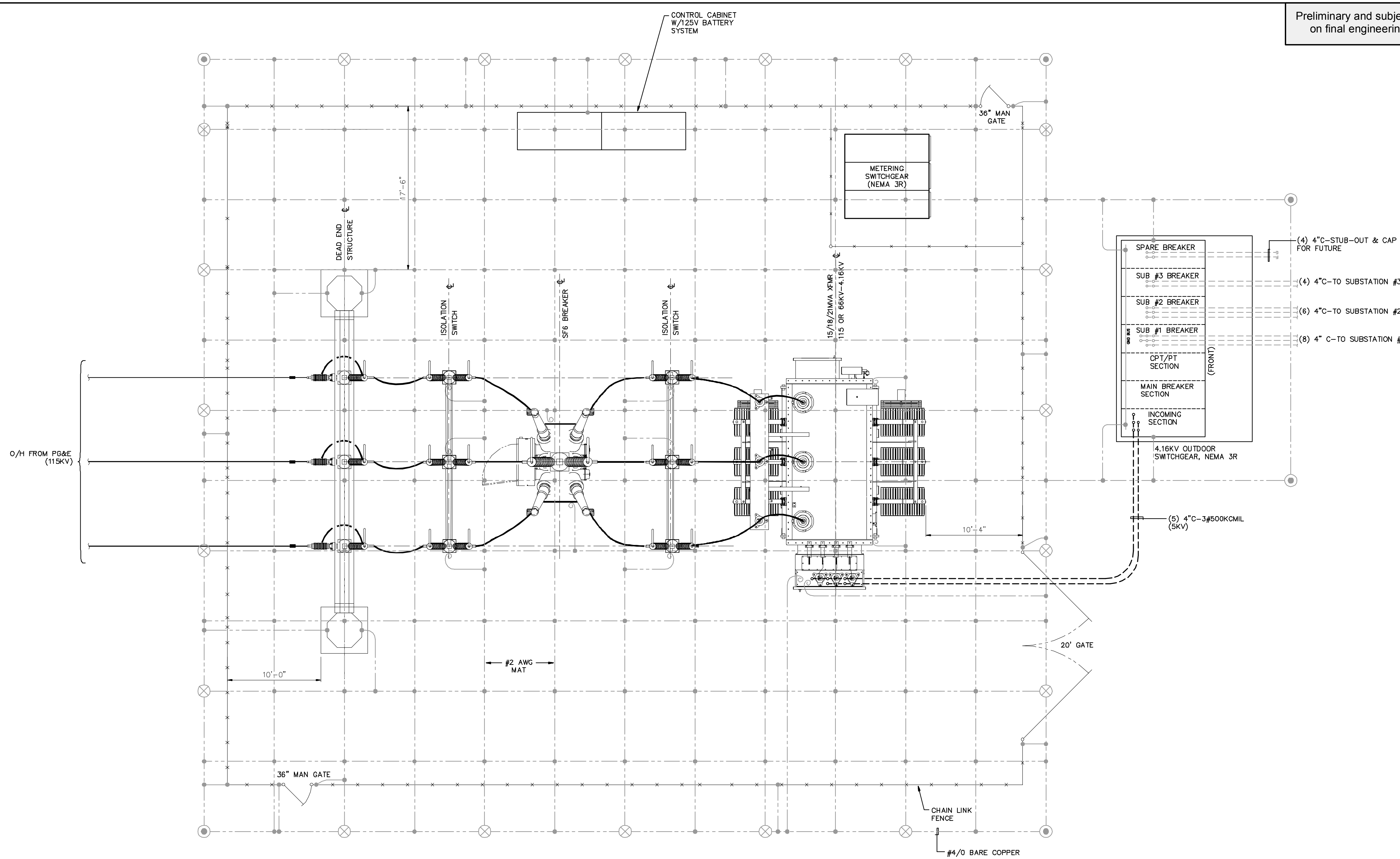
As the substation transformer contains mineral oil, concrete secondary containment pads would be installed to provide protection in the unlikely event of a mineral oil release. Containment pads would have raised curbs, approximately 6 inches high and 6 inches wide, surrounding the equipment to prevent fluid from spilling into the main substation area. In the unlikely event of a spill, fluid would be entirely contained within the secondary containment area for removal and proper disposal. The spill pad would have a small valve to allow for the drainage of clean rain water, as necessary.

Pacific Gas and Electric Company Power Line Interconnection

Substation installation would require connecting the dead-end structure to PG&E's Pittsburg Power Plant 115-kV Substation, specifically 115-kV Bus Section "E" (located within the PG&E Switchyard facility northerly adjacent to the South Tank Farm (see Figure 2-9: Proposed PG&E Power Line Interconnection.) The proposed 115 kV power line interconnection would extend overhead approximately 2,000 feet (on approximately 7 to 12 new tubular steel poles [TSP], spans ranging from 200 to 600 feet). As depicted in Figure 2-9, the alignment would leave the northern end of the substation and extend approximately 500 feet north (in between Tanks 14 and 15 and across the stormwater retention pond), and then extend approximately 1,500 feet northeast, terminating at the PG&E Pittsburg Power Plant 115-kV Substation. The new structures would use a "raptor friendly" design that has larger spacing between the conductors and steel supports to minimize bird contacts with line.

While the substation would be constructed, owned and operated by WesPac, the new power line interconnection would be constructed, owned and operated by PG&E.

Preliminary and subject to change based on final engineering and other factors.



X:\WesPac\2 Project Description\mxd\Figure 2-7 Proposed 66 kV or 115 kV Substation Conceptual Layout.mxd

Figure 2-7
Proposed 66 kV or 115 kV Substation Conceptual Layout
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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1:255

1 inch = 21 feet

0 15 30 ft

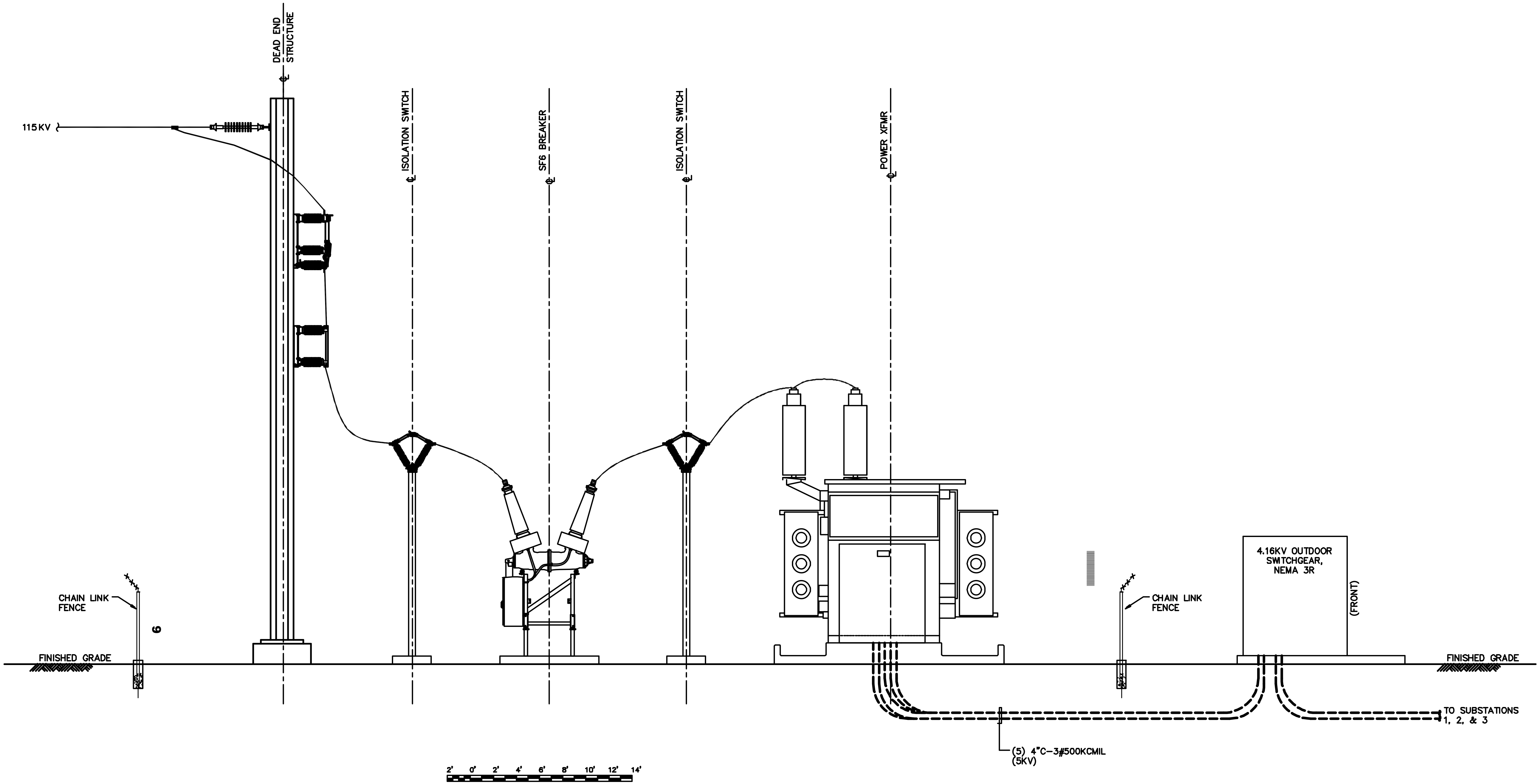

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Figure 2-8
Proposed 66 kV or 115 kV Substation Conceptual Profile
City of Pittsburg
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Figure 2-9
Proposed PG&E Power Line Interconnection
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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7/18/2013

115 kV Power Line Interconnection
Existing Overhead Power Lines
Terminal Boundary
Rail Transload Facility

N

1:12,000

1 inch = 1,000 feet

0 390 780 ft

TSPs installed would provide the following clearances:

- At minimum 6-foot horizontal clearance between conductor and oil tank (at maximum wire sway under wind conditions).
- At minimum 27-foot vertical clearance between conductor and ground.
- At minimum 10-foot vertical separation of conductors (different circuits).

2.3.3 Rail Transload Facility

The proposed project would include the construction and operation of a new Rail Transload Facility in an existing BNSF rail yard, located 0.25 mile south of the existing NRG Pittsburg Generating Station (see Figure 2-10: Rail Transload Facility). The Rail Transload Facility would be capable of receiving and transloading crude oil from up to one 104-car unit train per day. Product would be unloaded in the transloading area and pumped to newly constructed 200,000-BBL storage tanks (Tanks 10, 11, 12 and 14) located within the Storage Terminal (South Tank Farm) via a new 20-inch diameter pipeline, referred to throughout this EIR as the Rail Pipeline (see Section 2.3.4.3).

Main components of the Rail Transload Facility include landing and departure tracks, transloading area, Rail Pipeline, administration building, associated utilities and stormwater management system, as further described below.

2.3.3.1 Landing and Departure Tracks

One new landing and departure track, approximately 9,000 feet in length, would be constructed parallel-to and south-of an existing BNSF main track located north of the Rail Transload Facility (see Figure 2-10: Rail Transload Facility). This new landing and departure track, along with an existing adjacent BNSF siding track, would be used for both receiving inbound trains and assembling outbound trains. Both the landing and departure track and the siding track would be capable of accommodating one 104-car unit train. A single 104-car unit train is approximately 6,585 feet in length, including rail tank cars, buffer cars, and three locomotives.

Four bridge structures would be constructed for the new landing and departure track crossings; one crossing Willow Pass Road and three crossing unnamed tributaries to Willow Creek. These bridges would be built adjacent to existing BNSF bridges and would require the widening of existing crossings. New bridges would follow the same designs as those for the existing bridges.

2.3.3.2 Transloading Area

A concrete transloading area would be constructed for the unloading of rail tank cars at the Rail Transload Facility. The transloading area would consist of four tracks: two tracks with 29 rail car unloading stations, and two tracks with 23 rail car unloading stations, for a total of 104 rail car unloading stations within the transloading area. This design allows for all rail cars to be unloaded concurrently without need for movement, other than movement surrounding arrival and departure.

The concrete foundation for the transloading area would be sloped to contain any leakage from rail cars. A spill containment system capable of holding the full contents of one rail tank car, or the amount of firewater (water and foam mixture) needed to fight a fire, would be installed. For a more detailed description about the handling of stormwater, see Chapter 17.0: Water Resources.

The transloading system would consist of manifold collection pipes that would run between each pair of transloading tracks (see Figure 2-11: Crude Oil Rail Transload Operations). Each rail car would connect to a collection pipe via a flexible hose stemming from the bottom of each tank car at the unloading station. The collection pipes would connect to a suction pipe that would allow for gravity flow of crude oil to the crude oil transfer pump vault. Pumps within the crude oil transfer pump vault would propel oil through the new 20-inch diameter Rail Pipeline to the storage terminal. For more information describing the Rail Pipeline, see Section 2.3.4.3, Rail Pipeline.

Each tank car needs to be vented during transloading to prevent creation of a vacuum in each tank car. Check valves would be connected to the vent valves on the top of each tank car, allowing air to enter the tank cars and preventing vapors from escaping. As crude oil drains out of the rail car, air would enter through vents helping to prevent the emission of vapors. These vents would be accessed by workers using self-propelled man-lifts. For a more detailed discussion about transloading area operations, see Section 2.5.4, Rail Transload Facility Operations.

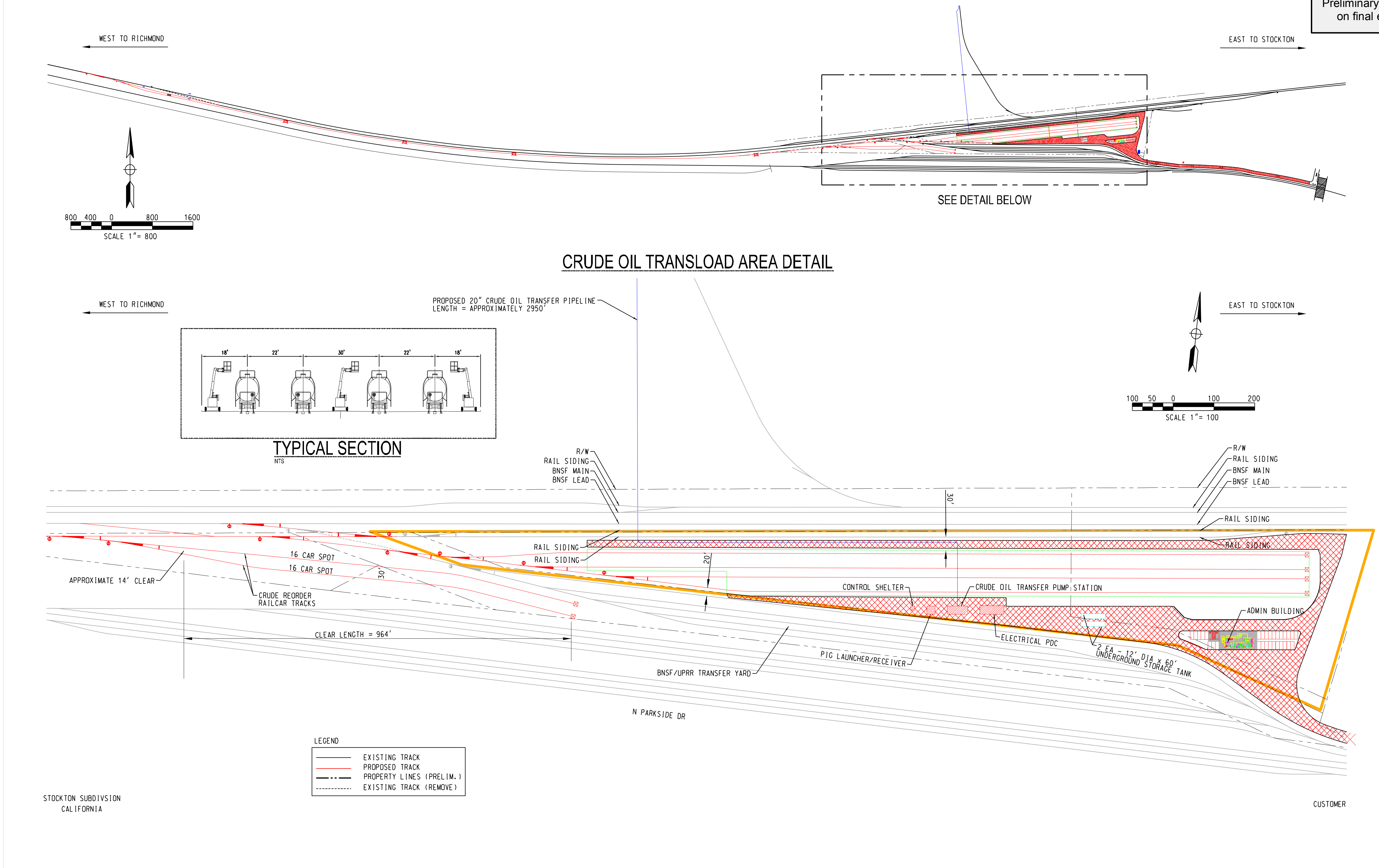
In the unlikely event of a fire, the transloading area would be equipped with firewater monitors and hoses along with aqueous film forming foam.

2.3.3.3 Administration Building

A new administration building would be constructed for the Rail Transload Facility and associated storage terminal operations (see Figure 2-10). This building would be used by Rail Transload Facility employees for various activities and used as a control center for the Rail Transload Facility operations. The building would be a modular type building, one story high, approximately 70 feet wide by 24 feet long, and 14 feet high.

A small parking lot would be constructed adjacent to the building to accommodate 31 parking spaces and a trash enclosure. The parking lot would have 29 standard parking spaces and two Americans with Disabilities Act (ADA) compliant handicapped accessible parking spaces. A location for trash enclosure has not yet been determined on project plans.

Preliminary and subject to change based on final engineering and other factors.



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-10 Rail Transload Facility.mxd

Figure 2-10
Rail Transload Facility
City of Pittsburg
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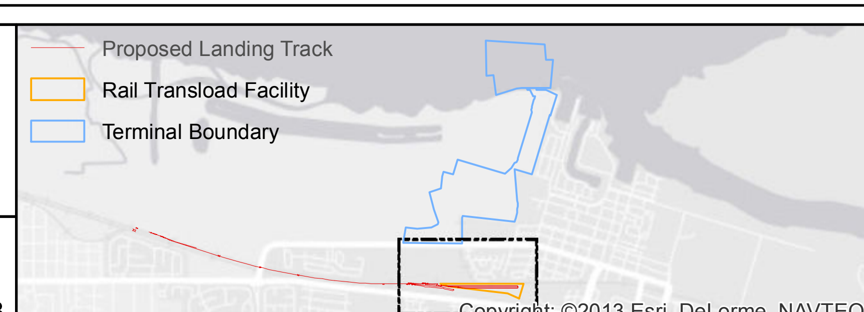
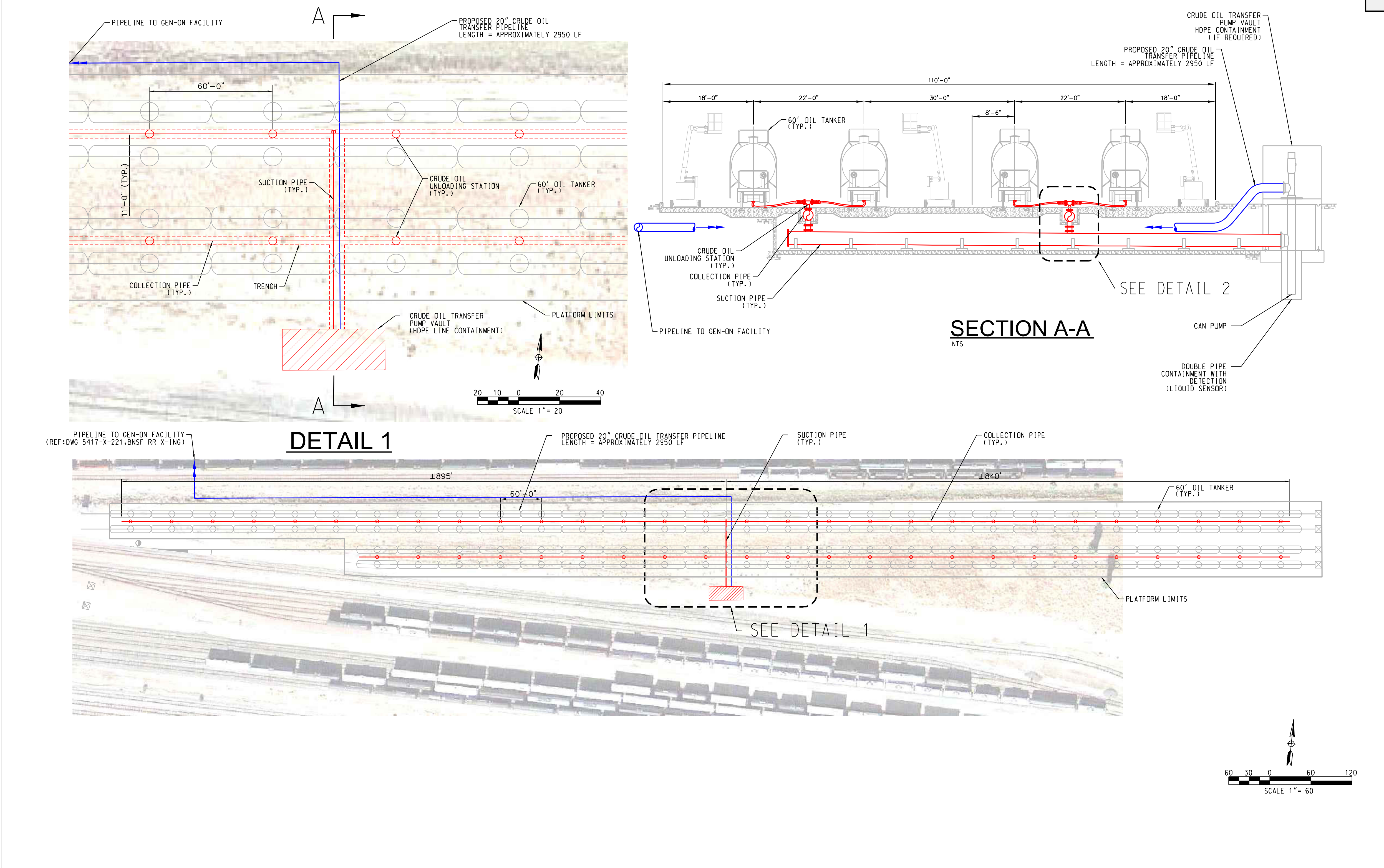


Preliminary and subject to change based on final engineering and other factors.



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-11 Crude Oil Rail Transload Operations.mxd

Figure 2-11
Crude Oil Rail Transload Operations
City of Pittsburg
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2.3.3.4 Utilities

Connections to local utilities would be required for electricity, potable water, wastewater, telephone and internet.

2.3.4 Pipelines

The Terminal would connect to two third-party common-carrier pipelines and proposed Rail Transload Facility for receipt and delivery of product to and from other oil sources, terminals, and refineries.

Common-carrier pipelines are utilities that serve any customers who meet the connection policies of the pipeline carriers. Their policies and rates are regulated by the California Public Utilities Commission. The two common-carrier pipelines to which the Terminal would be connected are the San Pablo Bay Pipeline (currently idle and owned by San Pablo Bay Pipeline Company [SPBPC], a subsidiary of Shell Pipeline Company LP) and the KLM Pipeline (currently owned and operated by Chevron Pipeline Company [Chevron]). As discussed in Section 2.3.3, the proposed Rail Transload Facility would receive crude oil by rail car and offload product to a pipeline connected to the storage terminal (Rail Pipeline).

Possible refineries that may receive oil from and/or deliver oil to the Terminal are included in Table 2-6. General pipeline connection components are summarized in Table 2-7, and detailed characteristics and operational parameters specific to the KLM Pipeline connection, San Pablo Bay Pipeline, and Rail Pipeline are provided in Table 2-8.

Table 2-6: Refineries that May Receive-Crude-Oil-from and/or Deliver-Crude-Oil-to the Terminal

Oil Refinery	Address
Shell Martinez Refinery	3485 Pacheco Boulevard Martinez, California 94553
Conoco Phillips Refinery	1380 San Pablo Avenue Rodeo, California 94572
Tesoro Golden Eagle Refinery	150 Solano Way Martinez, California 94553
Valero Benicia Refinery	3400 East 2nd Street Benicia, California 94510

Table 2-7: Proposed Pipeline Connection Components

Component	Description
Pumping equipment	Four shipping pumps that could be used individually or in any combination to either the San Pablo Bay Pipeline, KLM Pipeline connection, or Rail Pipeline
Oil quantity measurement equipment	Five sets of oil quantity measurement meters and samplers for the following services: • KLM Pipeline Incoming • KLM Pipeline Outgoing • San Pablo Bay Pipeline Incoming • San Pablo Bay Pipeline Outgoing • Rail Pipeline Incoming
Pipeline pigging facilities	San Pablo Bay Pipeline and Rail Pipeline scraper traps
Buildings	Pipeline pump station located within the South Tank Farm
Electrical substation	Owned and operated by WesPac, located within the South Tank Farm
Electrical service line	Provided by Pacific Gas and Electric Company, located within the South Tank Farm
Parking	Maintenance and emergency vehicles only within the permanent right-of-way; parking also available within the storage terminal
Site security	Included within the South Tank Farm
Site lighting	Existing facility lighting within the South Tank Farm and additional lighting within the storage terminal, as needed for safe operation
Stormwater system	Included within the South Tank Farm

Table 2-8: Detailed Pipeline Connection Characteristics and Operational Components

Characteristic or Operational Component	KLM Pipeline Connection	Rail Pipeline	San Pablo Bay Pipeline
Year constructed	New	New	1975
Pipeline connection diameter	12.75 inches	20 inches	16 inches
Pipeline connection thickness	0.375 inch	0.375 inch	0.281 inch
Maximum operating pressure	1,200 pounds per square inch (psi) maximum	285 psi maximum	1,163 psi maximum
Length of pipeline connection	0.42 mile	0.56 mile	13.2 mile
Operating temperature	Typical ambient (Maximum 140 degrees [°] Fahrenheit [F])	Typical ambient (Maximum 140° F)	Typical ambient (Maximum 140° F)
Operating flow rate	3,314 to 5,666 barrels per hour (BPH)	1,500 to 11,000 BPH	6,785 to 11,488 BPH
Pipeline connection coating	Fusion bonded epoxy	Fusion bonded epoxy	2-inch-thick polyurethane foam with polyethylene jacket
Cathode protection system in place	Yes	Yes	Yes
Supervisory Control And Data Acquisition (SCADA) system	Yes	Yes	Yes
Pipeline connection type	Carbon steel, electric resistance weld	Carbon steel, electric resistance weld	Carbon steel, electric resistance weld
Type of crude oil transported	Light (e.g., virgin crude oil and gas oil) and heavy (e.g., fuel oil)	Light (e.g., virgin crude oil and gas oil)	Light (e.g., virgin crude oil and gas oil) and heavy (e.g., fuel oil)

Characteristic or Operational Component	KLM Pipeline Connection	Rail Pipeline	San Pablo Bay Pipeline
Isolation valves	New isolation valve proposed for installation at the Terminal	New isolation valve proposed for installation at the Terminal	Existing isolation valve at Terminal; four isolation valves along pipeline

2.3.4.1 San Pablo Bay Pipeline

The existing San Pablo Bay Pipeline is a 42-mile-long pipeline extending from the Chevron Refinery in the City of Richmond to the NRG Pittsburg Generating Station (see Figure 2-12: San Pablo Bay Pipeline). A 13.2-mile-long currently idle section of the pipeline would be reactivated and used to transport crude oil between the Terminal and nearby San Francisco Bay Area refineries, terminals, and other existing active common-carrier pipelines. The existing 16-inch-diameter segment is located on the west side of the Terminal, just south of Tank 15, approximately 0.15 mile north of West 10th Street (Willow Road). The existing pipeline includes facilities for pig launching and receiving[4], pipeline internal inspection, and maintenance devices.

While the San Pablo Bay Pipeline appears to be in good condition and adequate for the proposed uses outlined in this EIR, prior to operation, a written plan would need to be provided by the SPBPC or future pipeline owner[5] to the State Fire Marshall describing the process and testing procedures that would be used to demonstrate integrity. The SPBPC or future pipeline owner would also need to provide recent pipeline testing and inspection reports and updated documents required by State Code, such as filings that provide background and a description of existing and future inspection, maintenance, improvements, and replacements required for the existing pipeline segment. Once inspection, improvements, and testing of the pipeline have occurred, it would be placed into service and operated in compliance with all applicable federal and state laws and regulations governing pipelines used in the transportation of hazardous materials.

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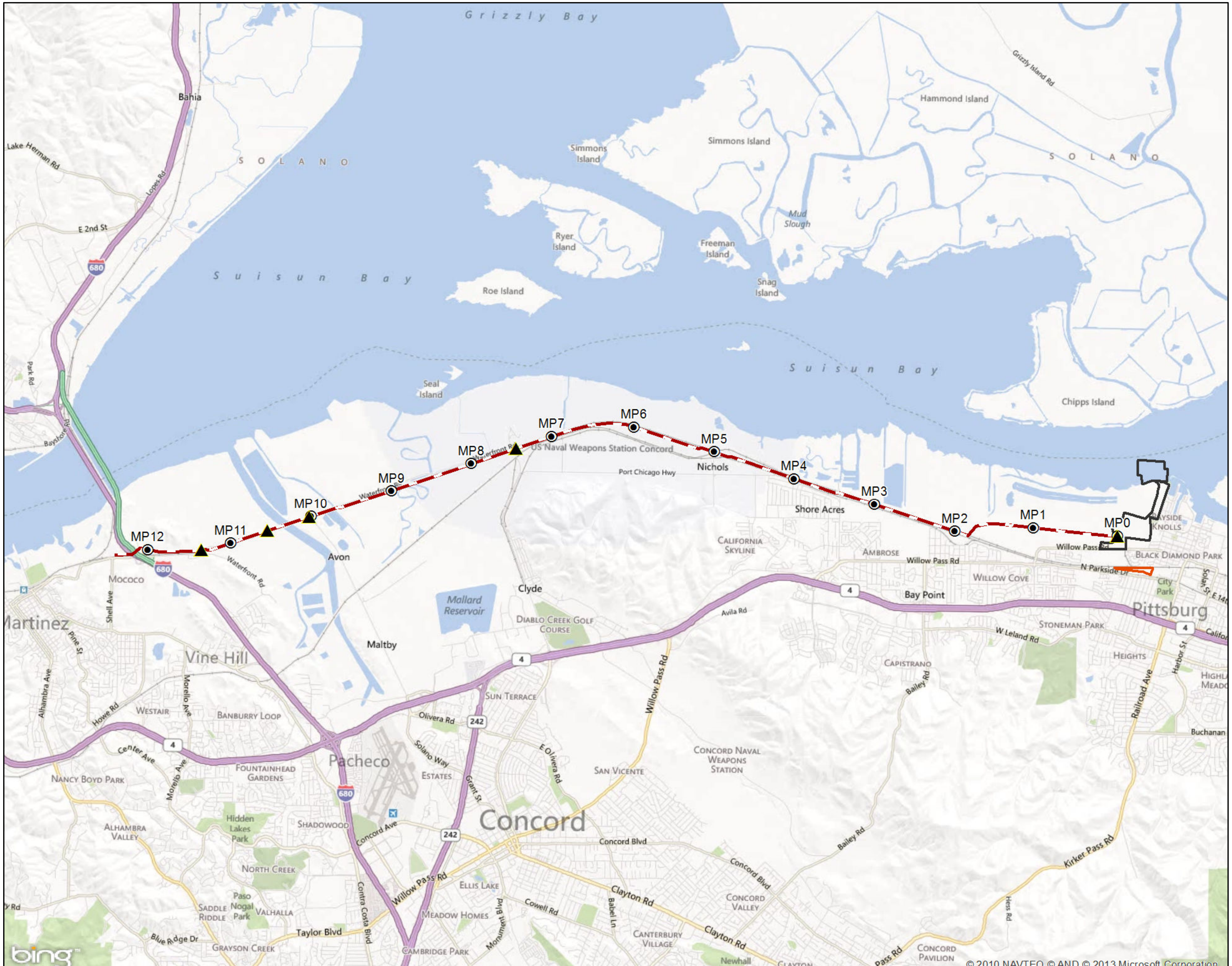
[4] Pig launching and receiving facilities may require minor work to extend the receiving/launching barrel to better accommodate the smart pigs.

[5] For the purposes of this discussion we have indicated that the current owner, San Pablo Bay Pipeline Company, would need to provide documentation to the State Fire Marshall that verifies that existing pipeline material is chemically compatible with the petroleum products to be transported. However, ownership of this 13.2-mile segment of the San Pablo Bay Pipeline, under this project, is still to be determined. Should ownership transfer occur, the new owner would be required to submit similar documentation to the State Fire Marshall.

Figure 2-12
San Pablo Bay Pipeline
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project



- Mileposts
- Break Valves
- Existing San Pablo Bay Pipeline
- Terminal Boundary
- Rail Transload Facility

N

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1 inch = 1 mile

1:70,000

0 1 2 mi

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CH X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-12 San Pablo Bay Pipeline.mxd

2.3.4.2 KLM Pipeline

A new 0.42-mile-long, 12.75-inch-diameter pipeline connection would be constructed to connect the Terminal to the existing KLM common-carrier pipeline that is located on the south side of North Parkside Drive (see Figure 2-13: Proposed Pipeline Connections). The existing KLM Pipeline transports crude oil from California's Central Valley to San Francisco Bay Area refineries and terminals. The proposed alignment extends south from the pipeline pump station along the Terminal's permanent access road, crosses West 10th Street, the BNSF Rail Transload Facility, and terminates on the south side of North Parkside Drive. The pipeline connection would be "looped" inside the Terminal by routing two parallel 12-inch-diameter pipelines from a connection point at the KLM Pipeline on North Parkside Drive to the on-site pipeline pump station to accommodate simultaneous receipt and delivery. The new lines would be designed to accommodate internal inspection and maintenance devices.

2.3.4.3 Rail Pipeline

A new 20-inch diameter underground pipeline, approximately 0.56 mile long, would be constructed to connect the Rail Transload Facility to the storage terminal, allowing the Terminal to receive crude oil and partially refined crude oil from rail tank cars. The proposed alignment would extend from the Rail Transload Facility north through private property, across West 10th Street, and onto the proposed project property at the intersection of West 10th Street and the entrance road to the Terminal (see Figure 2-13: Proposed Pipeline Connections).

To allow for internal cleaning of the Rail Pipeline and inspection devices, a scraper launcher and receiver would be installed. In addition, meters would be installed at each end of the pipeline to measure the quantity of oil entering and leaving the Rail Pipeline. The quantities would be monitored by a computerized leak detection system. The Rail Pipeline would be coated with special corrosion resistant coatings and connected to an induced current cathodic protection system to prevent corrosion.

2.3.4.4 Pipeline Safety

The San Pablo Bay Pipeline and KLM Pipeline (common-carrier pipelines) are currently maintained and operated under the SPBPC Integrity Management (IM) Program and Chevron KLM IM Program, respectively, in accordance with applicable state and federal regulatory guidelines. These operating programs are subject to regular audits by the California State Fire Marshall that verify that they are in compliance with applicable codes and other accepted safe operating practices. IM programs for each operating company include routine internal inspections, hydrotesting, cathodic protection surveys, and visual field observations of pipeline rights-of-way.

Pipeline connection agreements for the idle 13.2-mile-long segment of the San Pablo Bay Pipeline, the proposed KLM connection, and the proposed Rail Pipeline have not yet been finalized with each prospective operating company as a function of the project. Therefore, responsibilities (based on ownership) for pipeline safety of aboveground and underground pipeline components have not been fully established. If no transfer of pipeline ownership occurs, underground pipelines and other associated receiving and shipping equipment from final delivery or originating points would be maintained and operated by their respective operating companies. These new (or recently activated) pipeline connection segments would be integrated into existing risk management and ranking systems. In this case, SPBPC, Chevron Pipeline Company and BNSF would be responsible for regular operations and maintenance work and for the assessment of risk and risk ranking, as required by state and federal regulations. If a transfer of ownership of either pipeline segment occurs, the new owner would be responsible for the above-described pipeline safety practices, and would be required to comply with all state and federal regulations.

2.3.4.5 Pipeline Pump Station

The existing pipeline pump station, located within the South Tank Farm northeast of Tank 16, would be upgraded to include modernized, dedicated pipeline pumps for pumping crude oil through the San Pablo Bay Pipeline, KLM Pipeline connection, and Rail Pipeline (refer to Figure 2-5). The pipeline pump station would include dedicated flow-measurement and leak-detection equipment, pipeline isolation valves, and manifolds for the San Pablo Bay Pipeline, KLM Pipeline connection, and Rail Pipeline. Scraper trap facilities would also be provided for the San Pablo Bay Pipeline and Rail Pipeline.

Table 2-9 summarizes the existing and proposed components for each pipeline that would be utilized or installed, respectively, within the pipeline pump station and Terminal. Regular operations and maintenance of pipeline metering, proving, and pump facilities proposed for the Terminal would be provided by WesPac.

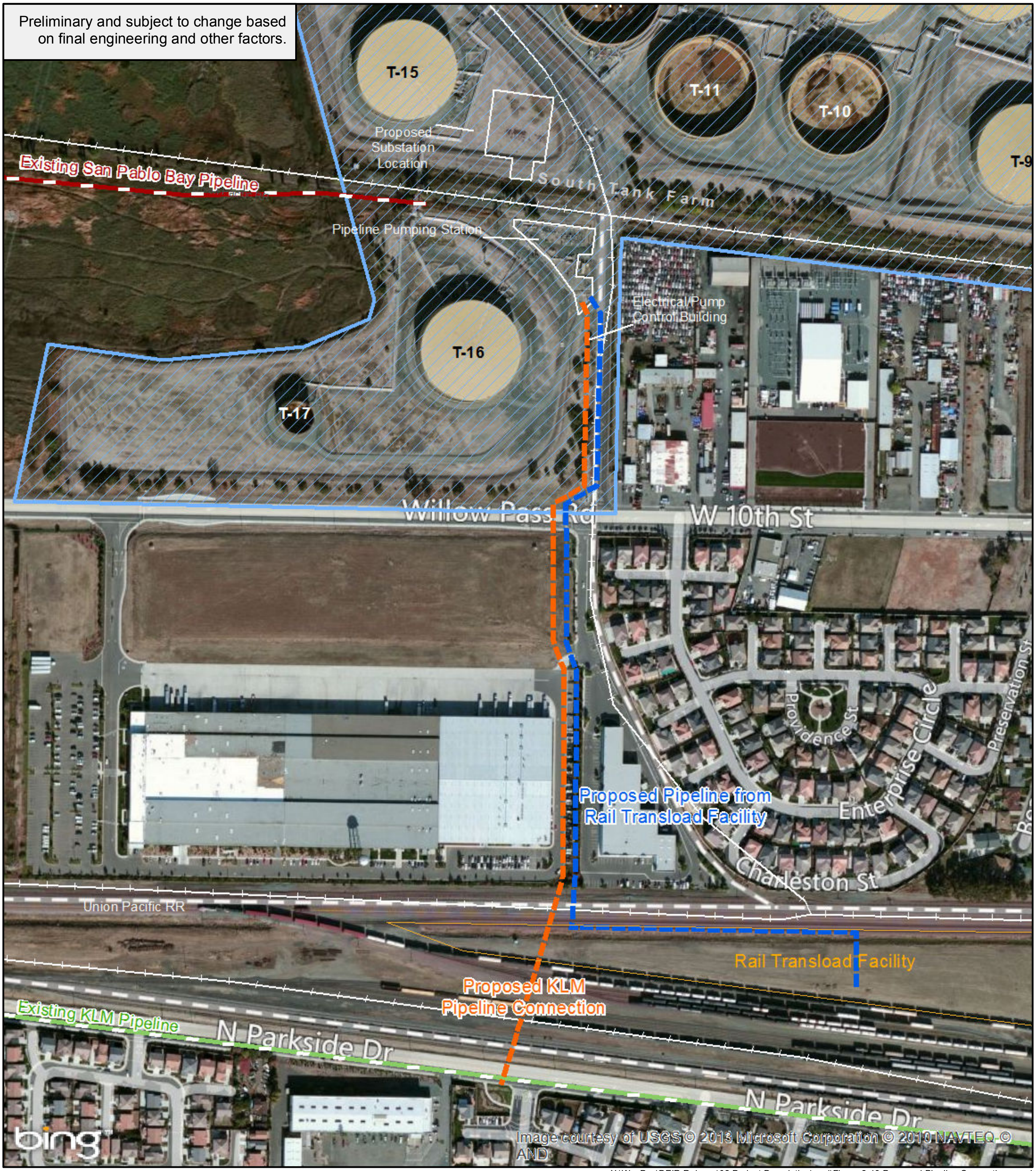

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Figure 2-13
Proposed Pipeline Connections
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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Existing San Pablo Bay Pipeline
Existing KLM Pipeline
Proposed Pipeline from Rail Transload Facility
Proposed KLM Pipeline Connection
Terminal Boundary

1:4,400

N

1 inch = 367 feet

0 200 400 ft

Table 2-9: Existing and Proposed Pipeline Pump Station Components

Pipeline Pump Station Component	Current Status
San Pablo Bay Pipeline	
Pig launcher/receiver	Existing, but would likely require an extension of the receiving and launching barrel to better accommodate smart pigs
Meter	New
Meter Prover*	New
Mainline shipping pumps	New
Electrical room*	New
Valve manifold	New
KLM Pipeline	
Meter	New
Meter Prover*	New
Mainline shipping pumps	New
Electrical room*	New
Valve manifold	New
12-inch-diameter receiving line	New
12-inch-diameter delivery line	New
Rail Pipeline	
Meter	New
Meter Prover*	New
Electrical room*	New
Valve manifold	New
20-inch diameter receiving line	New

*Denotes that the component is shared by both the San Pablo Bay Pipeline, KLM Pipeline, and Rail Pipeline.

2.3.5 Stormwater Management

Stormwater management of the marine and onshore storage terminals would be separated from NRG's stormwater management program, which currently includes the project site. The management of stormwater in the marine and onshore fuel storage terminals would be conducted in the same way as it is currently managed by NRG; however, the responsibility for its management would be separately adopted as part of Terminal operations. Specifically, one existing NRG outfall (E003) to Willow Creek would be adopted as part of the Terminal in the land sale agreement and used as the only discharge point for stormwater at the Terminal. Additional infrastructure would be constructed, as summarized below, to ensure stormwater is managed in accordance with the National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Discharge Permit (NPDES General Permit No. CA000002, Order No. 97-03-DWQ):

- Repurposing of an existing stormwater collection pond in the northeast corner of the proposed Terminal
- Water treatment facility (i.e., OWS) in the northeast area of the proposed Terminal
- Piping to convey stormwater southward from the (repurposed) stormwater collection pond and OWS (located in the East Tank Farm) to the stormwater retention basin (located in the South Tank Farm [currently a surface ditch is present])
- Piping to convey stormwater northward from the existing stormwater retention basin to the (repurposed) stormwater collection pond (currently piping disconnected)

Additionally, piping would be adjusted to decouple the stormwater management of the proposed Terminal from that of the NRG facility. A detailed stormwater management plan (SMP) would be developed for the Terminal and a copy maintained on-site. An overview of the proposed stormwater management facilities and the proposed SMP are presented below.

2.3.5.1 Marine Terminal

The loading platform would be equipped with curbing surrounding the area containing crude oil piping, and a catch basin to collect rainwater that may be contaminated with oil to prevent contaminated water from entering Suisun Bay. This collected rainwater would be transported onshore by an approximately 650-foot-long, 4-inch-diameter pipeline located along the pipeline trestle, to the proposed repurposed stormwater collection pond located within the East Tank Farm (refer to Figure 2-5). The repurposed stormwater collection pond, located north of Tank 1, would be used to route stormwater through the OWS for treatment. Stormwater would be routed southward to the stormwater retention basin, and finally released into Willow Creek at the stormwater discharge point.

For more detailed information regarding stormwater management for the marine terminal, see Section 2.4.2.7 and Chapter 17.0: Water Resources.

2.3.5.2 Storage Terminal

Routine Conditions

Stormwater accumulating in the South Tank Farm area would continue to collect in the existing stormwater retention basin situated along the north end of the South Tank Farm (roughly north of Tanks 8, 12, 13, and 14, and adjacent to the main access road within the Terminal) (refer to Figure 2-5). Under normal conditions, the water would be visually observed and released through the existing outfall to Willow Creek, as necessary, upon confirmation that it is free of sheen or other evidence of contamination. Stormwater to be released into Willow Creek from the stormwater retention basin is contained behind a valved concrete box. The gate valve is maintained in the closed position pending visual confirmation that there is no evidence of the presence of pollutants, at which time it is pumped into Willow Creek. Operators would have direct control of all discharges by activating manual valves. Additional confirmatory monitoring and testing of stormwater would be conducted as necessary to ensure water quality, as would be detailed in the SMP (to be developed for the Terminal), in accordance with NPDES General Permit No. CA000002, Order No. 97-03-DWQ.

Stormwater accumulating in the East Tank Farm and on the oil-handling portion of the main unloading platform within the marine terminal would be routed to an existing lined concrete pond, which would be repurposed as a stormwater collection pond, situated at the north end of the onshore storage terminal (refer to Figure 2-5).Following visual confirmation that the water is free of sheen and other evidence of contamination (in accordance with NPDES General Permit No. CA000002, Order No. 97-03-DWQ), the water would be pumped (southward) to the stormwater retention basin for ultimate discharge to Willow Creek via the existing outfall in the South Tank Farm area.

Calculations of possible runoff from facility drainage areas during peak (25-year, 24-hour) storm events indicate that the existing stormwater retention basin has adequate capacity to accommodate peak flows. Additional flows from proposed impervious surfaces to be installed as part of the project (such as new buildings, parking areas, and pipeline pump station) constitute an insignificant volume of runoff during a peak storm event (approximately 0.03 percent of the total from storage and marine terminal areas). As such, the stormwater retention basin is of adequate capacity to continue to serve as a collection area prior to discharge into Willow Creek. For more information regarding stormwater management routine conditions, see Chapter 17.0: Water Resources.

Non-routine Conditions

In the event that sheen or other evidence of contamination is observed in the stormwater retention basin in the South Tank Farm area, the water may be treated locally (with absorbent booms, skimming devices or other containment measures) or maybe pumped (northward) to the newly repurposed stormwater collection pond and proposed OWS for treatment. Following treatment by the OWS, stormwater would be routed back (southward) to the stormwater retention basin, and finally released into Willow Creek at the stormwater discharge point.

In the event that a sheen or other evidence of contamination is observed in the stormwater collection pond (e.g., from stormwater generated in the East Tank Farm or marine terminal),the water would be treated through the OWS prior to discharge at the Willow Creek stormwater discharge point.

For more detailed information regarding the stormwater retention basin, OWS, and associated pipeline draining system see Section 2.4.2.7 and Chapter 17.0: Water Resources.

2.3.5.3 Rail Transload Facility

The entire transloading platform would be built on a sloped and curbed concrete slab, allowing for the capture of stormwater, spills, or leaks that occur during the transloading process. Since the concrete slab would be subject to spills and leaks, all rainwater that falls on the slab would be considered contact-water and subject to treatment. Stormwater collected on the slab would be routed to two underground storage tanks with a total capacity of 100,000 gallons. All water would then be run through the OWS and discharged into a bioswale. A bioswale is an engineered drainage channel consisting of a loamy sand/soil mixture over gravel and a perforated drainage pipe. It promotes water recharge into the water table.

For purposes of containment sizing, Spill Prevention, Control, and Countermeasure Plan (SPCC) would require that the containment system also capture the entire contents of one rail car, or about 30,000 gallons. The volume from a fire monitor discharge system for the Rail Transload Facility totals 100,000 gallons. The underground holding tanks would be used to capture catastrophic spills from a tank car or the discharge from the fire protection system in the event of a fire. Discharges of oil or firewater foam into the underground storage tanks would be removed using vacuum trucks, as needed, and disposed of at an approved disposal facility, as required.

2.4 CONSTRUCTION

2.4.1 Marine Terminal

2.4.1.1 Governing Codes and Standards

The marine terminal would be analyzed and designed in accordance with MOTEMS, CCR, Title 24, Part 2 Chapter 31F. In addition, the following design standards would be used:

- American Institute of Steel Construction: Manual of Steel Construction –Load and Resistance Factor Design and American Stress Design
- American Concrete Institute 318 – Building Code Requirements for Structural Concrete and Commentary
- National Design Specification for Wood Construction
- American Welding Society D1.1 (Structural Steel Welding Code), D1.4 (Reinforcing Steel Welding Code), and D1.5 (Bridge Welding Code)
- American Petroleum Institute, Recommended Practice 2A-LRFD: Planning, Designing, and Constructing Fixed Offshore Platforms
- Oil Companies International Marine Forum: Mooring Equipment Guidelines
- Port International Navigation Association: Guidelines for the Design of Fender Systems
- Military Handbook, Piers and Wharves MIL-HDBK-1025/1
- American Society of Civil Engineers 7 - Minimum Design Loads for Buildings and Other Structures
- California Fire Code (Title 24, Part 9)

In addition, to reduce the likelihood of damage to marine terminal structures from soil expansion and/or contraction, a site-specific geotechnical investigation was conducted to allow for detailed structural design, taking soil properties into account.

2.4.1.2 General Construction Sequence

Marine terminal construction activities would generally occur in the following order:

1. Demolish, or partially demolish (as applicable), structures that would require replacement
2. Install piles to support new structures, or retrofit or repair existing structures
3. Install prefabricated cap beams and deck elements
4. Install and/or retrofit equipment and piping supported by platforms
5. Install other associated dock piping, including piping for electrical conduit, main loading/unloading crude oil line, flush line, vapor line, stormwater line, and various other utilities (such as firewater, and plumbing)

6. Install dock control building and other marine terminal structures (not included in the berth structure)
7. Cleanup
8. Equipment commissioned and marine terminal released to operations

While this sequence provides a general idea of the succession of marine terminal construction, some individual structures may be built concurrently, independent of one another. For example, existing breasting dolphins may be installed on a separate timeline than that of the mooring dolphins.

Dredging activities, which are described in Section 2.4.1.7, would occur independently of the marine terminal general construction sequence provided above, and may occur concurrently with the construction of the marine terminal.

For more information regarding construction scheduling see Section 2.4.10.

2.4.1.3 Typical Construction Equipment

Typical construction equipment and anticipated duration of use required for marine terminal construction is included in Table 2-10.

Barges would be used for various purposes during construction of the marine terminal. The estimated duration of barges to be used during construction is four months. The anticipated average and peak number of barges is 6 and 12 barges, respectively.

Table 2-10: Typical Marine Terminal Construction Equipment

Equipment	Use	Number of Vehicles	Days per Week of Operation	Hours per Day of Operation	Duration of Use (weeks)	Peak Use Hours per Day
Dredge derrick	Dredging of sediment	1	6	24	16	24
Derrick	Hoisting materials	2	6	10	20	12
Tugboat	Moving barges	2	6	12	20	24

2.4.1.4 Access and Laydown Areas

Heavy equipment required for construction at the marine terminal would generally be floating equipment, and as such, would access the site from the Suisun Bay. Once floating equipment has been mobilized to the site, crews would access this equipment from land. Larger, heavier materials such as piles, precast decks, and fenders would be delivered to the site via barges. Smaller equipment and privately owned vehicles transporting construction personnel would access the Terminal via State Highway 4, Railroad Avenue, and West 10th Street as described in Chapter 15.0: Land Transportation. Access to the Terminal would be from West 10th Street. The 125-acre onshore project area would be used during construction for parking. Two staging areas, staging areas 1 and 2, would be used for temporary staging and laydown of construction materials and equipment onshore (see Section 2.4.2.5 and refer to Figure 2-2).Some roadways would be shared with NRG for access to the adjacent Pittsburg Generating Station.

2.4.1.5 Equipment Refueling

Refueling of derrick barges and tug boats would be conducted either at nearby fuel docks such as the IMTT Terminal, or directly on-site. If conducted on-site, fuel trucks or tug boats would transfer fuel directly to the derrick barges, or derrick barges would be refueled using smaller fuel cells (500 to 1,000 gallons each), which require bringing the fuel cell to the site on a barge and then pumping the fuel from the fuel cell to the equipment tank. Smaller equipment such as welding machines, generators, and light plants would be refueled using fuel cells. Power tools such as chop saws and chain saws would be refueled using fuel cans, approximately 5 gallons each. Derrick barges typically have the capacity to hold approximately 5,000 to 10,000 gallons of diesel fuel.

2.4.1.6 Marine Terminal Construction

Construction would begin with the demolition, or partial demolition, of existing structures that have been determined to require replacement. Structures that would require initial demolition include: the main unloading platform and the existing hose mast system (to be replaced with a new unloading platform with two new unloading arms and gangway tower with gangway tower platform),four existing breasting dolphins (to be replaced one for one), and the existing cantilevered piping (currently supported by the existing access trestle). Derricks would be used to demolish existing structures, and materials would be placed on barges for disposal. Divers would use underwater cutting equipment to cut existing steel piles slated for removal 3 feet below the midline.

Demolition would be followed by the installation of new steel piles (ranging in diameter from 24 inches to 84 inches) and/or the repair of existing timber piles (using sleeves or braces) to support new structures and strengthen existing platforms. Piles requiring replacement would also be demolished at this time. The exact number of piles to be installed or replaced is unknown at this time and new piles may not necessarily replace the existing piles one for one. One reason for this is because the diameter of the new piles may be different than the diameter of the old piles for some structures (e.g., the existing breasting dolphins currently have multiple smaller-diameter piles that provide support, but the replacement dolphins would utilize a single larger-diameter pile).Piles requiring removal would be removed to the tip, if possible, and at a minimum cut 3 feet below the midline (i.e., sea floor) and left in the ground. Depending on soil conditions, new steel piles would be installed using a vibratory hammer or impact hammer. If soil conditions are such that it is not possible to install piles with a vibratory hammer—the preferred method—an impact hammer would be used. The particular sound attenuation and sound reduction system to be employed during pile driving, as appropriate, would be developed as part of permitting conditions stipulated for the dock upgrades (e.g., Section 10 or Section 404 USACE permit, or the lease agreement with the CSLC and/or City of Pittsburg).Piles would be hammered until design tip elevations (e.g., elevations for compression, tension, lateral, scour, liquefaction, or a combination of these loads) are met. These elevations express the "intent" of the design and help the field engineer to resolve constructability and quality issues. While the exact depths of the piles are currently not available, in general, pile tip elevations would likely be between 80 feet and 130 feet below MLLW. Exact mud line elevations would also vary; however, in general pile embodiments would be between approximately 60 feet and 100 feet. Steel piles would be hollow and, therefore, significant displacement of the seafloor is not anticipated.

Piles and pile installation equipment would be hoisted using a derrick barge. Timber piles would be repaired using fiberglass jackets and grout (sleeves and braces). Steel piles would be repaired by adding protective coatings. Following the installation of piles, prefabricated cap beams and deck elements would be installed. Concrete that is precast would come from a batch plant located near the precasting site (the precasting site would not be located at the terminal). In small quantities, cast-in-place concrete would be delivered in bags; in larger quantities, concrete would be delivered via local ready-mix trucks and pumped or bucketed to the appropriate location. Cast-in-place concrete would be delivered by truck, loaded onto barges, and then taken to the project site, or would be delivered by truck directly to the terminal.

Portions of the existing access platforms, walkways, catwalks, and decks would be replaced or repaired, and the new unloading platform, gangway platform, oil boom platforms, and pipeline trestle would also be installed, either with prefabricated structures or constructed in place. Decks would consist of a combination of steel and concrete. Delivery of steel and concrete would be as described above. Grouted, fiberglass sleeves would be installed on existing timber piles as needed. New timber stringers, caps, and decking would replace damaged existing timber elements. Delivery of timber and fiberglass elements would be made by a combination of barges and trucks.

After platforms and walkways are established, marine terminal equipment slated for retrofit would be upgraded and new equipment and dock pipelines would be installed. Equipment installed and/or refurbished would include: four new breasting dolphins; one gangway; two 16-inch-diameter, 120-foot long marine unloading arms; and six 650-foot-long pipes for the transport of crude oil, flush product, potable water, firewater, vessel cargo vapors, and stormwater. In addition, a 650-foot-long cable tray containing wiring and cables would be installed. The new 650-foot-long, 30-inch-diameter pipe and 12-inch-diameter pipe for the transportation of crude oil and flush product would be installed with a cap elevation of approximately +10 feet MLLW. Onshore crude oil piping extending south from the pipeline trestle at the shoreline through the storage terminal (both East and South tank farms) would be aboveground, similar to the existing onshore storage terminal crude oil pipeline. For more information regarding onshore storage terminal pipelines refer to Section 2.3.2.1 and see Section 2.4.2.7.

New breasting dolphins would be located in a similar place as the existing dolphins (refer to Figure 2-4 and see Figure 2-14: Existing and Proposed Breasting Dolphin).Breasting dolphins would be similar to the existing dolphins in that they would contain rubber fenders, plastic-faced steel fender panels, mooring hardware, concrete caps, and steel piles. Instead of being supported by multiple batter piles, new dolphins would be supported by a single plumb pile. New dolphins would contain modern rubber fenders sized to accommodate the design vessels.

Mooring dolphins would be retrofitted. The mooring and fendering system would be designed to accommodate the range of vessels that may call at the terminal. The fendering system would consist of energy-absorbing rubber cell or cone-type fenders; ultra-high molecular weight plastic-faced panels; and shear, weight, and tension chains. Fenders would be sized to absorb the calculated energy of the berthing vessels. The supporting dolphins would be designed to resist the corresponding reaction. Mooring points would be provided for breasting, spring, bow, and stern lines. Breasting line mooring points would consist of triple quick-release hooks. Other mooring points would consist of either quick-release hooks or bollards. The mooring points and supporting dolphins would be designed to resist the forces associated with a 25-year return period 30-second gust, considering combinations of current, tide, and passing vessel effects.

Other structures that would be installed or refurbished include the dock control building, approximately 20 feet long by 8 feet wide and 10 feet high, and various associated dock fire protection equipment. These facilities would be designed to meet applicable design codes. The installation or refurbishment of this equipment would occur after the upgrades to the berth structure are complete. Refer to Figure 2-4 for a depiction of the berth structure and dolphin locations.

2.4.1.7 Dredging

Prior to cleanup and commissioning the marine terminal into service, dredging would be required to restore vessel access to the berth from the channel. For an aerial view of the approximated area anticipated for dredging, see Figure 2-15: Proposed Dredging Area; however, the exact extent of the dredging would be controlled by the size of the vessels (the largest of which are expected to be Aframax-type vessels), their approach from the channel, and the stability of the slopes to be dredged (i.e., the ability to maintain existing stability with proposed dredging).

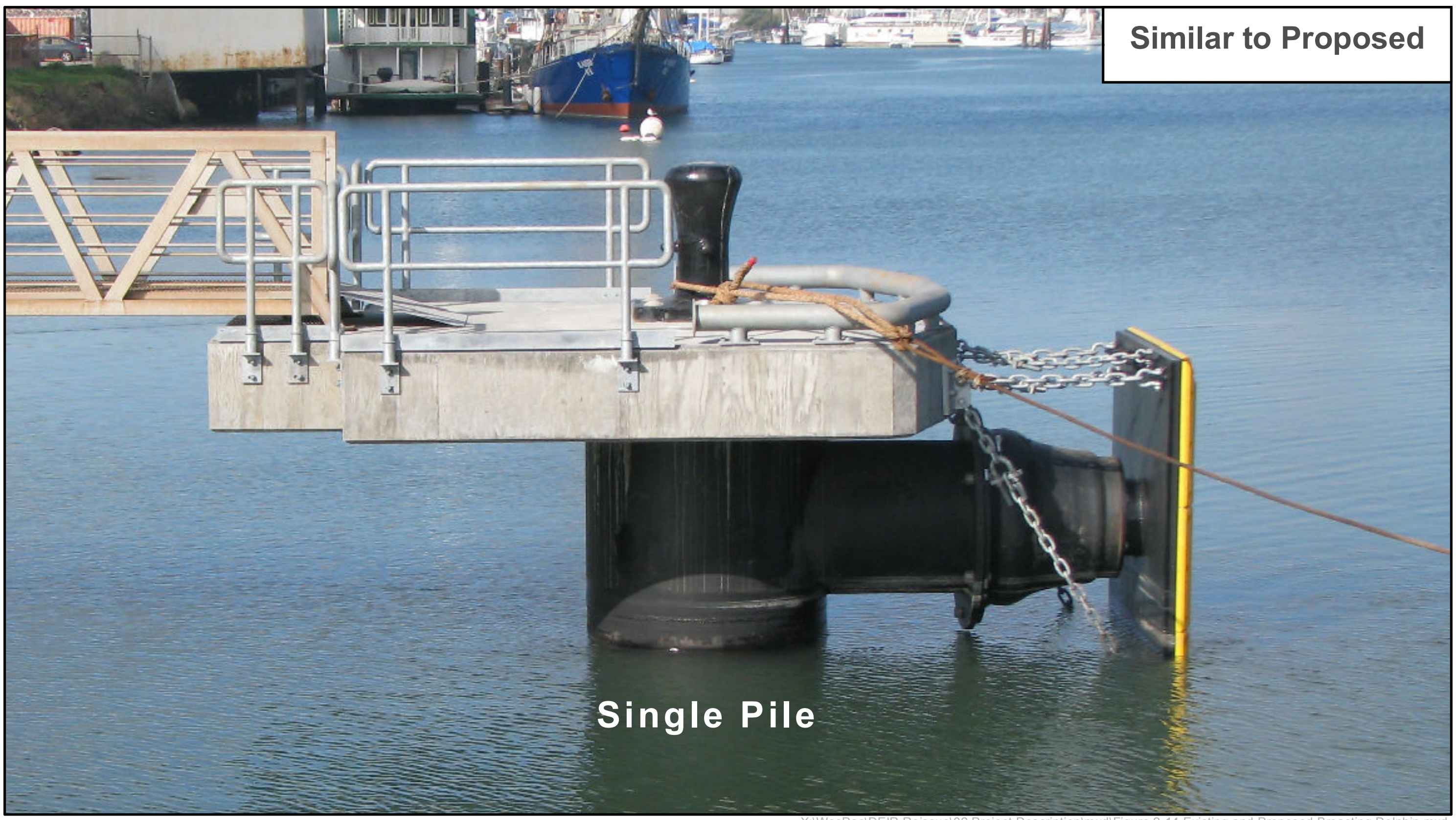
The last dredging episode at the project site occurred in 1974, when approximately 68,000 cubic yards of sediment were removed. While the proposed depth of dredging would be dictated by vessel draft, low-tide levels, and under-keel clearance, the anticipated depth for dredging would be approximately 38 feet below MLLW, plus 2 feet over dredge allowance. Sediment in the proposed dredging area is currently as shallow as 15 feet below MLLW. As all of the construction and dredging occur outside the United States Army Corps of Engineers-delineated channel, closure of the channel is not foreseen.

Marine terminal construction, including dredging, would require approximately 75 barge trips to dispose of dredged and demolished materials, to supply new materials, and provide equipment, as discussed in Section 2.4.1.3, Typical Construction Equipment.

Dredging would be accomplished using a clamshell-type bucket for placement on a derrick barge. The estimated approximate dredge quantity is 140,000 cubic yards, plus 30,000 cubic yards over dredge, for a total of 170,000 cubic yards. The final quantity of dredged material would depend upon finalization of the vessel approach as well as geotechnical analysis of seafloor slopes. For more information regarding existing soils, see Appendix A: Characterization of WesPac Energy Pittsburg LLC Marine Terminal Dredging Project Sediments: Dredge Materials Sampling and Analysis Results, which includes the results of Tier II (chemical and physical) sampling analyses completed on existing soils.

Soil samples collected from the proposed dredging area have been tested and determined to be suitable for disposal at either an upland disposal site on Winter Island or within the Montezuma Wetlands.

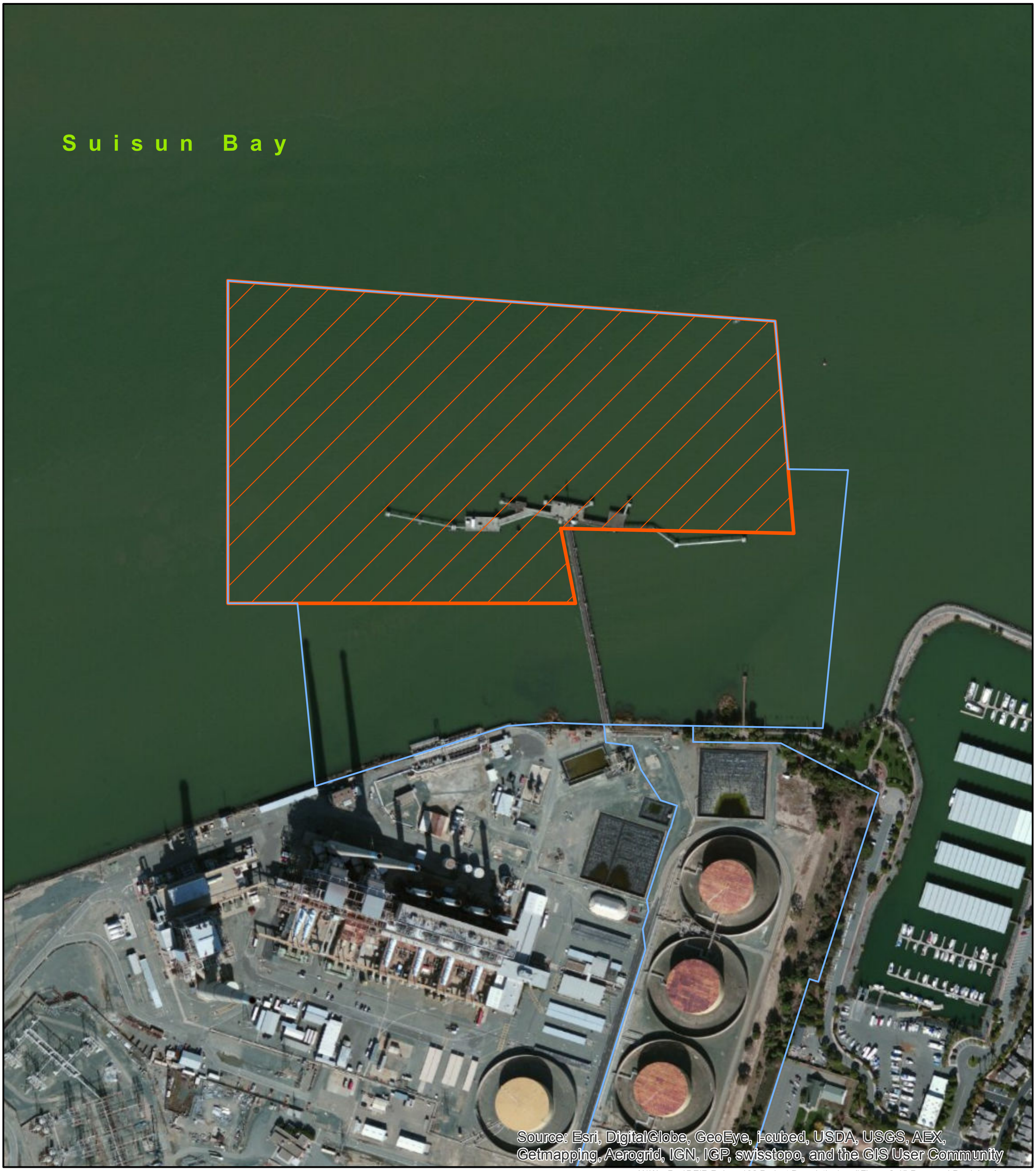
Winter Island is a privately owned, 543-acre beneficial-reuse island managed to enhance freshwater wetland habitat and operated as a duck club. It is approximately 2 miles upstream from the proposed WesPac Energy–Pittsburg Terminal. At this location, dredged material would be used to build up the 5 miles of levees surrounding the island. The barge disposal access at Winter Island has been successfully used in the past for barges with up to 12 feet draft. Access for 4,000-cubic-yard barges exists in the dredge cut circumventing this island. The dredge scows would be unloaded at Winter Island by derrick barge and clamshell



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-14 Existing and Proposed Breasting Dolphin.mxd

Figure 2-14
Existing and Proposed Breasting Dolphin
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

6/11/2013



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-15 Proposed Dredging Area.mxd

Figure 2-15
Proposed Dredging Area
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

TRC

6/11/2013

Terminal Boundary
Dredging Area

1:4,800

N

1 inch = 400 feet

0 200 400 ft

bucket. The Winter Island Reclamation District is available to accept the material at all times during the calendar year. Tug boats towing barge scows from the shipping channel to the dredge cut would need to navigate at high water to minimize the risk of running aground.

The Montezuma Wetlands disposal site is a privately owned and operated upland disposal site that began accepting soil materials in 2003. The site is located at the eastern edge of the Suisun Marsh and has proposed to restore nearly 2,000 acres of tidal and seasonal wetlands. The Montezuma Wetlands are located 2 miles upstream of the Terminal and are able to accept the quantity of material anticipated for dredging. The Montezuma Wetlands disposal site can accept materials from deeper-draft barges.

The final disposal location would be dependent on an economic analysis and current disposal options at the time dredging occurs. For both disposal sites, soils would be disposed of in accordance with all federal, state, and local regulations. The candidate dredge material disposal sites (Montezuma and Winter Island) have been specifically approved by the Dredged Materials Management Office, including the RWQCB and the USACE, to receive the dredge materials per their review of analytical sediment data for the proposed dredge footprint area.

2.4.2 Storage Terminal

2.4.2.1 Governing Codes and Standards

The storage terminal would be analyzed and designed in accordance with the following design standards:

- American Petroleum Institute (API), Recommended Practice (RP) 570 Piping Inspection Code: In-service Inspection, Rating, Repair, and Alteration of Piping Systems
- API, RP 650 Welded Steel Tanks for Oil Storage
- API, RP 652 Lining of Aboveground Petroleum Storage Tank Bottoms
- API, RP 1104 Welding of Pipeline and Related Facilities, 19th Edition
- API, Standard 653 Tank Inspection, Repair, Alteration and Reconstruction
- Department of Transportation (DOT), Code of Federal Regulations, Title 49, Part 195 Transportation of Hazardous Liquids by Pipeline (DOT-195)
- National Fire Protection Association (NFPA) 30 – Flammable and Combustible Liquids Code
- NFPA 70 – National Electric Code
- California State Fire Marshall, California Pipeline Safety Act
- California Building Code
- California Fire Code
- California Electric Code

To reduce the likelihood of damage to overlying structures from soil expansion and/or contraction, a site-specific geotechnical investigation and report would be prepared to allow for detailed structural design, taking soil properties into account. The geotechnical investigation would include exploratory soil borings, laboratory testing, and analysis by a geotechnical engineer. The report would include seismic design criteria for the engineer's use in completing design work.

2.4.2.2 General Construction Sequence

Storage terminal construction activities would generally occur in the following order:

1. For storage tank replacements, demolish existing 500,000-BBL tanks (Tanks 10, 11, 12 and 14) and erect new 200,000-BBL tanks.

2. Inspect and evaluate structure of remaining tanks for retrofitting and repair work

3. Retrofit and repair storage tanks, including construction work associated with tank bottoms, secondary containment, and leak detection

4. Retrofit, install, and repair tank roofs and install other associated storage tank equipment, including tank heaters, thermal oxidizer, fire protection components, and pumps, including associated noise barrier walls

5. Perform external structure repairs to tanks, platforms, and stairways

6. Install other associated storage terminal structures, including onshore storage terminal pipelines, electrical systems, OWS, office and control building, warehouse building, other electrical control buildings, and substation

While this sequence provides a general idea of the succession of storage terminal construction, some individual structures may be built concurrently, independent of one another. For example, construction work associated with the storage tank retrofit may be concurrent with construction work associated with other storage terminal facilities such as the fire protection pipeline work or substation installation. For more information regarding construction scheduling see Section 2.4.10.

2.4.2.3 Typical Construction Equipment

Typical construction equipment and anticipated duration of use required for storage terminal construction is included in Table 2-11.

Table 2-11: Typical Storage Terminal Construction Equipment

Equipment	Use	Horsepower	Number of Vehicles	Days per Week of Operation	Average Hours per Day of Operation	Duration of Use (weeks)	Peak Use Hours per Day
Construction and Repair of Storage Tanks							
Diesel generator (200 kilowatts)	Other construction equipment	100	2	5	10	60	10
Crane	Cranes	365	1	5	10	60	10
Forklift	Forklifts	105	1	5	10	60	10
Manlift	Other construction equipment	160	1	5	10	60	10
Weld rig	Welders	160	1	5	10	60	10
Fill pump	Other construction equipment	160	1	5	10	8	10
Construction and Repair of Other Storage Terminal Components							
Crane	Cranes	365	1	2	4	16	10
Dump truck	Soil transport	479	1	5	10	6	10
Trackhoe	Excavation	160	1	5	10	20	10
Backhoe	Excavation	160	2	5	10	20	10
Dozer	Soil excavation, grading	160	1	5	10	20	10
Compactor	Soil compaction	160	1	5	10	20	10
Loader	Excavation	215	1	5	10	20	10
Boom truck	Pipe/equipment transport	479	1	5	10	20	10
Water truck	Dust control	175	1	5	10	24	10
Man lift	Other construction equipment	160	2	5	10	20	10

Equipment	Use	Horsepower	Number of Vehicles	Days per Week of Operation	Average Hours per Day of Operation	Duration of Use (weeks)	Peak Use Hours per Day
Fork lift	Forklifts	105	2	5	4	20	10
Welding rigs	Welding equipment	160	2	5	10	20	10
Air compressor	Other construction equipment	112	1	5	10	20	10
Generator	Temporary power	45	1	5	10	24	10
Fill pump	Other construction equipment	160	1	2	4	6	
Hydrotest pump	Other construction equipment	160	1	2	4	6	

2.4.2.4 Storage Terminal Structure Dimensions

Table 2-12 includes a list of structures to be replaced, retrofitted, or repaired as necessary, and the approximate dimensions anticipated for these structures. The anticipated layout of the storage terminal is provided on Figure 2-5.

2.4.2.5 Access and Laydown Areas

Access to the storage terminal would be from West 10th Street. Two staging areas, staging areas 1 and 2, would be used for temporary staging and laydown of construction materials and equipment. Staging area 1 is an approximately 4.75-acre graveled lot located north of the PG&E natural gas meter station (adjacent to and west of PG&E's Switchyard, refer to Figure 2-2). Staging area 2 is an approximately 3.9-acre paved lot located west of Tanks 5 and 6. WesPac would lease staging area 1 from PG&E and staging area 2 from NRG for temporary construction equipment storage. No grading or modifications would be required to the proposed staging areas. Following construction, staging areas would be returned to preconstruction conditions.

WesPac would prepare a Terminal Emergency Response Plan for the proposed project, which would be maintained, posted for use by employees and contractors during construction, and provided to the Certified Unified Program Agencies and emergency response agencies, as required.

2.4.2.6 On-site Roadways, Parking, and Fencing

Minor changes to existing storage terminal roadways and parking are proposed, including:

- existing gravel roadway located between the pipeline trestle and Tank 1 would be paved;

- existing gravel roadway connecting the main access road (west side of East Tank Farm) and the arterial roadway extending around Tank 1 and along the east side of the East Tank Farm would be modified to smooth out the existing road curve and lower the elevation; and

- existing gravel roadway located south of Tank 6, connecting the main access road to the arterial roadway extending along the east side of the East Tank Farm, would be modified to allow for construction of the proposed warehouse building. Modification of this segment would involve relocating an existing aboveground pipeline segment underground.

Table 2-12: Storage Terminal Structural Dimensions

Structure	Approximate Dimension (feet)*
Prover drain sump – underground	10 D X 10 H
500,000-barrel (BBL) crude oil tank	273 D X 48 H
200,000- BBL crude oil tank	175 D X 48 H
162,000-BBL crude oil tank	160 D X 48 to 50 H
54,000-BBL cutter stock	120 D X 50 H
Hot oil heater	30 L X 34 W X 12 H
Office and control building	25 L X 50 W X 30 H
Warehouse building	25 L X 50 W X 18 H
Oil water separator	10 L X 40 W X 12 H
Vessel pump	8 L X 8 W X 12 H
Vertical can pump	10 L X 10 W X 12 H
Pipeline pump	8 L X 8 W X 12 H
Ship loading pump	10 L X 20 W X 8 H
Shipping pump	10 L X 20 W X 8 H
Fire water pump	6 L X 12 W X 6 H
Stormwater sump	14 L X 14 W X 6 H
Fire foam skid	6 L X 21 W X 6 H
Recycle pump	10 L X 20 W X 8 H
Tank pump	10 L X 20 W X 8 H
Bi-directional meter prover	15 L X 30 W X 12 H
Outbound/inbound meter	5 L X 20 W
Sample storage building	10 L X 20 W X 12 H
Substation electrical buildings	20 L X 40 W X 15 H
Thermal oxidizer	50 L X 30 W X 50 H
Thermal oxidizer control building	12 L X 20 W X 15 H
Vapor blower skid	12 L X 30 W X 5 H
115- or 66-kV substation	170 L X 240 W
Trash/recycle collection	10 L X 20 W X 7 H

*Dimension size abbreviations: D = diameter; L = length; W = width; H = height

Minor changes to existing storage terminal roadways would improve access to the emergency access gate located southeast of Tank 6. Some on-site roadways would be shared with NRG for access to the adjacent Pittsburg Generating Station.

Storage terminal roadways and parking areas would require grading at the following locations:

- existing road near Tank 1 to form a "T" type intersection from its current configuration;
- pullouts for new equipment such as new pumps located within the East Tank Farm;
- office and control building parking area (may require nominal grading for surface drainage);
- warehouse building (would require surface grading for building construction with gravel placed on finished surface);
- existing road surrounding the east and south sections of the South Tank Farm,
- 115 kV or 66 kV substation (required for access and fencing); and
- pipeline pump station (required for access).

Seven employee parking spaces would be included as part of office and control building construction. For more detailed description of building construction, see Section 2.4.2.7. Existing perimeter fencing around the storage terminal would be utilized for security purposes. Any existing damaged fencing would be repaired to its original design.

2.4.2.7 Storage Terminal Construction

<u>Tank Purging, Cleaning, and Inspection</u>

Prior to the transfer of ownership of land and equipment from NRG to WesPac, NRG would purge, clean, and inspect the existing tanks as part of NRG's regular maintenance activities, in accordance with all local, state, and federal regulations, including the Bay Area Air Quality Management District (BAAQMD). Tanks would be purged of remaining hydrocarbon vapor, liquids, and solids, and water washed. All tanks are equipped with mixers that keep the product within each tank a uniform consistency. Without mixers some products can stratify into different layers, and water and sludge can settle out on the bottom. After this initial cleaning, the tanks would likely not require subsequent cleaning by WesPac because normal operation would circulate product within the tank to prevent solid-and-water separation from occurring. After purging and cleaning is complete, each tank would be inspected to assess the condition and structural integrity of the tanks.

<u>New Tank Installation</u>

The four existing 500,000-BBL tanks would be demolished following cleaning. Registered professional engineers would evaluate soil conditions at each tank location and design a foundation for each new 200,000-BBL tank. Tanks would be designed under the API Standard 650 Guidelines, which address new tank design, fabrication, and field erection.

Structural Evaluation and Capacity of Existing Tanks

A registered professional engineer would supervise an evaluation of the condition and structural integrity of those existing tanks slated for repair and upgrade. This evaluation would be completed under the API Standard 653 Guidelines, which address storage tank inspection, repair, alteration, and reconstruction. At that time, the final design details of the tanks can be established, including repairs, replacements, structural design, and calculation of working capacity. It is not anticipated that substantial repairs would be discovered as part of structural evaluations as storage tanks are already slated for installation of new tank bottoms and internal floating roofs. Some examples of minor repairs that may result from further structural evaluation include: repairs to access stairways, roof panels, or other appurtenances. Any additional repairs discovered as part of structural evaluation and inspection would be accomplished in concurrence with other storage tank repair and retrofit construction. Additional repairs discovered during structural evaluation are not anticipated to impact the proposed construction schedule, as presented in Section 2.4.10, or otherwise extend the duration of work activities.

The estimated throughput for each storage tank in the Terminal would be:

- 2,078,000 BBLs of crude oil/partially refined crude oil per year for the 162,000-BBL tanks;
- 6,414,000 BBLs of crude oil/partially refined crude oil per year for the 500,000-BBL tanks;
- 8,517,000 BBLs of crude oil/partially refined crude oil per year for the 200,000-BBL Tanks 10, 11, 14;
- 18,250,000 BBLs of crude oil/partially refined crude oil per year for the 200,000-BBL Tank 13[6]; and
- 600,000 BBLs of crude oil/partially refined crude oil per year for the 54,000-BBL tank.

The maximum Reid vapor pressure of the stored crude oil or partially refined crude oil in the tanks would be approximately 10 pounds per square inch absolute.

Table 2-13 summarizes the approximated design specifications for the storage terminal tanks after retrofitting has occurred.

[6] The estimated throughput volume for Tank 12 is greater than Tanks 10, 11, and 14 because all crude oil product exported from the Terminal to the proposed KLM Pipeline connection would be run solely through Tank 12-.

Table 2-13: Storage Terminal Tank Design Specifications

Tank (T) Numbers	Capacity (barrels)	Diameter (feet)	Height (feet)	Connections
T-1, T-2, T-3, T-4, T-5, T-6	162,000	160	48	• One 20-inch suction/fill connection • One 12-inch recirculation connection • One 8-inch connection for mixing • Two 6-inch connections for heating
T-10, T-11, T-12 & T-14	200,000	175	50	• One 20-inch suction/fill connection • One 12-inch recirculation connection • One 10-inch connection for mixing
T-8, T-9, T-13, T-15, T-16	500,000	273	48	• One 20-inch suction/fill connection • One 12-inch recirculation connection • One 10-inch connection for mixing
T-17	54,000	120	50	• One 12-inch suction/fill connection • One 12-inch recirculation connection

Tank Bottoms, Secondary Containment, and Leak Detection

The existing tank bottoms would be refurbished and designed to minimize the presence of residual crude oil when the tanks are filled and emptied. Tank bottoms, secondary containment, and leak detection would be fabricated on-site, inside the existing tanks.

To install the tank bottoms, a portion of the existing insulation would be removed and a portion of the tank wall would be torch cut to create a door sheet. After the door sheet is cut, the plate would be removed to allow access to the tank interior. Required secondary containment and leak detection would consist of a steel floor underlain by an impervious liner placed over the existing floor, and an interstitial space between the existing and updated flooring containing fill material and weep holes around the perimeter of the tank for leak detection. To lay the new tank liner, the shell would be slotted at the new bottom elevation. After the liner was installed, the leak-detection ports would be installed to the existing shell. Concrete spacers with leak-detection channels, and the new side sump if specified, would be installed.

After the leak-detection system (and side sump if specified) is installed, the tank-bottom plates would be installed and fit into place. As the plates are set, they would be welded into place, and the new sump (if specified) would then also be welded into place. After the bottom fabrication is complete, the bottom seams would be vacuum-box tested and a corner-weld test would be completed to verify the integrity of the fabrication.

Tank Roofs

Following tank-bottom installation, tank roofs would be refurbished. Existing external floating roof tanks would be repaired and upgraded as required to meet current industry and regulatory requirements. All of the tank roofs would be floating-type roofs designed to meet applicable regulatory and emissions requirements. The type of floating roofs utilized would depend on the results of the tank condition assessments, but would likely be pontoon-type roofs with primary metallic shoes and secondary double-wiper seals. Most of the fabrication of the tank roofs would occur off-site. The tank roof parts would then be brought on-site via trucks for assembly.

Internal floating roofs would be installed inside the existing tanks with fixed roofs. Scaffolding would be erected inside the existing tank for roof installation. Access would be provided by the door sheet that was torch cut at the start of the retrofit process. Pontoon-bottom plates would be arranged, fit, and welded together. Afterward, the outer rim plate, pontoon bulkheads, inner rim plate, and the pontoon leg sleeves and repads would be installed. Following, pontoon cover plates would be arranged, fit, and welded together.

After pontoon fabrication is completed, the pontoons would be tested and workers would begin fabrication of the deck. Beginning at the center of the deck, deck plates would be arranged, fit, and welded together. The new leg sleeves, sumps, and other appurtenances would be installed and tested.

After the deck and pontoon test, the roof would be lifted slightly to remove scaffolding and install the rim seal. After the rim seal is installed, the door sheet would be installed to allow final testing and coating of the tank interior.

As mentioned in Section 2.3.2.2, an internal floating roof sits on the liquid stored in the tank to minimize or eliminate the potential for gasses to accumulate above the liquid. This simple system serves as an effective method of pollution prevention as long as the roof and associated seals are floating on top of the liquid. If the liquid level in the tank is lowered below that of the floating roof support legs, the roof would rest, or "land," on the legs rather than on the liquid, severely limiting the control efficiency of the floating roof. To prevent these limitations, liquid levels would be kept above the floating roof support leg levels, and tank roofs would only be "landed" during required API 653 inspections.

Tank Heaters

Existing tanks in both the East Tank Farm and South Tank Farm are insulated and equipped with internal heating coils. Heating is required for certain heavier partially refined crude oils (e.g., fuel oil) to reduce oil viscosity and allow for transportation through the piping system. The existing heating system in the East and South tank farms would be demolished, and a new tank heating system would be installed for the handling of these heavier crude oils.

New natural gas-fired heaters would be designed to meet BAAQMD emission requirements. Equipment would be insulated for personnel safety and to minimize heat loss. Because heaters would be fueled by natural gas, a PG&E service connection would be required (see Storage Terminal Plumbing and Gas Connection section).

The heating systems would be designed either as closed-loop heating systems or external heating systems. The closed-loop heating systems would consist of natural gas-fired heating units that would heat up and circulate thermal oil within a designated piping system. This piping system would be routed into tanks, and thermal oil would be circulated internally through heating coils. Heat would transfer from the heating coils (containing thermal oil) to crude oil inside the storage tanks. Alternatively, the external heating systems would consist of a natural gas-fired heater that would directly heat the crude oil outside of the tank in heat exchangers. The crude oil would then be circulated into the insulated tank using the main tank shipping pump. Tank heater design would be based on a variety of engineering and environmental factors.

Fire-protection System

A fire-protection system for facilities within the storage terminal would be developed in compliance with the latest edition of NFPA and Contra Costa Fire Department regulations. It is anticipated that the existing system would either be upgraded or replaced to comply with these regulations. If the existing fire water piping system is replaced, existing pipes would likely be abandoned and the new distribution system, including fire water pipelines and pumps, would be designed and installed separate from that of the NRG fire-protection system. In both cases, an existing intake structure located near the northeast corner of the NRG Power Plant would be utilized to provide water for the new fire-protection system.The Suisun Bay would continue to be the water source for the tank fire-protection system, via the existing intake structure.

Pipe needed for the new fire water pipelines would be delivered on a flatbed truck and unloaded to the project site using a forklift. Typical open-trenching techniques would be used, beginning by marking the trench route and then excavating trenches, approximately 4 feet deep and 1 foot wide, using a backhoe excavator. Each trench would contain one high-density polyethylene (HDPE) pipe. A flatbed boom truck would be used to string the pipe segments together. A fusing machine would be used to fuse the pipe segments together, and the pipe would then be lowered into the trenches using a sideboom. Final connection welds would be fused, and the trench would be backfilled and compacted. The fire water pipeline would be filled with water and hydrotested prior to final commissioning.

After the fire water pipelines are hydrotested, isolation valves, hydrants, and monitors would be installed throughout the project facilities.Hydrants would be spaced approximately every 300 feet, and monitors would be installed at manifolds and pump areas. Elevated foam/water monitors would be installed on the dock for use on the loading and unloading system. The monitors would be capable of being remotely operated. Fixed-foam fire-protection systems would be provided for seal-area protection of the storage tanks. Foam concentrate would be stored on-site in fixed tanks. These systems would be designed and installed in accordance with NFPA-11. An additional quantity of foam concentrate would be stored on-site to provide backup for refill of the largest bladder tank[7].

[7] A bladder tank is one component of a balanced-pressure, fixed-foam fire-protection system. The bladder tank contains an inner bladder, which encapsulates the foam concentrate and physically separates stored foam concentrate from the water supply. When the system is activated, water is directed into the tank shell, which then pressurizes the space between the flexible bladder and the interior tank wall. This water pressure causes the bladder to collapse, which then dispenses foam concentrate through distribution piping.

Firewater would be supplied using diesel-driven vertical pumps, per NFPA-20. Fire pumps would include 12-inch suction, 8-inch discharge, an approximately 500-horsepower engine, and associated centrifugal pumps. The new fire-protection system would be designed to provide water at a minimum rate of 3,000 gallons per minute, and a jockey pump would be provided to maintain pressure. Pumps would be delivered to the project site on a flatbed truck and unloaded with the use of a forklift. New pump foundations would be installed for the pumps and drivers. After foundations are poured, vertical pumps would be set using a small crane. The pumps would be grouted and aligned, and then final piping connections would be installed. Additional regulatory reviews would be completed in compliance with applicable jurisdictional agencies prior to final commissioning.

The capacity of the system would be in accordance with applicable requirements, as specified in the California Fire Code and by the Contra Costa County Fire Protection District.

Marine Thermal Oxidizer

The major components of the thermal oxidizer and associated vapor recovery system (such as the stack, burner unit, detonation arrestor, 8-inch-diameter vapor piping, and control shed) would be manufactured off-site. The skid, a platform that holds the thermal oxidizer, would be delivered by flatbed truck to the project site in multiple sections and assembled on-site. The thermal oxidizer would be 15 feet long by 30 feet wide and 50 feet tall. Installation of the thermal oxidizer and associated vapor recovery system would begin with the installation of the skid and control shed foundation. A backhoe excavator would conduct minor excavation of the ground and soil would be removed for disposal by a dump truck. A cement truck would be used to pour a concrete foundation for the skid and control shed. Power and control conduit and wiring would be installed to the control shed underground, using a backhoe excavator to dig conduit trenches, approximately 4 feet deep and 1 foot wide. Open-trenching methods would be similar to those described above for the underground firewater piping system. The skid and control shed would be installed on their respective foundations using a crane, and the remaining components of the thermal oxidizer would be assembled using a crane and/or smaller boom truck. After the components of the vapor incinerator have been assembled, the final bolt-up piping connections would be installed to facility piping.

External Structural Repairs

Following the repair, retrofit, and other improvements made to the storage tanks, minor external repairs may be required to the tanks and associated platforms and stairways. If paint on existing structures such as walking platforms or stiles appears chipped or degraded, structures would be repainted. Repair work would consist of surface preparation such as minor sand blasting to remove most of the remaining paint and any superficial rust. The surface would be coated with a primer and exterior paint to match the existing color.

Additional general maintenance work would be completed on existing piping, pipe supports, and other equipment that would remain in place. Existing pipe supports would be inspected and repaired or replaced as necessary. Concrete that shows significant cracking or spalling would be repaired or replaced, in kind. Structural steel showing damage would also be replaced. To complete repairs, a backhoe would be utilized to excavate and remove damaged supports. Structural welding and grinding of the steel portion of the support would be completed on-site. Existing pipe insulation and steam tracing would be removed. Much of the existing building, wiring, and pipe insulation contains asbestos and would be handled and disposed of in accordance with appropriate regulations. Pre-existing signage warning of asbestos-containing materials (ACM) would remain on-site during and after construction. Lastly, the existing steel lines would be repainted with an exterior primer and paint. Repainting would require surface preparation with the use of a sand blaster.

Storage Terminal Crude Oil Pipelines

In addition to repair of existing pipe and pipe supports, new aboveground pipelines for the transport of crude oil would be installed within the storage terminal. Storage terminal piping would be located aboveground with the few exceptions where a short segment of pipeline would be placed below grade to accommodate site features (e.g., roadways). Similar to the existing piping, new storage terminal pipelines would be set on pipe racks (squat “H” frame steel supports) located every 30 to 40 feet along the pipeline route, or on “sleepers,” a steel beam with a concrete footing or caisson-type foundation on the ground (similar to railroad ties). New concrete footings would be installed with the use of a cement truck. Aboveground pipelines would be painted for corrosion protection and below-grade segments would be coated in a fusion-based epoxy.

Pumps and Noise-barrier Walls

Table 2-14 summarizes pumps proposed to be installed within the storage terminal.

Table 2-14: Proposed Storage Terminal Pumps

Pump Description/Service	Number of Pumps	Location	Pump Size (Horsepower)
Process Pumps			
Tank pumps	3	East Tank Farm	500
Ship loading pump	1	East Tank Farm	1,500
Ship loading pump	1	South Tank Farm	1,500
Pipeline shipping pumps	4	South Tank Farm	3,500
Recycle pumps	3	East Tank Farm	200
Tank pumps	9	South Tank Farm	750
Flushing pump	1	South Tank Farm	500
Utility/Miscellaneous Pumps (Non-process)			
Firewater pump	1	East Tank Farm	542
East Tank Farm sump pump	1	East Tank Farm	Not available
Stormwater collection pond sump pump	1	East Tank Farm	Not available

To ensure that potential noise-related impacts associated with storage terminal pumps would be minimized and in compliance with local noise-level requirements, noise-barrier walls would be installed within the storage terminal at five pump locations where pumps are near adjacent residential areas (easterly adjacent to the East Tank Farm). Noise modeling was used as a design tool to determine the most optimum locations and dimensions of noise-barrier walls. Noise-barrier walls, as described below, would be installed as part of storage terminal construction at the following locations (refer to Figure 2-5):

- Vertical can pump (P0001), located between Tanks 5 and 6, would receive a two-sided noise-barrier wall, approximately 16.5 feet tall and a total of 32 feet long (9-foot-long wall on the northern front and 23-foot-long wall along the eastern front), located 6 feet north and east of the pump and motor skid.

- Recycle pump (P0506), located between Tanks 5 and 6, would receive a two-sided noise-barrier wall, approximately 12 feet tall and a total of 29 feet long (8-foot-long wall on the southern front and 21-foot-long wall along the eastern front), located 6 feet south and east of the pump and motor skid.

- Tank pump (P0800), located east of Tank 8, would receive a two-sided noise-barrier wall, approximately 16.5 feet tall and a total of 31 feet long (11-foot-long wall on the northern front and 20-foot-long wall along the eastern front), located 8 feet south and 7 feet east of the pump and motor skid.

- Tank pump (P0900), located east of Tank 9, would receive a two-sided noise-barrier wall, approximately 13 feet tall and a total of 42 feet long (13-foot-long wall on the southern front and 29-foot-long wall along the eastern front), located 6 feet south and east of the pump and motor skid.

- Tank pump (P0304), located between Tanks 3 and 4, would receive a two-sided noise-barrier wall, approximately 15 feet tall and a total of 21 feet long (7-foot-long wall on the southern front and 24-foot-long wall along the eastern front), located 5 feet south and east of the pump and motor skid.

Noise-barrier walls may be constructed using pre-cast concrete panels or pre-fabricated acoustical walls, provided that noise-barrier walls have a minimum density of 4 pounds per square foot (or provide a minimum sound transmission cast rating of 30). The total noise-barrier surface area would be approximately 2,400 square feet. For more information regarding potential impacts associated with noise from pumps and motors, see Chapter 13.0: Noise and Vibration.

The engineering noise-control designs above have been predicated on the greatest noise levels possible from each pump and motor combination, as indicated by product vendors. It is possible that lower noise-level pumps and motors may be procured and installed. In this case, the engineering controls may be reduced and still allow for compliance with federal, state, and local noise-level requirements.

Oil Water Separator and Stormwater Retention Basin

The OWS would be installed at the northern end of the facility near an existing lined concrete pond that would be repurposed as a stormwater collection pond (refer to Figure 2-2).The OWS unit would be prefabricated off-site and delivered to the facility on a flatbed truck. Prior to delivery, a concrete spill-containment pad would be installed using a backhoe excavator, dump truck, and cement truck. Following installation of the pad, the OWS unit would be offloaded with the use of a crane. Mechanical piping connections would be installed and the final system would be tested prior to commissioning.

The existing lined concrete pond that would be repurposed as a stormwater collection pond is approximately 41,460 square feet. Under routine conditions, influent stormwater to the collection pond would be inspected and directly conveyed to the retention basin (i.e., based on the expected observation that stormwater would be free of pollutants under routine conditions). During upset or non-routine conditions (e.g., if influent water to the stormwater collection pond contained hydrocarbons), water entering the collection pond would be conveyed through the OWS for treatment, then conveyed to the retention basin in the South Tank Farm.

During construction, the existing concrete pond would be inspected for cracks and repaired as necessary. Inlets and outlets would be inspected to remove accumulated debris and repaired, as necessary. The existing stormwater retention basin within the South Tank Farm is approximately 644,010 square feet and would be inspected and repaired, as necessary.

Most of the existing stormwater pipeline system within the NRG facility (mainly within the East Tank Farm) is underground. This existing pipeline system would be modified to segregate water from the remaining NRG Pittsburg Generating Station and the new WesPac Terminal (see Figure 2-16: Stormwater Retention Basin and Oil Water Separator Pipeline and Drainage System). Currently, within the East Tank Farm, a 15-inch-diameter concrete pipeline runs north to south underground from the East Tank Farm to the stormwater retention basin in the South Tank Farm, sloped so that the low point is between Tanks 3 and 4. Existing underground 10-inch-diameter and 6-inch-diameter concrete lateral pipelines extend to the tanks and connect to the main 15-inch-diameter concrete pipeline. These existing lines would remain in place. The main pipeline and both lateral pipelines connect to a sump located across the main access road in what would be NRG property. A new collection sump would be installed at the low point inside the East Tank Farm to separate stormwater in the East Tank Farm from stormwater in the NRG Pittsburg Generating Station. Existing connections between the NRG property and the East Tank Farm would be plugged. A new sump pump would be installed to pump stormwater from the new collection sump to the stormwater collection pond in the north of the East Tank Farm (existing lined concrete pond to be repurposed), and a new aboveground line would be installed to connect the low-point collection sump to the (repurposed) stormwater collection pond. In addition, a new aboveground line would be installed to connect the stormwater collection pond in the East Tank Farm to the stormwater retention basin in the South Tank Farm.

The existing South Tank Farm is graded so that stormwater drains into the stormwater retention basin. No additional construction, piping, or grading would take place within the South Tank Farm to alter how existing stormwater drains into the stormwater retention basin. Existing connections from PG&E's natural gas meter station to the stormwater retention basin in the South Tank Farm would remain connected. Two existing sump pumps located in the stormwater retention basin in the South Tank Farm would pump the stormwater from the retention basin into Willow Creek through an existing stormwater line.

Any new or repaired underground water lines and pumps associated with the stormwater retention basin and OWS would be installed using open-trenching techniques, similar to what is described for the underground firewater piping system.

Plumbing and Gas Connection

The project would involve the construction of new potable water and wastewater (sewer) pipelines to the proposed office and control building, to be located between Tank 1 and the marine terminal, and to the marine terminal platform for a lavatory facility and a safety shower, as required by Occupational Safety and Health Administration (OSHA) standards. A short water pipeline connection also would be needed at the warehouse building, southwest of Tank 6. New water pipelines and meter connections would be installed from the existing meter location just west of the intersection of Beacon Street and West 10th Street, and routed to the proposed office and control building, marine terminal, and warehouse building. See Figure 11-1: Water and Wastewater Lines in Chapter 11.0: Public Services and Utilities for locations of proposed water pipelines.

New wastewater pipelines would tap into an existing 8-inch-diameter pipeline that runs between Tank 2 and Tank 3 at the point where it intersects the access road. One new line would run along the access road north to the proposed office and control building and to the marine terminal, and another new line would run south along the access road to the warehouse building. See Figure 11-1 for locations of proposed wastewater pipelines.In general, wastewater would be generated only from personnel uses (e.g., lavatories and kitchen facilities) during construction and operation.For more information regarding wastewater lines, see Chapter 11.0: Public Services and Utilities.

Preliminary and subject to change based on final engineering and other factors.

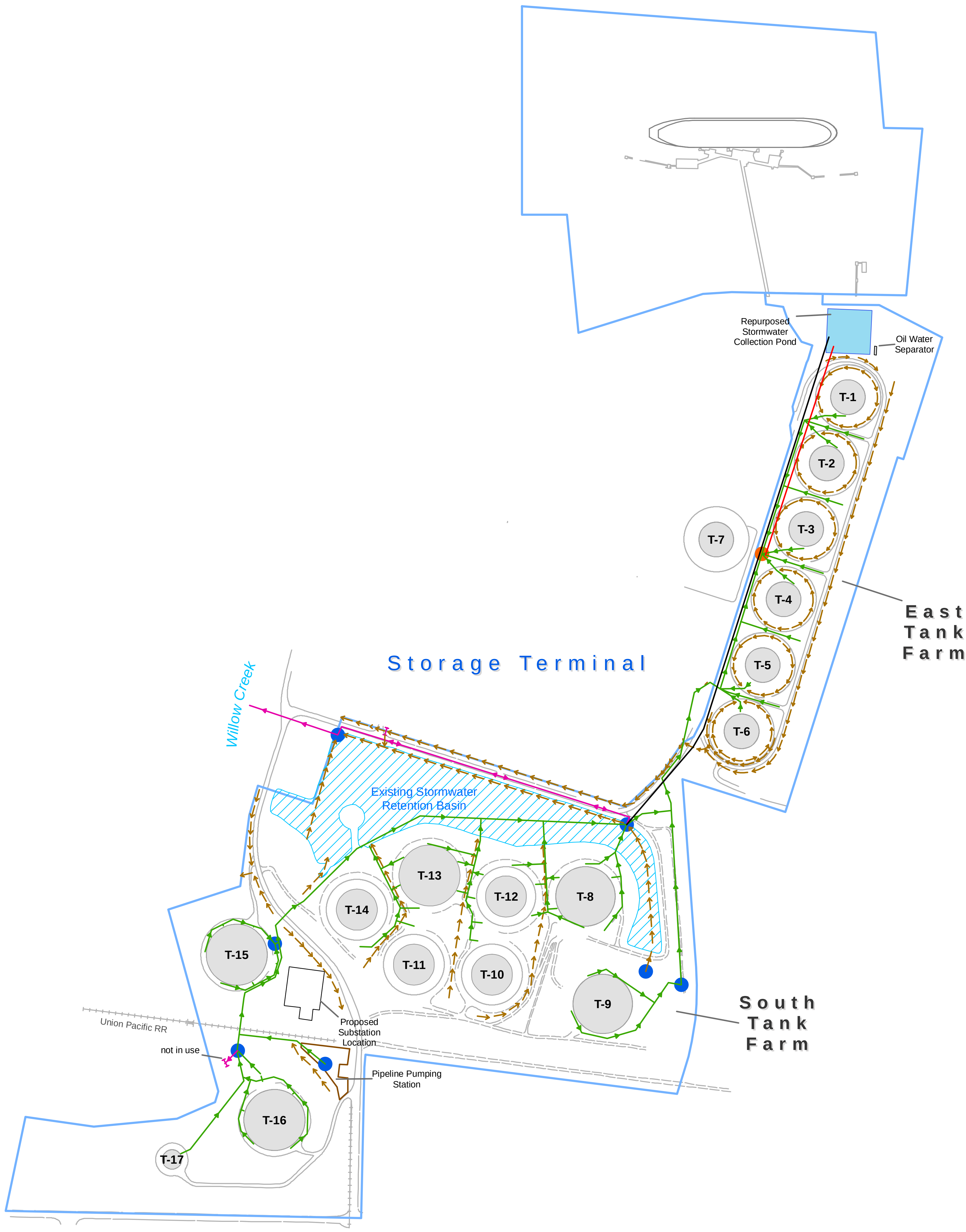


Figure 2-16 Stormwater Retention Basin and Oil Water Separator Pipeline and Drainage System
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

TRC

6/19/2013

- Oil Water Separator Pipeline
- Stormwater Drainage System
- Drainage Trench
- Proposed Aboveground East Tank Farm Stormwater Collection Line
- Proposed Aboveground South Tank Farm Stormwater Collection Line
- Terminal Boundary
- Existing Sump
- Proposed Sump

N

1:6,000

1 inch = 500 feet

0 250 500 ft

An existing PG&E gas connection that feeds the NRG Pittsburg Generating Station would be used to provide natural gas to the Terminal for the thermal oxidizer and heaters. The vapor from ship-loading operations is generally too lean to combust efficiently in the vessel's burner. Therefore, when the cargo is being loaded onto a vessel, an assist gas (natural gas) must be added to the vapor mixture prior to burning in the thermal oxidizer. The total combined assist gas and vapor needed for the thermal oxidizer would be approximately 67 million British thermal units per hour (MMbtu/hr) and would require approximately 187 standard cubic feet per minute of natural gas. The total amount of gas and vapor required for tank heaters would be approximately 36 MMbtu/hr. At its highest heat, each heater could require approximately 15,000 cubic feet per hour of natural gas. However, most likely only two heaters would ever operate at one time and heaters would operate approximately 50 percent of the time in a one-year period.

Lateral gas pipeline connections and meters for the tank heaters and thermal oxidizer would be installed by PG&E or WesPac, contingent upon the terms of the connection agreement, which has not been established at this time. Pipeline connections and meters would be designed and constructed to meet federal design codes for natural gas pipelines. The proposed on-site natural gas pipeline lateral would be a 3.5-inch diameter steel pipeline, which would operate at approximately 30 pounds per square inch. From the existing PG&E gas meter station, the gas pipeline would be undergrounded heading southeast toward the existing pipe racks at the South Tank Farm. From the South Tank Farm, the gas pipeline would be installed aboveground on a new pipe rack that connects to the thermal oxidizer. The new pipe rack would be installed parallel to the existing rack. For a more detailed description, see Chapter 11.0: Public Services and Utilities and Figure 11-2: Gas Pipelines and Electric Power Lines.

Underground natural gas pipelines would be installed in trenches 4 feet deep and 1 foot wide using open-trenching techniques, similar to what is described for the tank fire-protection system. Pipe segments would be strung out with the use of a crane and welded together using portable welding machines on trucks. After welding is complete, pipe would be lowered into the trench using a sideboom. After backfilling and compaction of native soils, natural gas pipelines would be hydrotested in place, and if successful, dewatered into a water truck. The pipeline would be dried with an air compressor and swab pigs before being put into operation.

The aboveground portion of the pipeline would require pipe supports, including concrete foundations and steel support structures. Once the support structures have been installed, pipe would be strung out using boom trucks. Pipe would be assembled and welded onto the supports using portable welding machines mounted on trucks. After assembly, the pipe would be hydrostatically tested, as described above.

Potable water, sewer, and natural gas pipelines would be designed and constructed to meet applicable design and City of Pittsburg requirements. Construction and installation would be completed in conjunction with construction of the office and control building.For more information regarding potable water, sewer, and natural gas pipelines, see Chapter 11.0: Public Services and Utilities.

Office and Control Building and Warehouse Building

A new two-story office and control building would be constructed adjacent to and south of the marine terminal pipeline trestle, northwest of Tank 1 in the East Tank Farm. The office and control building itself would be approximately 2,500 square feet with a footprint of approximately 1,250 square feet (approximately 25 feet wide by 50 feet long by 30 feet tall).An additional 1,250 square feet would be paved to accommodate seven parking spaces (six employee parking spots and one ADA-compliant handicapped accessible parking spot), and a trash enclosure (approximately 10 feet long by 20 feet wide and 7 feet tall).

The building footprint would require minimal preliminary clearing and grading prior to construction. Concrete paving and foundation work would be conducted using a cement truck. The prefabricated building and building components would be installed using a crane. The building would likely be cinderblock, steel frame and roof, with (smooth) stucco exterior (see Figure 2-17: Proposed Office and Control Building Layout).

In addition, a single-story warehouse building would be constructed south of Tank 6 in the East Tank Farm for facility operators. The warehouse building would be approximately 1,250 square feet (approximately 25 feet wide by 50 feet long and 18 feet tall), and would have a concrete (permeable asphalt) foundation. In addition, a trash receptacle (approximately 10 feet long by 10 feet wide and 8 feet tall) would be included outside the building, also located on a concrete (permeable asphalt) foundation.

As with the office and control building, the warehouse building would require minimal preliminary clearing and grading prior to construction. Concrete paving and foundation work would be conducted using a cement truck. The prefabricated building and building components would be installed using a crane. The building would likely be cinderblock, steel frame and roof, with (smooth) stucco exterior similar to that of the office and control building (see Figure 2-18: Proposed Warehouse Building Layout). The area surrounding the warehouse building would be graveled, with a possible exception for a small paved area (approximately 20 feet by 40 feet) for truck unloading only. If the truck unloading zone is installed, it would be permeable asphalt.

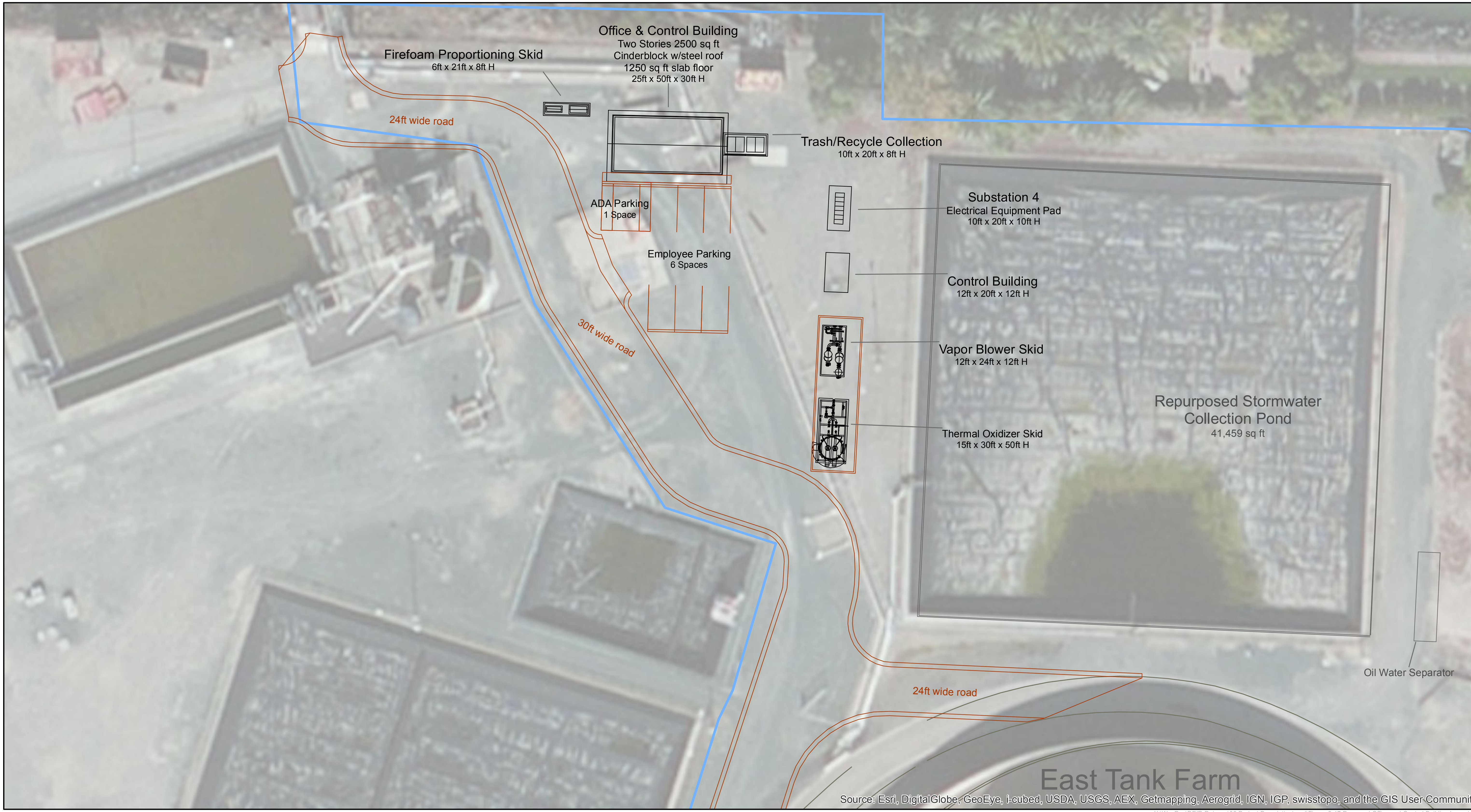


Figure 2-17
Proposed Office and Control Building Layout
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

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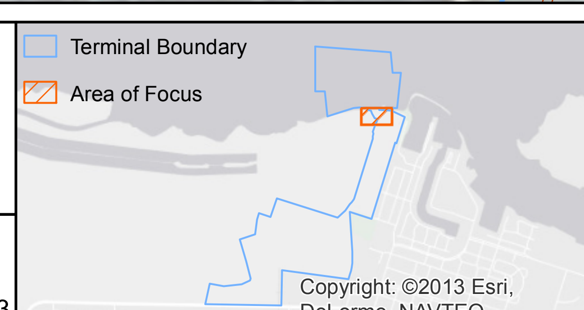


Terminal Boundary

1:500

1 inch = 42 feet

0 40 80 ft

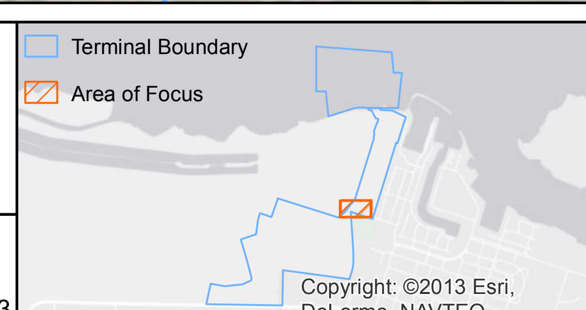
N

X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-18 Proposed Warehouse Building Layout.mxd

Figure 2-18
Proposed Warehouse Building Layout
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

TRC

6/11/2013



Terminal Boundary

1:500

1 inch = 42 feet

0 40 80 ft

N

Any exterior lighting fixtures for these new buildings would be located and designed to avoid casting light or glare toward off-site locations, in accordance with the requirements of the PMC section 18.82.030.

The office and control building, warehouse building, and smaller modular electrical and pump control buildings would also be designed and constructed to meet City of Pittsburg, California Building Code, and NFPA standards. Emergency access for response vehicles and equipment would be provided with required (unobstructed) width, within 150 feet of the building, in accordance with applicable regulatory requirements and specifications of the Contra Costa County Fire Protection District.

<u>Soil-disturbing Activities</u>

Storage terminal construction would involve excavation of soils during activities such as open trenching, grading, and/or structure foundation work, as described above. The excavated soil would be used later as backfill or removed and properly disposed of as appropriate. Specific components requiring disturbance to soils as a result of construction include: tank fire-protection system (underground firewater piping system); marine vapor recovery system (thermal oxidizer foundation excavation, underground power and control conduit wiring, and underground vapor piping); OWS and stormwater retention basin system (associated underground water piping and pumps), undergrounding of utilities (potable water lines, sewer lines, and gas lines),slabs and footings for substation equipment (see Section 2.4.2.8);and foundations for the office and control building, warehouse building, and other electrical and pump control buildings (excavation of foundation and associated utilities).

For open-trenching operations, soils previously excavated and stored would be used as backfill. Backfilling the trench involves replacing the excavated subsoil into the trench and re-spreading the topsoil to return the surface to its original grade. The topsoil may be mounded slightly over the trench to accommodate any future settling of the trench backfill. Backfilling would typically occur within 72 hours of pipeline installation to minimize potential impacts to wildlife that may fall into the trench. At the conclusion of each day's trenching activity, the end of the trench would be left ramped at an approximate 2 to 1 slope to allow any wildlife that may fall into the trench to escape. For a more detailed description of open-trenching methods, including best management practices (BMPs) and regional groundwater removal, see Section 2.4.4.4. For ground-disturbing activities where soils would be removed and disposed, soils would be tested and if determined non-hazardous, disposed of at Keller Canyon Landfill, located at 901 Bailey Road in Pittsburg. If hazardous soils are encountered, such soils would be moved into temporary lined storage bins on-site, covered with plastic sheeting as necessary, and disposed of in accordance with all federal, state, and local regulations (including BAAQMD requirements).Additionally, a Stormwater Pollution Prevention Plan (SWPPP), required under the NPDES General

Construction Permit, would be implemented at the site during construction to prevent adverse impacts to water quality from soil-disturbing activities (for more detailed information, see Chapter 17.0: Water Resources).

The total amount of soil anticipated for removal within the storage terminal as a result of construction activities would be approximately 3,583 cubic yards. Of this total, approximately 2,300 cubic yards would be used as backfill or spread within the storage terminal for grading and ground foundation purposes. Approximately 1,283 cubic yards of soil would require disposal following storage terminal construction. It is anticipated that an area of approximately 2.5 acres would be disturbed during storage terminal construction.

Table 2-15 summarizes the estimated amounts of soil disturbance for each phase of work within the storage terminal, excluding soil associated with roadway construction (refer to Section 2.4.2.6). Soil associated with grading of roadways, as described in Section 2.4.2.6, would be minimal, and generally soil would not be removed or added. For the majority of these areas, the current grade of the area would remain unchanged accept for nominal surface grading required to maintain proper drainage. However, there are two exceptions: (1) grading required for the existing road just north of Tank 1, and (2) grading required for pullouts for equipment in the East Tank Farm. The existing road just north of Tank 1 would require the removal of approximately 580 cubic yards while removing an existing culvert and leveling the road to match the existing main terminal road. Pullout sections where new equipment would be installed—between Tanks 1 and 2, Tanks 3 and 4, and Tanks 5 and 6—would require approximately 267 cubic yards per area of additional fill to match the existing road surface, totaling approximately 800 cubic yards. Some of the soil removed from the existing road just north of Tank 1 may be used for filling pullout areas that require additional fill.

2.4.2.8 Substation Construction

Substation construction would begin with the installation of a foundation, followed by the installation of the transformer and other initial substation structures. No grading, vegetation removal, or slope-stabilization activities are anticipated for substation site preparation. Installation of the substation and subsurface ground grid would generate approximately 50 cubic yards of soil, which would be reused on-site. Representative samples of excess soil would be collected, analyzed, and profiled for disposal in accordance with all federal, state, and local regulations. Reinforced concrete footings and slabs would be constructed to support structures and equipment. After the concrete has cured, the aboveground steel structures, circuit breakers, transformer, switchgears, buses, dead end and other electrical equipment, such as associated control system hardware would be installed.

Table 2-15: Soil-disturbing Activities

Construction Phase	Soil Disturbed (cubic yards)
Fire protection piping	2,133
Pump foundations	284
Other equipment and pipe-support foundations (non-pumps)	439
Oil water separator/stormwater system	163
Thermal oxidizer equipment	110
Conduit/power lines	167
Buildings	287
Total:	**3,583**

Structures would be erected to support buses, switches, overhead conductors, instrument transformers, and other electrical equipment. Structures within the substation would be grounded to the station-grounding grid. Equipment would be placed on slabs and footings, and either bolted or welded securely to exceed the Uniform Building Code seismic requirements. A backhoe and equipment crane would be used for the installation of the substation.

Substation electrical buildings would be pre-fabricated and installed on concrete footings.

<u>PG&E Power Line Interconnection</u>

The construction for the power line interconnection work is divided into two phases: (1) installing new poles within the Terminal and PG&E switchyard, and (2) installing the conductor.

Pole Installation

TSPs, approximately 70 to 90 feet tall and approximately 30 inches in diameter (may taper from base to top), would be installed along the alignment (refer to Figure 2-9).A semi-truck with trailer would deliver the TSPs to the pole sites and a crane would off load TSP sections. Each TSP would consist of two or three sections which would be assembled at the pole site. While the type of foundation for new TSPs has not yet been determined, any soils excavated during pole installation would be tested and disposed of in accordance with applicable regulations. Augured holes for poles (and associated foundations) would be covered with the end piece of a conductor spool until the associated foundation and/or pole is installed. Once a pole foundation is installed, the bottom section of the TSP would be delivered to the site and set in place by a crane, followed by the remaining section(s).

Stringing Conductor

The conductor stringing operation begins with the installation of travelers or stringing blocks. Travelers are rollers attached to the cross arms of the new TSPs. The travelers allow the individual conductor to be pulled through each structure until the conductor is ready to be pulled up to the final tension position.

When the pull and tension equipment is in place, a sock line (a small cable used to pull the conductor) is pulled from pole to pole using ground equipment. After the sock line is installed, the conductor is attached to the sock line and pulled in, or strung, using the tension-stringing method. This involves pulling the conductor through each traveler under a controlled tension to keep the conductor elevated. After the conductor is pulled into place it is adjusted to the final design tension. The conductor is then clamped to the end of each insulator and the travelers are removed. The final step of the conductor installation is to install vibration dampers and other accessories.

2.4.3 Rail Transload Facility

2.4.3.1 Governing Codes and Standards

As discussed in Chapter 1.0: Introduction and Project Goals and Objectives, while the movements of trains within Contra Costa County to and from the Rail Transload Facility are described in this EIR, BNSF railroad operations (including associated construction of rail and bridges) described in this EIR are preempted from local and state environmental regulations by federal law, under the Interstate Commerce Commission Termination Act. Therefore, the City of Pittsburg and other state and local responsible agencies are preempted from imposing mitigation measures, conditions or regulations to reduce or mitigate potential impacts of BNSF train movements. Impacts related to rail operation are described herein to the maximum extent feasible (see Section 2.5.4 for more details).

By contrast, local regulation of construction activities associated with the Rail Transload Facility itself are not preempted by federal law, and the impacts of those activities are described and evaluated in the respective chapters of this EIR.

The proposed Rail Transload Facility has been designed in accordance with the following design standards:

- Design Guidelines for Industrial Track Projects
- American Railway Engineering and Maintencance-of-Way Association Manual for Railway Engineering
- BNSF and UPRR Guidelines for Railroad Grade Separation Projects

2.4.3.2 General Construction Sequence

Rail Transload Facility construction can be separated into either platform or rail and bridge activities. Construction for these activities would generally occur as follows:

Transloading Platform Construction

1. Install SWPPP measures.
2. Demolish, or partially demolish, structures within the limits of construction, as needed.
3. Rough grading of site and soil remediation, as needed.
4. Structure excavation.
5. Install foundations and pads required for new canopy structure and other facilities.
6. Install underground utilities required for maintaining existing and constructing new facilities (including utility service connections, railroad utility crossings, crude oil piping, stormwater piping, and Rail Pipeline).
7. Install crude oil transloading concrete platform with integrated rail.
8. Install “on-platform” equipment and piping for facility.
9. Install modular administration/control building.
10. Pave roadways for site accessibility and install fencing for site security, as needed.
11. Site cleanup.
12. Equipment commissioned and transloading facility released to operations.

Rail/Bridge Construction

1. Install SWPPP measures.
2. Demolish, or partially demolish structures, as needed.
3. Rough grading of site and soil remediation, as needed.
4. Install underground utilities required for maintaining existing and constructing new facilities.
5. Bridge structure excavation.
6. Install bridge substructure (piles, footings, abutments, columns).
7. Install bridge superstructure and complete approaches.
8. Install rail structural section (sub-ballast and ballast).
9. Install rail, switches and transitions required for facility rail operations.
10. Fine grade construction site.
11. Site cleanup.

While the sequence above provides a general idea of the succession of Rail Transload Facility construction, some individual structures may be built concurrently, independent of one another. In addition, the construction sequences provided are subject to change based on the actual site conditions encountered (e.g., local agency restrictions, permit requirements, rail coordination, inspections, and resource availability). For more information regarding construction scheduling see Section 2.4.10.

2.4.3.3 Typical Construction Equipment

Typical construction equipment and anticipated duration of use required for Rail Transload Facility construction is included in Table 2-16.

2.4.3.3 Equipment Refueling

Refueling of construction equipment would be restricted to designated areas within the construction site limits. Spill prevention and control BMPs would be implemented on-site prior to construction activities and spill kits would be kept on-site at all times.

2.4.3.4 Access and Laydown Areas

Rail Transload Facility improvements (facility and rail locomotive components) are located within the BNSF Railway right-of-way (ROW). The new associated Rail Pipeline would be installed on an existing easement between BNSF's ROW and the proposed Terminal. Construction staging and lay down areas needed for the Rail Transload Facility would be contained within BNSF's existing ROW, which would include the proposed Rail Transload Facility site and areas west of the existing UPRR and BNSF transfer tracks. Staging areas would be utilized for the temporary storage of construction materials and equipment.

Rail Transload Facility access would be via Leslie Drive and through an existing maintenance road running through a private property to the east of the facility. Temporary lane closures for construction access may be required along streets adjacent to Railway Avenue. Closures would be coordinated with the City of Pittsburg. WesPac would obtain encroachment permits to conduct work in public rights-of-way in accordance with State and City of Pittsburg requirements.

2.4.3.4 Construction Power and Electricity

Construction machinery would run primarily on diesel-powered engines. Electricity would only be used for welding equipment, temporary lighting, and temporary contractor trailers. The temporary electrical load required for construction would be provided by either (1) portable diesel generators located near work areas, or (2) a temporary service connection, as permitted by BNSF and PG&E.

Table 2-16: Typical Rail Transload Facility Construction Equipment

Equipment	Use	Number of Vehicles	Days per Week of Operation	Hours per Day of Operation	Duration of Use (weeks)	Peak Use Hours per Day
Motor graders (CAT 160M2)	Grading	2	5	10	6	10
Track-type tractors (CAT D9)	Grading	2	5	10	6	10
Compactors (CAT CS583	Grading	2	5	10	6	10
Scrapers (CAT 627G)	Grading	6	5	10	6	10
excavator (CAT 320D	Grading	1	5	10	6	10
front loader (CAT 966K	Grading	1	5	10	6	10
truck and trailer (10CY capacity)	Grading	4	5	10	6	10
water trucks (1 – 5,000 gal, 1 – 2,500 gal)	Grading	2	5	10	6	10
75T RT Hydraulic Crane (RT-TMS875	General Construction	1	5	10	35	10
25T Boom truck (Terex Stinger 4792	General Construction	1	5	10	35	10
Backhoe (Case 580	General Construction	1	5	10	35	10
Water truck (1 – 2,500 gal)	General Construction	1	5	10	35	10

2.4.3.5 Rail Transload Facility Construction

Utility Construction

Permanent Services for water, electrical, sewer, drainage and fire-protection systems would be developed and installed in compliance with City of Pittsburg standards.

Jack and Bore

Jack and bore techniques would be used for the installation of the 20-inch diameter Rail Pipeline extending south from the Terminal across West 10^{th} Street and crossing under existing BNSF tracks. For a description of these activities, see Section 2.4.4.4, Pipeline Construction.

Grading and Excavation Activities

Construction would involve excavation, backfill and possible reconditioning of soils. These activities include open trenching, grading, and/or structure foundation work. Whenever possible, excavated soils would be used later as backfill or removed and properly disposed of, as appropriate. Compaction requirements would be met per applicable agency standards (e.g., BNSF, Greenbook, City of Pittsburg, etc.). For additional description of grading activities associated with pipeline installment, see Section 2.4.4.4, Pipeline Construction.

Best Management Practices

BMPs would be implemented to meet Contra Costa County Water Quality Guidelines, including, but not limited to, the following:

- Silt Fencing
- Check Dams
- Fiber Rolls
- Gravel Bag Berms
- Street Sweeping and Vacuuming
- Sandbag Barrier
- Straw Bale Barrier
- Storm Drain Inlet Protection
- Temporary Stabilized Construction Entrance
- Stockpile Management
- Spill Prevention and Control
- Hazardous Waste Management
- Concrete Waste Management

Structure Construction

Transloading Platform

The transloading platform and containment pad, approximately 1,600 feet by 110 feet, would be constructed of reinforced concrete, approximately 12 inches thick in areas located between tracks, and 24 inches thick in areas underneath tracks. Bad order railcar tracks would be constructed to provide an approximate 10 percent bad order car rate.

Bridges

There are a total of four bridge-widening locations, including one grade separation at Willow Pass Road and three unnamed tributaries to Willow Creek. All of the proposed bridge structures would be located adjacent to existing pre-stressed concrete BNSF railroad bridges with steel shell pile foundations. Grade separation would involve local agency coordination due to encroachment into City of Pittsburg ROWs.

Utility Lines

It is anticipated that utilities would cross either existing and/or proposed rail facilities. These utilities may need to be protected from proposed structure foundations and/or rail loads. Structural slabs and/or encasements would be installed at these locations.

Rail Construction

The track layout for the Rail Transload Facility would be designed to conform with BNSF industrial track standards. Track layout is composed of two approximately 6,570-foot landing and departure tracks. As the name suggests, tracks would receive loaded crude oil trains as they arrived, and would store empty trains prior to departure. These tracks would be used to facilitate the overall operation of the facility. The Rail Transload Facility (rail yard) would have two rail tracks servicing 29 rail cars and two rail tracks servicing 23 rail cars, for a total of 104 serviced rail cars. In addition, the facility would have two 16-car reorder tracks. Landing and departure tracks located immediately west of the facility would be constructed on subballast, ballast and ties, in accordance with BNSF industrial track standards. The rail at the transloading platform would be integrated into the direct fixation platform slab.

Administration Building Construction

A new single-story, 1,680 square-foot, administration building would be constructed adjacent to the transloading platform. The modular building would be a multi-purpose facility for work crews to properly operate and maintain the Rail Transload Facility. The building would include work offices, a locker room, a kitchen and a control room for operating the facility.

The building footprint would require minor grading prior to construction. A concrete foundation may be used, as required by local building codes. The modular building would be trucked-in and assembled on-site.

On-site Parking, Roadways, and Trash Enclosure

Gravel pavement would be utilized for onsite access roadways and standard parking areas. Asphalt paving would be utilized for handicap parking and trash enclosure (approximately 10 feet long by 20 feet wide and 7 feet tall).

Fire-protection System

A fire-protection system for facilities within the Rail Transload Facility would be developed in compliance with the latest edition of NFPA and Contra Costa Fire Department regulations. An existing fire hydrant located on Cornwall Street, just north of the existing maintenance road, would be utilized to provide water for the new fire-protection system. A water line would extend from the fire hydrant south to the Rail Transload Facility maintenance road, turn west, and extend along the maintenance road and across the Rail Transload Facility, continuing adjacent to the transloading platform. A fire monitor discharge system would be installed along the water line, including six fire monitors placed every 225 feet to allow for full coverage of the Rail Transload Facility. A post indicator valve for remote operation and an oscillating monitor would be installed on the far western end of the Rail Transload Facility. The monitors would be capable of being remotely operated. A fire pump station, approximately 15 feet by 30 feet would be installed to help pump water across the facility site. The volume from the fire monitor discharge system for this facility totals 100,000 gallons. The underground holding tanks would be used to capture discharge from the fire protection system in the event of a fire. Discharges of firewater foam into the underground storage tanks would be removed using vacuum trucks, as needed, and disposed of at an approved disposal facility, as required.

The installation of the Rail Transload Facility fire-protection system would be installed using construction techniques similar to what is described above in Section 2.4.2.

2.4.4 Pipelines

The San Pablo Bay Pipeline would be inspected and tested prior to being activated to determine whether the pipeline complies with applicable state and federal regulations governing the construction and operation of “hazardous liquid” pipelines, which include oil pipelines. While not anticipated[8], if repair activities are warranted, construction could range from removal of insulation to

[8] The only anticipated likely modification known at this time includes the possible extension of the pig launching and receiving barrels, a modification necessary to better accommodate smart pigs.

locate leaks (which may include welding a full-encirclement weld sleeve over impacted areas of the pipeline and reinsulating these areas) to replacement of entire sections of the pipeline. If pipe replacement is necessary, construction would involve standard open-trenching techniques. Material excavated from the trench would be stockpiled and used as backfill. Unsuitable materials from the excavation would be removed for disposal at an approved facility. The size and grade of any pipe replacement sections would be consistent with extant sections. The lengths of the pipe sections would vary based on the existing conditions.

The California Environmental Quality Act does not apply to any projects consisting of "the inspection, maintenance, repair, restoration, reconditioning, relocation, replacement, or removal of an existing hazardous or volatile liquids pipeline or any valve, flange, meter, or other piece of equipment that is directly attached to the pipeline," when the affected pipeline diameter is not increased and the existing pipeline is located outside the boundaries of an oil refinery (Guidelines, Article 18, Section 15284 [subject to criteria of subdivisions (1) through (6)]), as may be the case with potential repair work associated with the existing San Pablo Bay Pipeline. Nevertheless, if repair work is necessary and the owner determines such project work meets the criteria of the subdivisions of this statutory exemption, the owner would notify all responsible federal and state agencies, as well as any public agency with environmental, public health protection, or emergency response authority, of the invocation of this exemption. Such construction activities may warrant further consultation with applicable state and federal jurisdictional agencies for additional permits or approvals. The pipeline owner would comply with all conditions otherwise authorized by law, imposed by the City or County as part of any local agency permit process, and comply with the Keene-Nejectly California Wetlands Preservation Act (Public Resources Code Section 5810, *et seq*.), California Endangered Species Act (Fish and Game Code Section 2050, *et seq*.), other applicable State laws, and all applicable federal laws.

If pipeline repair work is warranted, such activities would be considered a separate project from the WesPac Pittsburg Energy Infrastructure Project and would require separate state and federal agency permits, as necessary. For the purposes of discussion, environmental resource analyses and evaluations included in this EIR have assumed that no activities would be required[9] and, therefore, potential construction activities associated with the repair of the San Pablo Bay Pipeline are not discussed further in this EIR**.** Refer to Figure 2-12 for schematics depicting the San Pablo Bay Pipeline alignment.

Construction of the new pipeline connections to the existing KLM Pipeline and Rail Transload Facility is described in detail below.

[9] The only activity taken into consideration as part of this EIR is a barrel extension anticipated to be installed for the pig launching and receiving facilities.

2.4.4.1 General Construction Sequence

Pipeline connection construction activities would generally occur in the following order:

1. Conduct clearing and grading (as necessary)
2. Complete open-trenching pipeline work, including trenching, stringing, pipeline installation, and backfilling
3. Complete trenchless pipeline work
4. Cleanup and landscaping

2.4.4.2 Typical Construction Equipment

Typical construction equipment and anticipated duration of use required for pipeline construction is included in Table 2-17.

2.4.4.3 Access and Laydown Areas

Most of the proposed KLM Pipeline connection and the Rail Pipeline ROWs are on unpaved road shoulder or private property. A temporary construction ROW, approximately 40 to 60 feet wide, would be established parallel to the pipeline connection alignments to allow access for equipment. Additional access to the temporary construction ROW would be from West 10th Street and North Parkside Drive[10].

Two staging areas (staging areas 1 and 2) would be utilized for the temporary staging of construction materials and equipment (refer to Section 2.4.2.5).

Temporary lane closures along public streets, as required for pipeline installation, would be coordinated with the City of Pittsburg as described in Chapter 15.0: Land Transportation. WesPac would obtain ministerial encroachment permits to conduct work in public rights-of-way in accordance with State and City of Pittsburg requirements.

[10] The temporary construction right-of-way established for the segment extending east to west within the road shoulder of West 10th Street would be located within the West 10th Street right-of- way. For this short duration, approved traffic control plans would be implemented to maintain two-way traffic on West 10th Street.

Table 2-17: Typical Pipeline Construction Equipment

Equipment	Use	Horsepower	Number of Vehicles	Days per Week of Operation	Average Hours per Day of Operation	Duration of Use (weeks)	Peak Use Hours per Day
1-ton flatbed	Pipe delivery trucks	479	1	3	4	4.0	8
Semi truck with trailer	Pipe equipment delivery	479	1	5	10	2.0	10
Water truck	Dust control	175	1	5	10	8.0	10
Dump truck	Soil transport	479	2	5	10	3.0	10
Vacuum truck	Utility location	479	1	5	10	2.0	10
Air Compressor 175	Other construction equipment	112	1	5	4	7.0	10
Backhoe (rubber-tired)	Tractors/loaders/backhoes	160	2	5	10	6.0	10
Bending machine	Construction equipment	160	1	5	10	3.0	10
Truck crane	Set bore machine	365	1	3	4	2.0	4
Sideboom	Construction equipment	160	2	5	10	6.0	10
Loader (rubber-tired)	Loaders	215	1	5	10	3.0	10
Asphalt rollers	Construction equipment	160	1	2	10	2.0	10
Forklift	Forklifts	105	1	5	4	6.0	10
Generator	Temporary power	45	1	5	10	8.0	10
Weld rig	Welding equipment	160	1	5	10	6.0	10
Fill pump	Other construction equipment	160	1	2	4	0.3	4
Hydrotest pump	Other construction equipment	160	1	2	4	0.3	4
Boring machine	Bore/drill rigs	160	1	5	10	5.0	10

2.4.4.4 Pipeline Construction

The 0.42-mile long, 12.75-inch diameter KLM Pipeline connection and the 0.56-mile long, 20-inch diameter Rail Pipeline would be installed using both trench and trenchless methods. Portions of the new line would be installed on both public and private rights-of-way.

The proposed alignment for the KLM Pipeline connection extends south from the pipeline pump station along the Terminal's permanent access road, crosses West 10th Street, the BNSF Rail Transload Facility, and terminates on the south side of North Parkside Drive (refer to Figure 2-13). Public road crossings are anticipated at West 10th Street and North Parkside Drive. The crossings of West 10th Street, North Parkside Drive, BNSF Railroad, and UPRR would be completed using trenchless techniques. The remaining portions of the pipeline would be on private property and public utility easements and would be installed by conventional open-trenching methods. The lines would be buried outside the Terminal, and would be marked and maintained per federal and state regulations. It is anticipated that a total area of approximately 2 acres would be disturbed during construction of the pipeline connection. Refer to Figure 2-13 for schematics depicting the proposed KLM Pipeline connection alignment.

Adjacent to the KLM Pipeline connection alignment, the proposed alignment for the Rail Pipeline extends south from the pipeline pump station along the Terminal's permanent access road, crosses West 10th Street, and then turns east, terminating within the BNSF rail yard at the crude oil transfer pump station (refer to Figure 2-13). A public road crossing is anticipated at West 10th Street. The crossings of West 10th Street and BNSF Railroad would be completed using trenchless techniques. The remaining portions of the pipeline would be on private property and would be installed by conventional open-trenching methods. The lines would be buried outside the Terminal, and would be marked and maintained per federal and state regulations. It is anticipated that a total area of approximately 2 acres would be disturbed during construction of the pipeline connection. Refer to Figure 2-13 for schematics depicting the proposed Rail Pipeline alignment.

Table 2-18 summarizes the construction methods that would be used for different segments along the pipeline connection alignment.

<u>Grading and Slope Stabilization</u>

Most of the proposed pipeline connection ROW is on unpaved road shoulder or private property. WesPac would grade a temporary construction ROW, approximately 40 to 60 feet wide, parallel to the entire pipeline connection alignment to allow access for equipment. Following construction, an approximate 10-foot-wide permanent easement parallel to the pipeline alignment would be used for access during operations and maintenance work. The remaining approximately 30 to 50 feet of temporary ROW would be returned to its pre-existing condition and the location of the pipeline connection would be marked

Table 2-18: Pipeline Connection Construction Methods

Segment Location	Open Trenching	Jack and Bore	Total Segment Length
KLM Pipeline Connection			
South within the project site along the Terminal's permanent access road	0.14 mile	0 mile	0.14 mile
South across West 10th Street to BNSF property line	0.19 mile	0.01 mile	0.20 mile
South within BNSF property to North Parkside Drive	0 mile	0.10 mile	0.10 mile
Rail Pipeline			
South within the project site along the Terminal's permanent access road	0.14 mile	0 mile	0.14 mile
South across West 10th Street to BNSF property line	0.19 mile	0.01 mile	0.20 mile
South and east within BNSF rail yard, terminating at the crude oil transfer pump station	0.22 mile	0 mile	0.22 mile

with pipeline markers. Since the pipeline connection trenches are not anticipated to be deep, the trench would be excavated with a 1:1 slope. If soil conditions reveal that a 1:1 slope is not possible, the pipeline connection trench would be sloped or benched back to prevent runoff of soil into the trench.

<u>Open Trenching</u>

Open trenches for the KLM Pipeline would be approximately 4 feet wide and 4 feet deep. The trench would contain two approximately 12.75-inch-diameter pipelines spaced 1 foot apart (approximately 6 inches on each side of the trench from each pipeline). Open trenching would result in approximately 1,700 cubic yards of soil to be removed.

The open trench for the Rail Pipeline would be approximately 3 feet wide and 4 feet deep (approximately 6 inches on each side of the trench from each pipeline). Open trenching would result in approximately 1,200 cubic yards of soil to be removed.

Trenching would begin by marking the trench route for the Underground Service Alert (USA), and locating any existing underground utilities prior to excavation[11]. In paved areas, workers would commence open trenching by saw cutting and/or breaking pavement for removal. In both paved and non-paved areas, open trenches would be excavated with the use of a backhoe or excavator. Asphalt would be disposed of at a facility that would recycle for future use, and excavated soil, where permissible, would be stored and covered next to the pipe trench. Where soil cannot be stored next to the pipe trench (e.g., where open trenches are located near sensitive water features), soil would be placed onto dump trucks and taken to the Terminal for temporary storage.

Once the trench is complete, stringing operations would involve trucking lengths of pipe (joints) to the ROW and positioning the pipe along the ROW with a truck crane, parallel to the centerline of the trench. Temporary gaps in the strung pipe would be maintained for access, as needed. The trench would be marked and delineated with temporary orange construction fencing and signage for personal safety. Pipe installation would involve bending, welding, joint coating, and lowering-in the pipe. Once bent (if necessary), the pipe joints would be welded together as continuous segments next to the trench. A truck crane would be used to lower the welded pipe segments into the trench. Inspections would be made to ensure that the trench is deep enough, the bottom is free of damaging debris, the

[11] The USA would be contacted to help workers avoid impacts to other underground facilities during digging or trenching activities. The USA clearly marks the location of all known underground utilities and pipelines and also provides detailed information such as burial depth and potential hazards. In addition, prior to subsurface work, a geophysical utility survey would be conducted to identify subsurface features that may not have been identified by USA.

pipe is properly placed, all bends conform to the trench, and the external coating is not damaged.

Soils previously excavated and stored would be used later as backfill. Backfilling the trench involves replacing the excavated subsoil into the trench and re-spreading the topsoil to return the surface to its original grade. The topsoil may be mounded slightly over the trench to accommodate any future settling of the trench backfill. Backfilling would typically occur within 72 hours of pipeline installation to minimize potential impacts to wildlife that may fall into the trench. At the conclusion of each day's trenching activity, the end of the trench would be left ramped at an approximate 2 to 1 slope to allow any wildlife falling into the trench to escape. Since bores are done by different crews than the open trenching, and on separate schedules, a short portion of the trench would be left open at these and other tie-in locations until such time as that work is complete. A similar wildlife escape ramp would be maintained at the bore tie-in sites, where backfilling would not be completed at the same time as the rest of the pipeline. All disturbed sites would be restored to original or future grade, with allowance for settling. The criteria for determining potential settling would be based on soil texture, coarse fragment content, and relative compaction.

Any remaining unused soil would be tested, and if determined non-hazardous, disposed of at Keller Canyon Landfill. If hazardous soils are encountered, such soils would be moved into temporary lined storage bins at the Terminal, covered with plastic sheeting (as necessary), and disposed of in accordance with all federal, state, and local regulations (including BAAQMD requirements). No additional engineered backfill is anticipated for pipeline construction; however, if later determined necessary, backfill would consist of 0 to 1 sack sand slurry.

According to the project's Phase I Environmental Site Assessment and existing NRG Pittsburg Generating Station bore data, regional groundwater within most of the project area exists between 7 and 10.5 feet belowground, and is not anticipated rising above planned depths of underground construction. However, a small perched zone, located in the northern portion of the East Tank Farm near the marine terminal, exists approximately 1 to 3 feet belowground. If significant volumes of perched groundwater are encountered during excavation, water would be evacuated using a sump pump, transferred into water storage tanks, sampled, analyzed, transported, and disposed of in accordance with all federal, state, and local regulations. If any worker observed potential contamination or signs of pre-existing hazardous wastes during excavation, work in that area would be stopped until the contamination was mitigated, as appropriate. Such contamination could consist of manmade materials, discolored soil (such as soil darkened by oil staining), or soil that exhibits chemical odor.

To ensure no contamination would occur to nearby storm drains and water sources, WesPac would implement the following BMPs:

- Implement hazardous or contaminated soil handling procedures such as placing materials into lined bins and covering soils with plastic sheeting.
- Evaluate, mark, and protect important trees and associated rooting zones, unique areas, and other areas to be preserved.
- Designate parking and fueling areas.
- Begin excavation and trenching after installing applicable sediment and runoff control measures.

For more detailed information regarding regional groundwater, see Chapter 17.0: Water Resources.

Jack and Bore

Jack and bore techniques would be used for pipeline segments extending south across West 10th Street, UPRR and BNSF railroad tracks, and North Parkside Avenue. For the KLM Pipeline alignment, each segment of the alignment would require two separate bores (one for each of the parallel 12.75-inch-diameter pipelines, 5 feet apart) to accommodate the looped system. For the Rail Pipeline, only one bore is required for the 20-inch diameter pipeline. The exact locations of the boring and receiving pits for jack-and-bore techniques have not been determined for this project. However, for the KLM and Rail Pipeline segments extending north to south across West 10th Street, an approximately 10-foot-wide (oriented north to south) by 20-foot-long (oriented east to west) and 6- to 7-foot-deep receiving pit would likely be located in the northern shoulder of West 10th Street,and an approximately 30-foot-wide (oriented north to south) by 20-foot-long (oriented east to west) and 6- to 7-foot-deep bore pit would likely be located to the south of West 10th Street. For the KLM Pipeline segment extending north to south across the BNSF and UPRR tracks, an approximately 10-foot-wide (oriented north to south) by 25-foot-long (oriented east to west) and 8-foot-deep receiving pit and an approximately 30-foot-wide (oriented north to south) by 25-foot-long (oriented east to west) and 8-foot-deep bore pit would likely be located just outside the BNSF and UPRR rights-of-way. For the KLM Pipeline segment extending north to south across North Parkside Drive, an approximately 10-foot-wide (oriented north to south) by 25-foot-long (oriented east to west) and 8-foot-deep receiving pit and an approximately 30-foot-wide (oriented north to south) by 25-foot-long (oriented east to west) and 8-foot-deep bore pit would likely be located just north and south of the street. For this segment, the depth of the bore itself would be determined by the depth substructures routed along North Parkside Drive. The bore would be designed to cross approximately 2 to 3 feet below the deepest substructure; therefore, the depths of the bore and receiving pits provided above (8 feet deep) are approximated within a range.

A single bore would be completed for the 20-inch diameter pipeline extending south across West 10th Street to the Rail Transload Facility. The exact location of the boring and receiving pits for jack-and-bore techniques have not been determined for this project. However, for the segment extending north to south across West 10th Street, an approximately 10-foot-wide (oriented north to south) by 20-foot-long (oriented east to west) and 6- to 7-foot-deep receiving pit would likely be located in the northern shoulder of West 10th Street,and an approximately 30-foot-wide (oriented north to south) by 20-foot-long (oriented east to west) and 6- to 7-foot-deep bore pit would likely be located south of West 10th Street. For this segment, the depth of the bore itself would be determined by the depth substructures routed along West 10th Street. The bore would be designed to cross approximately 2 to 3 feet below the deepest substructure; therefore, the depths of the bore and receiving pits provided above (6 to 7 feet deep) are approximated within a range. For the segment extending north to south across the BNSF tracks, an approximately 10-foot-wide (oriented north to south) by 25-foot-long (oriented east to west) and 8-foot-deep receiving pit and an approximately 30-foot-wide (oriented north to south) by 25-foot-long (oriented east to west) and 8-foot-deep bore pit would likely be located just outside the BNSF right-of-way.

Exact locations of the bore and receiving pits would be subject to WesPac engineering designs and any associated City of Pittsburg encroachment permits. Shoring would be installed as necessary prior to setting the bore machine. Soils excavated from bore pits would be stored within the temporary construction easement along the pipeline alignment, where possible, or soil would be placed onto dump trucks and taken to the Terminal for temporary storage. Soil would be used later as backfill, or tested and disposed of.

Boring operations are anticipated to yield the removal of approximately 91 cubic yards of soil for all five bore crossings (four for the KLM Pipeline connection, and one for the Rail Pipeline connection). Soils displaced by the bore machine and then the casing pipe would be would be tested, and if determined non-hazardous, disposed of at Keller Canyon Landfill. If hazardous soils are encountered, such soils would be moved into temporary lined storage bins at the Terminal, covered with plastic sheeting (as necessary), and disposed of in accordance with all federal, state, and local regulations (including BAAQMD requirements).

Boring would begin by digging the bore and receiving pits using a conventional backhoe or excavator. If sufficient area exists, bore and receiving pits would be benched per OSHA standards. Otherwise, an engineered shoring box would be installed to minimize the amount of over excavation required. Pits would be marked and delineated with temporary orange construction fencing and signage for personnel safety. After the pits are shored or benched, as required, the bore machine would be placed at the correct elevation and orientation on temporary rails located on the bore pit floor. The bore machine would then hydraulically push the casing pipe into the soil, displacing soil as the pipe is pushed. Displaced soil would be returned to the bore pit via a return line. The casing pipe would be fed into the bore machine in 20- to 40-foot joints by a small crane. Each new joint would be welded in place and then pushed into the hole, one joint at a time.

After open-trenched pipe installation (as discussed above) and bored pipe installation is complete, segments of pipe would be connected at the receiving pit, coated, and all the excavations would be backfilled. Soil would be compacted to City of Pittsburg requirements, typically 90 percent compaction. Approximately 866 cubic yards of soil would be excavated and temporarily displaced for bore pits. No additional engineered backfill is anticipated for pipeline construction; however, if necessary, backfill would consist of 0 to 1 sack sand slurry. If engineered backfill is utilized, slurry would be used to backfill the trench from the bottom of the trench to approximately one foot above the pipe. Native soil would be used for the remaining backfill.

2.4.5 Construction Waste Management

Procedures for the management of waste generated during construction would be developed as project details are quantified. However, based on industry standards and regulatory requirements, as well as presently available information, construction waste and demolition debris generated during the approximately 15-month construction phase would be significant. Waste would include metal (e.g., piping, old equipment), concrete, waste oil, equipment (pumps, motors, and electrical equipment), wood, and other industrial waste. To the extent practicable, these wastes would be recycled according to Pittsburg Disposal Company's Construction and Demolition Recycling Waste Management Program. Waste oil such as residuals in existing tanks would likely be recycled off-site by a licensed waste oil recycling firm, as appropriate. If applicable, a hazardous waste generator identification number would be acquired in accordance with regulatory requirements. BMPs would be implemented on-site to meet the requirements of the project-specific SWPPP. For more information regarding hazardous wastes, see Chapter 10.0: Hazards and Hazardous Materials.

2.4.6 Construction Power and Electricity

Terminal construction machinery would run on diesel-powered engines. Electricity would only be used for welding equipment, temporary lighting, and temporary contractor trailers. These electrical requirements would be provided by portable diesel generators located near work areas, as necessary.

For temporary construction trailers, electrical power would be provided by portable generators or, if allowed by NRG or PG&E, a temporary connection to the local NRG Pittsburg Generating Station electrical supply, since the electrical load is considered to be very low. If a portable generator is used, the generator would be located centrally to minimize insulated wiring that would extend to equipment and offices.

2.4.7 Vegetation Clearance and Improvements

Minor vegetation clearance, including tree, shrub, and brush removal in some areas, would be necessary along the new pipeline alignments. Existing vegetation would be mowed and shredded as necessary, and returned to pre-existing conditions following the completion of construction work. While no trimming or removal of trees is anticipated along the pipeline alignment routes, if tree removal is necessary (such as existing trees located on the north side of Willow Pass Road), WesPac would remove trees in accordance with approved City of Pittsburg building permits and would obtain Street Tree Permits as necessary, as described in the PMC (Chapter 12.32 Street Trees).Plant materials selected would be adaptable to the City's climatic, soil, geological, and topographical conditions. Tree trimmings would be chipped and transported to an appropriate service center, and disposed of properly in accordance with all local, state, and federal regulations.

The City of Pittsburg requires all developments on properties within the City's General Industrial zoning classification to incorporate a minimum of approximately 10 percent vegetative landscaping (Title 18, 18.54.115). The existing facility maintains trees and shrubbery, which provide coverage of approximately 10 acres. WesPac would include an additional approximately 2.5 acres of vegetative landscaping, at a minimum, to meet the 10 percent requisite of the City. WesPac would maintain new and existing landscaping and update an existing irrigation system to sustain trees and other shrubbery, using potable water provided to the Terminal, as described in Section 2.4.2.7.

WesPac would submit a proposed landscape plan to the City of Pittsburg for approval prior to construction activities. The landscape plan would ensure compatibility with Delta Diablo Sanitation District pipeline operation and maintenance procedures, and would address the preferred use of recycled water for irrigation. In addition, the landscape plan would ensure new and existing vegetated surfaces receive continued upkeep and that landscaping complies with the terms of the City's NPDES Construction Permit requires minimizing water use to the extent possible, and any other water-efficiency landscaping standards (PMC 18.84.310). The project would comply with all additional landscape design standards detailed in PMC 18.84.318, 18.84.310, 18.84.315, 18.84.320, and 18.84.323, including further provisions for plant selection, plant spacing, planting, minimum shrub covering, limiting use of crushed gravel in new landscaping, hydroseeding mixes, compliance certification, and irrigation maintenance. For more information regarding tree removal and potential impacts to existing vegetation, see Chapter 7.0: Terrestrial Resources.

2.4.8 Right-of-way Restoration and Cleanup

As part of final construction activities, WesPac would restore all paved surfaces and restore landscaping or vegetation as necessary, in compliance with any permit acquired. All materials would be disposed of properly as described in Section 2.4.4.4.

2.4.9 Construction Workforce

The size and composition of the workforce would vary depending on the activities in progress and the particular phase of construction. During marine terminal construction, a maximum workforce of approximately 25 workers would be needed. During storage terminal construction, a maximum workforce of approximately 225 workers would be needed. During pipeline construction, a maximum workforce of approximately 25 workers would be needed. During Rail Transload Facility construction, a maximum workforce of approximately 20 workers would be needed. As phases of the work are completed, the workforce at the Terminal would gradually decline.

Passenger-vehicle trips would depend on the number of contractors that would be used to complete the work. Most of the workforce would be local skilled workers supplemented by outside contractor labor, as required. The project proponent intends to engage in a Project Labor Agreement with the Contra Costa Building and Construction Trades Council to use union workers in the completion of construction efforts required for the project. Given the presence of multiple union halls in the local and regional area, workers would most likely reside within 20 to 30 miles of the project site (Feere, 2012).

Table 2-19 summarizes the anticipated number of trips completed by passenger vehicles during each phase of construction.

Table 2-19: Passenger Vehicle Trips during Construction

Phase	Number of Vehicles	Trips per Day
Marine terminal construction	8 to 10	1
Storage terminal construction—tank retrofit work	10 to 15	1
Storage terminal construction—other installations outside of tank retrofitting	10 to 15	1
Rail Transload Facility construction	10 to 15	1
Pipeline construction	5 to 8	1

2.4.10 Construction Schedule

Construction would be divided into two major phases: Phase 1, facilities required to support receipt by rail and pipeline, and Phase 2, facilities required to support offshore operations. Phase 1 would include construction of the Rail Transload Facility and associated facilities at the storage terminal that would support rail operations. It would also include construction of the Rail Pipeline, KLM Pipeline connection, and five storage tanks with associated pumps, piping and electrical systems. Phase 1 is estimated to take approximately 16 months to complete; commencing in October 2013 and completing in January 2015. Operations associated with completed portions of the onshore storage terminal, Rail Transload Facility, and pipelines are estimated to begin in October 2014.

Phase 2 would include construction associated with the marine terminal facilities and additional onshore storage tanks. Phase 2 is estimated to take approximately 19 months to complete; commencing in April 2014 and completing in October 2015. Marine terminal operations would begin in July 2015.

Portions of each phase would be scheduled concurrent to one another so that total construction time for both Phase 1 and Phase 2 would be approximately 25 months. Construction would typically occur between the hours of 7 a.m. and 6 p.m., Monday through Friday; however, some work may be completed on weekends and/or outside of typical work hours, as necessary. Construction scheduling broken into phases is provided in Table 2-20.

Table 2-20: Construction Schedule Phases

Phase	Description	Approximate Length	Approximate Start Date	Approximate Completion Date
Phase 1 – Facilities Required to Support Receipt by Rail and Pipeline				
Phase 1A: Rail Transload Facility, Storage Tank Replacements and Other Onshore Modifications	Construction work associated with construction of Rail Transload Facility, storage tank replacements (Tanks 10, 11, 12, and 14) the surge tank (Tank 17), pump station improvements, electric substation, and stormwater improvements	16 months	October 2013	January 2015
Phase 1B: Pipeline Construction	Construction associated with the KLM Pipeline connection and Rail Pipeline	4 months	May 2014	August 2014
Phase 2 – Facilities Required to Support Marine Terminal Operations				
Phase 2A: Marine Terminal Construction	Construction work associated with marine terminal construction (including maintenance dredging)	10 months	July 2014	April 2015
Phase 2B: Storage Tank Retrofit	Construction work associated with retrofitting onshore storage tanks (Tanks 1, 2, 3, 4, 5, 6, 8, 9, 13, 15 and 16)	19 months	April 2014	October 2015

Phase	Description	Approximate Length	Approximate Start Date	Approximate Completion Date
Phase 2C: Marine Terminal construction - Storage Terminal construction	Construction work associated with all other components within the storage terminal (excluding tank retrofitting)	19 months	April 2014	October 2015

2.4.11 Rights-of-way

The land and facilities for the project, including storage tanks and dock, are expected to be purchased from NRG by WesPac. Submerged tidelands would be leased from the City of Pittsburg for the Marine Terminal portion of the facility. WesPac would lease staging area 1 from PG&E and staging area 2 from NRG for temporary construction equipment storage.

Portions of the new pipeline would be installed on both public and private rights-of-way and new rights-of-way would need to be acquired. Public road crossings are anticipated at West 10th Street and North Parkside Drive. For pipe installed at these crossings, the existing pipeline owner (Chevron) has an existing franchise agreement with the City that would be amended for the additional length of line that would be installed inside the City's ROW. New franchise agreements from the State of California would be required for the crossing of West 10th Street for the KLM Pipeline connection and the Rail Pipeline. For private properties, WesPac and/or Chevron would negotiate temporary and permanent construction easements with each existing landowner. The temporary construction easement would be approximately 40 to 60 feet wide, while the permanent easement would be approximately 10 feet wide. Additionally, Chevron and WesPac would negotiate a permanent crossing license agreement with BNSF and UPRR within the railroad ROWs.

2.5 OPERATIONS AND MAINTENANCE

2.5.1 Facility Operations Overview

As discussed above in Section 2.4.10, construction─and therefore subsequent operation─would be divided in two major phases: Phase 1, facilities required to support receipt by rail and pipeline, and Phase 2, facilities required to support offshore operations. Phase 1 operations would include receiving and unloading crude oil from rail tank cars at the Rail Transload Facility and transferring that oil by pipeline to the storage terminal, receiving crude oil from the KLM Pipeline, storage and conveyance of crude oil at the storage terminal, and the transshipment of oil though pipelines to local refineries. Phase 2 would involve adding operations from offshore facilities to existing Phase 1 operations, namely shipping and receiving crude oil and partially refined crude oil to and from moored tankers at the marine terminal. Equipment throughout the facility would be controlled by operators and/or automatic control systems. Some facilities would be remotely monitored and operated from motor control centers and from within the office and control building.

It is anticipated that the facility would begin receiving crude oil by rail and pipeline by October 2014 and begin offshore vessel-unloading operations by July 2015. The marine terminal would be designed to offload crude oil from marine tankers as large as 120,000 deadweight tonnage (dwt). The Terminal would be operated to minimize the time that each marine tanker remains at the berth by using a combination of high-capacity pumps, large-diameter pipelines, and adequate tankage (refer to Section 2.3) for offloading barges and Panamax- and Aframax-type vessels at the maximum offloading rate.

As required by federal and State regulations, a Spill Prevention, Control and Countermeasure Plan and a Facility Response Plan would be in place prior to the start of operations. These plans would be approved prior to the start of operations by the U.S. Environmental Protection Agency, U.S. Coast Guard, California Department of Fish and Game's Office of Spill Prevention and Response, and reviewed by other applicable federal and state agencies. Spill-containment booms and other similar equipment would be provided as specified in the approved oil spill response plan.

Operators of the onshore terminals and pipelines would be responsible for system controls and operations 24 hours per day for the onshore facilities. Maintenance personnel would be responsible for carrying out routine inspections and maintenance, as well as responding to possible system upsets and emergencies for the onshore facilities.

2.5.2 Marine Terminal Operations

2.5.2.1 Tanker Operations

Tanker Mooring

The mooring facility would be designed to accommodate the range of ships expected to call at the facility. The CSLC MOTEMS regulations would be referenced for the most current information on mooring design. Secondary design references would include The International Safety Guide for Oil Tankers and Terminals and the Oil Companies International Marine Forum's tankering mooring guidelines. Design and operation of the dock, including mooring, loading, and offloading design and operations, would be completed per the requirements of applicable regulatory guidelines such as MOTEMS.

<u>Tanker Connection</u>

The connections between the ship and the terminal for crude oil and vessel fuel would consist of hard-pipe flexible systems commonly referred to as discharge arms. The berth would be designed with crude oil offloading and loading arms. The arms are designed to rotate greater than 180 degrees to allow for the movement of the vessel both from the water level changes and for cargo operations. The arms have limits to their movement and would be equipped with a system to warn users when they are approaching their movement limits.

<u>Tanker Offload Pump Startup</u>

To ensure environmental protection and safety, discharge from the vessel to the onshore tanks would follow required exchanges of general and emergency information between ship and terminal personnel, and ship inspections. Storage terminal operators would line up the piping to the delivery tank and open the associated tank valves. Marine terminal operators would ensure the docked ship was properly connected to the loading arms. The ship would use its shipping pumps to unload product from the vessel’s tanks to the onshore storage tanks. The discharge would begin at a slow rate, so all systems can be checked for leakage, after which the pumping rate would be increased to the safe limits of the ship and the terminal. Operators would monitor loading operations at the dock and from the control room until the ship completes receiving operations. The maximum unloading time for a vessel would be approximately 20 hours. The maximum pumping rate the terminal would be designed to accommodate is 40,000 BBLs per hour, typical for Panamax- and Aframax-type vessels. The design pumping rate would vary for each vessel depending on specific pumps outfitted on the vessels, the properties of the crude oil, and crude oil temperature. The docked ship would generate noise and light while at the dock from unloading operations.

<u>Tanker Offload</u>

Typical pumping rates for vessels in each particular class are provided in Table 2-21.

Vessels would typically be partially loaded due to a channel draft restriction in the Suisun Bay between the Richmond San Rafael Bridge and New York Point. This draft restriction is estimated to be approximately 35 feet. Barges with maximum drafts of less than 35 feet would call fully loaded. The design cargo size varies by vessel. Examples of vessels in each particular class, as well as cargo size are, provided in Table 2-22.

The Terminal would operate with an average throughput of 192,000 BBLs per day, and would have a maximum capacity throughput of 325,000 BBLs per day.

Table 2-21: Typical Pumping Rates

Vessel Class	Typical Pumping Rate (barrels per hour)
Barge	10,000
Panamax	35,000
Aframax	40,000

Table 2-22: Typical Design Cargo Size

Vessel Class	Typical Cargo (barrels)
Barge	160,000
Panamax	325,000 (partially loaded with 35-foot draft)
Aframax	325,000 (partially loaded with 35-foot draft)

Tanker Offload Pump Shutdown

When all the cargo is discharged from the ship, the ship's pumps would be stopped by the ship's officers. The discharge arms would be drained and disconnected from the ship. After required information and records have been exchanged between the ship and the terminal, the ship would be ready to leave the berth. Per San Francisco Bar Pilot recommendations, vessels would require two tugboats to berth and two tugboats to turn. Smaller barges should only require a single tugboat.

Emergency Shutdown

During the pre-transfer information exchange, emergency shutdown systems would be thoroughly discussed via radio or telephone communication. All shutdowns, whether due to an emergency or not, would be orderly and sequential. While not anticipated, if an emergency shutdown were required, both terminal personnel and ship personnel would be informed. Once a shutdown is ordered, the ship would first stop its pumps, followed by the closing of all valves in the terminal and ship's cargo systems, thereby isolating applicable segments of the system to reduce or prevent spillage. If the emergency required the disconnection of the discharge arms, the arms would be drained and disconnected.

Alternative Vessel Unloading/Loading and Lightering

WesPac has no control over ownership of or authority to direct vessels on alternative methods that would be implemented to partially load and unload or lighter (i.e., ship-to-ship transfer) cargos prior to berthing at the Terminal dock. Therefore, specific details regarding where, when, or how vessels are partially unloaded, loaded, lightered, or otherwise handled prior to reaching the Terminal cannot be provided as part of the proposed project. Nevertheless, typically, larger vessels such as Panamax-type or Aframax-type vessels would require partial unloading or lightering prior to reaching the Terminal to ensure vessel draft is appropriate for passage to and from berthing at the Terminal dock (channel passage restriction is anticipated to be approximately 35 feet). As a result, some ships may unload some of their cargo at other docks prior to coming to the Terminal, including docks at San Francisco Bay Area refineries (refer to Table 2-6) or other storage ports in the cities of Los Angeles and Long Beach, or may lighter their load by unloading some of their cargo to another vessel. If ship-to-ship transfer is required by a vessel in the San Francisco Bay, the vessel would need to do so within Anchorage 9, located south of the San Francisco Bay Bridge, per United States Coast Guard regulations. Because of its size and location, Anchorage 9 affords the best opportunity for containment and recovery in the event of an oil spill. Vessel owners or agents must also give 24-hour advance notification prior to arrival at the lightering location and must provide details regarding the cargo expected to be transferred, as described in the United States Coast Guard Vessel Traffic User Manual.

Ship Unloading and Loading

Prior to unloading ships, WesPac storage terminal operators would line up the piping to the delivery tank and open the correct valves. On the dock side, the ship would be docked and the loading arms connected to the ship. The ship would use its shipping pumps to unload product. Storage terminal operators would monitor loading operations from the control room until the ship completes receiving operations. During loading operations, WesPac storage terminal operators would line up the piping from the storage tank to the loading arms. The loading arms would be connected to the docked ship and the tank farm shipping pump would be used to load the ship. Vapors from the ship would be sent to the thermal oxidizer. Terminal operators would monitor loading operations from the control room until the ship completes operations.

Seismic Hazard Design

The proposed marine terminal would be designed per the CSLC MOTEMS to protect against potential seismic hazards. For more detailed information, see Chapter 9.0: Geology, Soils, and Seismicity and Chapter 16.0: Marine Transportation and Marine Terminal Operations.

Vapor and Leak Monitoring/Detection

Hydrocarbon monitoring, detection, shutdown, and alarm systems would be installed at the marine terminal. Monitoring zones would be established to provide for complete and continuous coverage around equipment. If concentrations exceed safe limits, an automatic shutdown of equipment would be activated by the central control system. For more detailed information, see Chapter 16.0: Marine Transportation and Marine Terminal Operations.

Spill Detection and Containment

WesPac would have a contractual agreement with a regional spill response cooperative that would serve as the emergency response contractor with primary responsibility for containment, cleanup, and health and safety at the marine terminal. In addition, operations personnel would be trained in the Incident Command System and oil spill containment and cleanup procedures. For more detailed information, see Chapter 10.0: Hazards and Hazardous Materials.

Fire Detection and Suppression

Devices capable of detecting the presence of open flames (flame detectors) would be installed at the marine terminal. The flame detectors would be positioned to cover strategic areas, such as around motorized pumping areas and the marine loading dock. The flame detectors would be tied to a flame-detector control panel, and would have discrimination ability so as not to provide false indications of fire due to reflections from the water, camera flashes, etc. Upon detection of a fire, the flame detectors would automatically cause annunciation of a fire alarm signal. Terminal operators would confirm that the alarm is an active fire, notify the Contra Costa County Fire Department, and begin fire suppression activities.

As indicated in Section 2.4.2.7, the source of water used in fire protection would be the Suisun Bay, and the facility may share the existing intake system at the adjacent NRG Pittsburg Generating Station. Separate additional fire pumps and lines would be installed to provide fire protection separate from that of NRG's system. The capacity of the system would be adequately determined in accordance with applicable requirements and the Contra Costa County Fire Protection District.

The marine terminal would be equipped with a fire-suppression system meeting the requirements of the MOTEMS regulations and applicable requirements of the Contra Costa County Fire Protection District. The system would consist of fixed fire-water monitors and hose-reel stations. Additional details describing procedures for responding to an emergency for a fire or other release event would be described in the facility's Hazardous Materials Business Plan (HMBP), in the Emergency Response section. The HMBP would also include other fire hazard-management protocols. These plans would be developed prior to facility operation and would include standard BMPs such as:

- issuance of hot work permits prior to any type of hot work—such as grinding, welding, or torch cutting—as required by OSHA;
- use of safety fire watches, as required by OSHA; and
- fire safety personal protective equipment and other safety equipment required for all staff.

2.5.2.2 Vessel Capacity

Because the barge dock is not planned to be restored to operation, only a single vessel at a time can be accommodated at the main unloading platform. Barges and ships would not unload or load simultaneously as only one vessel can berth at the terminal at a time.

Vessels anticipated calling at the Terminal range from barges to Aframax-type vessels. The interior breasting dolphins would be located to accommodate the smallest barges and the exterior breasting dolphins would be located to accommodate the largest vessels. The fender panels on the breasting dolphins would be designed to accommodate the low free board typical of barges. Aframax-type vessels are the largest class of vessels. They have beams larger than 106 feet, prohibiting them from transiting the Panama Canal. (The term ‘Aframax’ is based on an abbreviation for Average Freight Rate Assessment.) The dwt of these vessels ranges from 80,000 to 120,000. The maximum length of these vessels is typically between 800 and 875 feet.

Panamax-type vessels are the largest class of vessel that can transit the Panama Canal locks. The beam of these vessels is a maximum of 106 feet. The maximum length of these vessels is typically between 750 and 800 feet, and their dwt ranges from 50,000 to 80,000.

The maximum number of vessels to call at the marine terminal would be approximately 18 vessels per month. The marine terminal would receive up to 216 unloading and/or loading events per year. Almost all of the vessels would be Panamax, with up to one Aframax and one or two barges per month. Business conditions, the overall economy, seasonality, and other factors would affect use of the facility.

For more detailed information regarding shipping transportation see Chapter 16.0: Marine Transportation and Marine Terminal Operations.

2.5.2.3 Vessel Route

The anticipated route of vessels is provided in Figure 2-19: Transit Route of Vessels. Vessels heading to the marine terminal would transit beneath the Golden Gate Bridge and head northeast. Once vessels have passed Angel Island, they would turn north and pass beneath the Richmond San Rafael Bridge. They would then continue northeast through San Pablo Bay, turning more directly east to pass beneath the Carquinez Bridge. From the Carquinez Bridge, they would continue through the Carquinez Strait and then pass the Benicia and Railroad bridges. Vessels would continue to follow the navigation channel east, until reaching the Terminal. Departing vessels would follow this route in the opposite direction. For more detailed information regarding shipping transportation see Chapter 16.0: Marine Transportation and Marine Terminal Operations.

2.5.3 Storage Terminal Operations

Through Phase 1, normal operations would consist of receiving crude oil from one of the three pipelines; storing crude oil in storage tanks; and sending crude oil to local refineries via the KLM Pipeline or San Pablo Bay Pipeline. Internal tank-to-tank transfers, crude oil recirculation, and other similar operations would also be completed. Phase 2 would add receiving and delivering crude oil to and from marine vessels.

2.5.3.1 Internal Tank-to-tank Transfers

The terminal would complete tank-to-tank transfers as a part of normal operations. Tank-to-tank movements would consist of transferring crude oil between tanks within the Storage Terminal through the existing piping system using the tank shipping pump. Tank-to-tank transfers may be completed to circulate crude oil between tanks or to transfer product between customers.

2.5.3.2 Fire Detection and Suppression

Flame detectors and a fire-suppression system similar to that at the marine terminal would also be installed at the storage terminal, and would function in the same manner as described in Section 2.5.2.

2.5.3.3 Tank Vapor Control

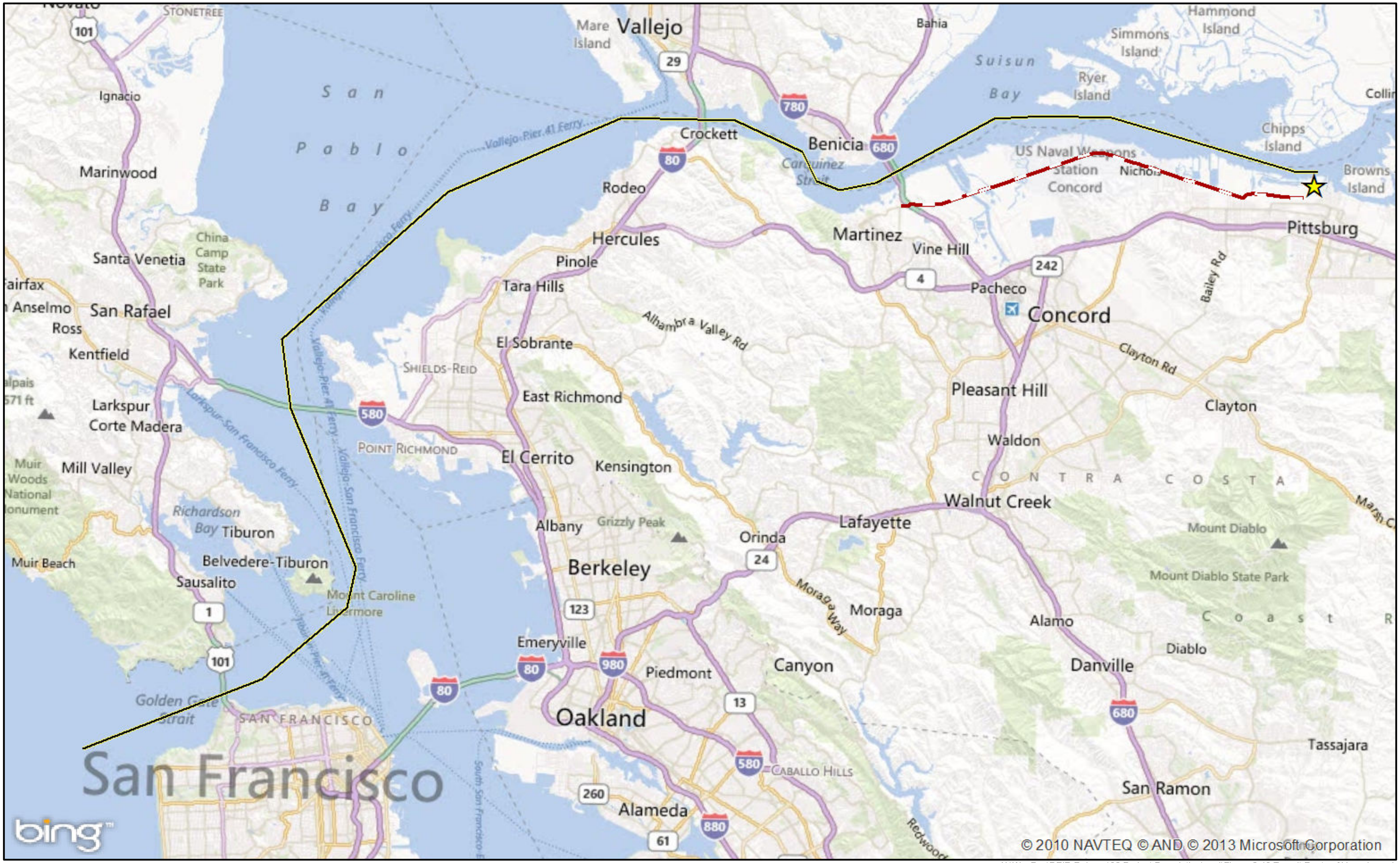
The floating roofs with primary and secondary seals would serve as the primary system for controlling emissions. Floating roofs with primary and secondary seals are considered to constitute the best available control technology for crude oil tanks by the BAAQMD, and would be incorporated into applicable permits from the BAAQMD for Terminal operations. For more detailed information regarding air quality and greenhouse gas emissions see Chapter 4.0: Air Quality and Chapter 5.0: Greenhouse Gas Emissions, respectively.

2.5.3.4 Storage Terminal Pumps

The operation of pumps would depend on a variety of factors, including ship dock schedule and KLM, San Pablo Bay, and Rail Pipelines operations, all of which cannot be predicted. Not all pumps would run concurrently since operations would be batched and limited by the three main header pipelines described in Section 2.3.2.1. Table 2-23 provides the average run time for each pump on a per-month basis, and a description of potential operations.

2.5.3.5 Pipeline Shipping Pumps

Dedicated shipping pumps with electric motors would be used for delivery through the San Pablo Bay, KLM, and Rail Pipelines.



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-19 Transit Route of Vessels.mxd

Figure 2-19
Transit Route of Vessels
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

TRC

6/11/2013

Approximate Terminal Location
Typical Transit Route
Existing San Pablo Bay Pipeline

1:250,000

N

1 inch = 4 miles

mi
0 1.5 3

Table 2-23: Storage Terminal Pump Operations

Pump Description/Service	Estimated Hours Per Month	Batch Operations
Process Pumps		
Tank pumps	90	Operates with one ship-loading pump or pipeline shipping pumps (see below), or internal transfer
Ship loading pumps	45	Operates with one tank pump
Pipeline shipping pumps	125	Operates with one or two tank pumps and one or two other pipeline shipping pumps
Recycle pumps	48	Does not operate with other pumps
Flushing pump	36	Does not operate with other pumps
Utility/Miscellaneous Pumps (Non-process)		
Firewater pump	1	Not applicable
East Tank Farm sump pump	Rain events only	Not applicable
Stormwater collection pond sump pump	Rain events only	Not applicable
Stormwater retention basin sump pumps	Rain events only	Not applicable

2.5.3.6 Oil Spill Containment

Each tank in the East Tank Farm is equipped with full-encirclement dike walls designed to provide for full containment of the oil in the event of a spill, as required by state and local design codes and Contra Costa County Fire Department guidelines. Any minor spills from the South Tank Farm would be routed to the stormwater collection pond in the East Tank Farm and OWS; in the case of a large spill, the oil would be captured by the stormwater retention basin in the South Tank Farm for treatment. For more detailed information regarding hazards and hazardous materials see Chapter 10.0: Hazards and Hazardous Materials.

2.5.3.7 Process Drain Recovery Sump

A process oil recovery system consisting of a sump, sump pump, associated piping, electrical, instrumentation, and controls is proposed for each tank farm to recover liquid from equipment process drains. The oil recovery system would serve the shipping pump areas, distribution manifold areas, pipeline meter areas, and pipeline scraper launcher/receiver areas. Each containment sump would have instruments to detect fluid level. When a high level is detected, a pump(s) would automatically start, transferring the contents of the sump into the stormwater collection pond and/or OWS. A “high-high” sump level would activate an alarm in the terminal control room in the event that the pump(s) could not keep up with increasing fluid level.

2.5.3.8 Storage Terminal Plumbing

Once operational, water usage for the Terminal would be limited to lavatory facilities, irrigation for landscaping, and for personnel safety where required by OSHA standards.

2.5.3.9 Substation Operations

The unmanned station would be operated remotely, and routine inspections would occur on a monthly basis, or on an as-needed basis under emergency conditions. Substation operation would be conducted by WesPac and the power line interconnection would be operated by PG&E.

2.5.4 Rail Transload Facility Operations

2.5.4.1 Rail Movements

As discussed in Chapter 1.0: Introduction and Project Goals and Objectives and Section 2.4.3.1, movements of trains bringing rail tank cars to and from the Rail Transload Facility would be performed by BNSF, on BNSF property, and on trains operated by BNSF employees. The movements of those trains within Contra Costa County to and from the Rail Transload Facility, while described in this section of the EIR, are preempted from local and state environmental regulations by federal law under the Interstate Commerce Commission

Termination Act. Rail impacts discussions are included in this EIR, as appropriate, but without any waiver of federal preemption by BNSF. Accordingly, the potential impacts of those train and tank car movements are further described in appropriate chapters of this EIR. However, railroad operations and movements described in this EIR are preempted from local and state environmental regulations. Therefore, the City of Pittsburg, as Lead Agency, and other state and local responsible agencies are preempted from imposing mitigation measures, conditions or regulations to reduce or mitigate potential impacts of BNSF train movements.

By contrast, all activities performed to unload rail cars and transfer crude oil out of the Rail Transload Facility to the storage terminal are not preempted by federal law. The impacts of those activities are described and evaluated in respective chapters of this EIR.

Trains, operated by BNSF road crews, would enter the Rail Transload Facility from the east (Stockton, CA) and arrive at the facility's dedicated landing and departure track, located adjacent to the BNSF main tracks. BNSF road crews would then move rail cars onto the transloading tracks for unloading operations. At this time, locomotives and BNSF crew would depart the Rail Transload Facility and go to Richmond for refueling and maintenance.

Crude oil transloading operations would extend over a 14-hour timeframe. Following completion, empty cars would be moved to the landing and departure track and re-assembled. Prior to departure, a safety inspection would be conducted on the re-assembled train. Once BNSF locomotives and crew have returned to the Rail Transload Facility, the train would depart eastbound from the facility towards Stockton, CA.

2.5.4.2 Transloading Operations Sequence

Crude oil transloading operations would generally proceed as follows:

1. Train arrives from the east on BNSF main line, proceeds onto existing BNSF siding (parallel to the main line) and then continues onto one of the two landing and departure tracks. (Approximately 10 minutes to clear main track.)

2. The tail-end power unit disconnects from the train, moves to another siding track within the Rail Transload Facility yard, and waits for the head-end power units to be available for departure. (Approximately 10 minutes.)

3. One of the two head-end power units pushes the tank cars back into the four new transloading tracks. The entire train (104 cars) would be set in the transloading tracks. (Approximately 30 minutes per cut of cars, therefore, approximately 2 hours total.)

4. The two head-end power units and tail-end power unit join together and depart for BNSF's service yard in Richmond. Units would depart when rail time is available on main line. (Approximately 15 minutes on site plus travel time to Richmond.)

5. Tank cars are unloaded. Individual drain hoses would be manually connected to the bottom of each tank car by onsite Terminal workers. The vent valve on the top of each tank car would be opened, and a check valve placed onto each one which would only allow fresh air into each tank car.

6. The contents of each tank car would be drained by gravity into a collection pipe (common header pipe) and then pumped northward to the WesPac Energy–Pittsburg Terminal directly into a storage tank. There would be 104 transloading spots, so rail cars would not need to be moved until they are emptied and prepared for departure. (Approximately 7 hours.)

7. The empty tank cars would be reassembled into a unit train on the landing and departure track by the Rail Transload Facility's switch locomotive (this locomotive would be based within the Rail Transload Facility for the purpose of moving other railroad cars around the yard). (Approximately 45 minutes per cut of cars, for a total of 3 hours.)

8. The two head–end power units and tail-end power unit would return from Richmond and connect to the unit train. Prior to departure, a safety inspection would be conducted and the train readied for departure. (Approximately 1 hour and 30 minutes.)

9. The train would depart to the east, first moving onto BNSF siding tracks (parallel to the main line) and then onto BNSF's main line. (Approximately 10 minutes.)

The total operations procedure would take approximately 14 hours per train. The facility would operate 24 hours per day, 7 days per week. However, there would only be activity while the trains are arriving and departing and while tank cars are being unloaded. The facility would have capacity to accommodate one train per day.

2.5.4.3 Electrical Power, Lighting and Controls

Facility power would be distributed at 277/480 volts and 120 volt power would be provided locally with dry transformers. A Programmable Logic Controller system would be used to stage and shut-down transloading pumps automatically, and would be provided with an uninterruptable power supply. All emergency stop controls for the facility would be hardwired. Facility lighting would be provided for the transloading platform, administration building, parking area and rail-switch points.

For more information regarding Rail Transload Facility lighting, see Chapter 3.0: Aesthetics.

2.5.4.4 Fire Detection and Suppression

A fire-protection system for facilities within the proposed transloading facility would be developed in compliance with the latest edition of NFPA and Contra Costa County Fire Protection District regulations. It is anticipated that firewater monitors and hoses would provide a firewater mixture, consisting of water and aqueous film forming foam to fight fires.

Due to local water supply pressures, a fire pump and tank system would be required. The fire pump building, would be approximately 15 feet by 30 feet (interior dimensions) and would also house the foam storage tank and proportioning equipment.

2.5.5 Maintenance

2.5.5.1 Marine Terminal and Storage Terminal Maintenance

Typical maintenance within both the marine terminal and storage terminal would include operations required to maintain existing equipment, berth, tanks, and piping. The requirements and frequency of maintenance operations would be specified in the Terminal’s Operations Manual. Maintenance operations would include the following:

- Servicing equipment such as shipping pumps, fire-water pumps, instruments, and valves
- Repair and upkeep of the facility, including repairing berms, repainting piping and equipment when necessary, and repairing insulation
- Testing and cycling instruments on the berth and storage terminal to ensure equipment is operating as designed

WesPac would maintain the facility landscaping and surrounding berms to ensure that stormwater retention catch basins/ponds and drainage lines would be free of sediment buildup and vegetation. WesPac personnel would regularly assess the facility drainage, particularly during and after rain events, to assess the need for maintenance and removal of sediment and vegetation.

2.5.5.2 Maintenance Dredging

Marine terminal maintenance may require additional dredging within the proposed dredging area (refer to Figure 2-15). It is anticipated that such maintenance activities would be conducted every two years, and would be limited to approximately 10,000 cubic yards of soil. The final quantity of dredged materials would depend on finalization of the vessel approach, as well as geotechnical analysis of seafloor slopes. Scheduled maintenance dredging would be known sufficiently in advance and WesPac would be sure to comply with all permits so as to make sure appropriate assessments are conducted prior to conducting maintenance-related dredging. For more information regarding existing sediments, see Appendix A: Characterization of WesPac Energy Pittsburg LLC Marine Terminal Dredging Project Sediments: Dredge Materials Sampling and Analysis Results, which includes the results of Tier II (chemical and physical) sampling testing completed on existing soils.

Dredged soils would be tested and disposed of properly. If classified as non-hazardous, soils would be disposed of in accordance with all federal, state, and local regulations. A number of disposal sites for dredged materials are currently being investigated. Dredged materials would most likely be disposed of at either Winter Island or the Montezuma Wetlands (refer to Section 2.4.1.7). The final disposal location would be dependent on soil testing, economic analysis, and current disposal options at the time dredging occurs.

2.5.5.3 Substation Maintenance

Regular inspection of electric lines, support systems, and instrumentation and control is critical for the safe, efficient, and economical operation of the substation. All of the structures would be inspected from the ground on an annual basis for corrosion, misalignment, and foundation condition. Ground inspection would include inspection of hardware, insulator keys, and conductors. This inspection would also check conductors and fixtures for corrosion, breaks, broken insulators, and bad splices. The electric lines would be inspected for sag.

Substation maintenance would be conducted by WesPac and the power line interconnection would be maintained by PG&E.

2.5.5.4 Rail Transload Facility Maintenance

The mechanical systems associated with the Rail Transload Facility operations would require periodic inspection and maintenance to keep the system operating properly. Manufacturer's maintenance instructions would be fully adhered-to for all mechanical and electrical systems.

All exposed piping, valves and flanges would be inspected while in operation to check for leaks. Differential pressure gauges on transloading pumps would be monitored during every transloading cycle and cleaned, as required. The pump operation would be observed during transloading to check for cavitation, pump performance, and leaking seals. Hoses and hose fittings would be inspected before every transloading operation and replaced or repaired, as required. Meters would be checked for accuracy based on a schedule to be determined by applicable commercial contracts and/or WesPac procedures. If significant deviation on meters is detected, the meter would be rebuilt or replaced.

Control systems would require periodic inspection to confirm alarms are operational and transloading pump level controls are working properly. Emergency shut-down system would also be tested regularly.

Fire Department Inspections

The fire-protection system for facilities would be inspected, as required by NFPA and Contra Costa County Fire Protection District regulations. If the existing fire water piping system or any other part of the fire system is found to be dysfunctional, repairs would be made prior to proceeding with transloading operations.

Maintenance Liability

The Rail Transload Facility operator would be responsible for complying with maintenance standards and commitments for those facilities located within the facility site. Locomotive facilities and bridge structures would be maintained per the Construction & Maintenance Agreement executed with BNSF and FRA Class 1 standards.

2.5.5.5 Pipeline Maintenance

The existing KLM Pipeline and San Pablo Bay Pipeline are currently owned, operated, and maintained by their respective operating companies. As previously mentioned, pipeline connection agreements for the idle 13.2-mile-long segment of the San Pablo Bay Pipeline, proposed KLM Pipeline connection and proposed Rail Pipeline have not been finalized with each prospective operating company and, therefore, pipeline operations and maintenance cannot be fully established at this time. Assuming no transfer of pipeline ownership occurs, pipeline connections would be integrated into the respective third-party operating companies for operation and maintenance, including risk management and ranking systems. The lines would be operated per regulatory requirements, including the California Pipeline Safety Act and Department of Transportation regulations (Title 49, Code of Federal Regulations, Part 195). These regulatory requirements include routine internal inspections and/or hydrostatic testing, cathodic protection surveys, and visual field observations of rights-of-way. In California, the State Fire Marshall inspects all active-status pipelines, although the exact period between inspections depends on staffing schedule and on the priority placed on the pipeline. The State Fire Marshall would require pipeline operators to keep accurate records of the materials transported in the pipeline and records of routine and special maintenance. These records would be audited during inspections. If a transfer of ownership of either pipeline segment occurs, the new owner would be responsible for the above-described pipeline safety practices, and would be required to comply with all state and federal regulations. Regular operations and maintenance of pipeline metering, proving, and pump facilities proposed for the Terminal would be operated and maintained by WesPac.

When receiving product, facility operators would ensure the receiving tank was properly lined up and the pipeline operator would ship product into the terminal from their facility. When shipping product, the facility operators would ensure the shipping tank and pump were properly lined up and the facility would pump the product to the delivery point. Beyond the operation of the shipping pump during pipeline shipping operations, no significant noise is expected during operations.

Additional ongoing maintenance activities would include:

- Corrosion monitoring—To monitor and control the external and internal corrosion of the pipeline.
- Temporary pipeline locating and marking for excavation—To reduce the likelihood of accidental third-party damage caused from excavation activity, the pipeline would be marked according to the requirements of the USA; pipeline operators would comply with local laws governing underground facility damage prevention.
- Other equipment maintenance—Other equipment that would be connected to the pipelines such as pumps, valves, electronic equipment, and telecommunications equipment would be maintained on a regular basis.

2.5.6 Waste Management

Procedures for the management of waste generated during operation would be developed as project details are quantified. However, due to the nature of the proposed facility operations and the ongoing site presence of 10 to 15 regular employees, the magnitude and nature of waste generated during the post-construction operational phase of the proposed project is expected to be minimal and of a household/commercial nature. Containerization and removal of this solid municipal waste can be readily accommodated by the Pittsburg Disposal Service under their weekly 96-gallon commercial service program, supplemented by additional containers for recycling of paper/cardboard and beverage containers.

2.5.7 Lighting and Security

Terminal lighting designs would be developed to provide safety for employees and would comply with OSHA and other regulatory requirements. Lights would be mounted on facility structures and/or on free-standing light poles. Lighting fixtures would be located and designed to avoid casting light or glare toward off-site locations, as feasible. If necessary, lights would be provided with shields to reduce glare. In addition to terminal lighting, security staff would be employed (shared with the NRG Pittsburg Generating Station) 10 hours per day, 5 days per week. An existing security guard booth is located at the entrance of the facility, approximately 0.2 mile north of West 10th Street along the existing Terminal access road, and would be used for the proposed project operations. A security guard would be posted within this booth during weekday daytime operations. Outside of those hours, the security gate would be monitored by surveillance camera footage, displayed at the office and control building, and the gate would be operated remotely. In addition, WesPac operators would monitor the Terminal from the storage terminal control building using surveillance monitors projecting footage from surveillance cameras mounted at various locations around the facility. Existing perimeter chain-link fencing would be maintained for security purposes. Some portions of the perimeter fencing are shared with the adjacent NRG facility. Prior to terminal operations, a Marine Oil Terminal Security Plan would be prepared and approved by the Marine Facilities Division of the CSLC. Site security measures and protocols would also be detailed in the Terminal's Facility Response Plan. For additional discussion regarding site security, see Chapter 10.0: Hazards and Hazardous Materials.

The Rail Transload Facility would require the installation of approximately 14 high mast light poles, 12 of which would be installed within the transloading area platform, and two of which would be installed near the administration building. For more information regarding lighting and potential visual impacts, see Chapter 3.0: Aesthetics.

2.5.8 Operations Schedule

Vessel unloading operations are anticipated to commence in July 2015. Marine terminal operations would be dictated by vessel schedule, as well as tide and current; therefore, unloading and loading operations would occur at any time, day or night.

Similarly, storage terminal operations would rely on shipping and receiving from third-party pipelines; therefore, the facility would coordinate its schedule with these facilities, and would operate on a continuous basis.

2.5.9 Operations Workforce

The proposed project is estimated to create approximately 40 direct jobs attributable to operations, which include jobs associated with Terminal and Rail Transload Facility operations, maintenance, and inspection. Apart from the 40 full time employees referenced above, it is expected that at least two full-time terminal operators would be on-site at all times and that each operator would work an 8- to 12-hour shift. When fully operational, a maximum of approximately 15 permanent terminal operators would be making trips to and from the facility each day. As previously mentioned, the project proponent intends to engage in a Project Labor Agreement with the Contra Costa Building and Construction Trades Council to use union workers in the completion of construction efforts required for the project. Given the presence of multiple union halls in the local and regional area, workers would most likely reside within 20 to 30 miles of the project site (Feere, 2012). No additional full-time staff would be required for the operation of the substation.

2.5.10 Electrical Load and Emergency Generators

The estimated average electrical energy usage for the project, including the Terminal and Rail Transload Facility sites, would be approximately 14,753 kilowatt hours per day. In the event of a power failure, two 150 kilovolt-ampere generators would be on-site to run critical systems. Generators would only be operated during power failures, which are not expected to occur regularly, if at all.

2.6 ALTERNATIVES ANALYSIS

CEQA requires that an EIR analyze the effects of a reasonable range of project alternatives sufficient to permit informed decision making and public participation. The EIR should focus on alternatives that eliminate or reduce significant environmental impacts and that could attain basic project objectives. The range of alternatives considered in an EIR typically includes “build” alternatives that would involve taking some action or constructing facilities. In addition, CEQA requires analysis of the effects of choosing not to implement a project. This is referred to as the No Project Alternative.

2.6.1 Alternatives Development

To meet the project objectives, the City primarily looked at sites located within the City’s boundary that contained existing idled infrastructure that could be modernized and upgraded for the receiving and transferring of crude oil from waterborne sources. Other potential sites in the greater San Francisco Bay area were also considered by the proponent for the building of an entirely brand new facility; however, no other locations were deemed reasonable or practicable with adherence to the outlined project objectives (refer to Chapter 1.0: Introduction and Project Goals and Objectives).No other sites located within the San Francisco Bay area possess the unique qualities of the proposed project site; including, but not limited to, a location adjacent to water deep enough to accommodate ocean going oil tankers, a land mass large enough and with suitable geotechnical properties to support a large amount of oil storage tanks, and a location within close proximity to existing oil pipelines connected to existing local refineries. The existence of an existing marine terminal and storage terminal at the proposed project location makes this site truly unique. In addition, a brand new facility would most certainly be associated with far greater temporary and permanent construction impacts than those associated with the modernization and reactivation of an existing facility; and therefore, was eliminated from further consideration.

2.6.1.1 Alternatives Considered and Eliminated

<u>Concord Naval Weapons Station</u>

The Concord Naval Weapons Station (CNWS) is an inactive military base, originally established in 1942, located north of the City of Concord at the shore of the Sacramento River (where it widens into Suisun Bay.)While active, the CNWS functioned as a World War II armament storage depot, supplying ships at Port Chicago. The CNWS also supported war efforts during the Korean War, Vietnam War, conflicts on behalf of governments in Central America, and the Gulf War, processing and shipping thousands of tons of materiel across the Pacific Ocean.

While active, the station consisted of two areas: The inland area (approximately 5,030 acres), which is within the City of Concord, and the tidal area (approximately 7,630 acres). Because of changes in military operations, by 1999, most of the inland area was removed from active service. By this time, the CNWS had a minimal contingent of military personnel and consisted mainly of empty ammunition storage bunkers, empty warehouses, and disused support structures. By 2007, the U.S. federal government announced that the inland area of the naval station would be closed entirely. In 2008, control of the site had changed—the inland area became a detachment of the Naval Weapons Station Seal Beach, pending ultimate closure. The tidal area (currently active) was transferred to the U.S. Army Surface Deployment and Distribution Command and is now known as Military Ocean Terminal Concord.

The City of Concord, the federally designated Local Reuse Authority, is in the process of formulating a Reuse Plan for the inland area that includes residential and commercial development, while reserving approximately two-thirds for open-space and parks projects[12]. If both the inland and tidal areas were made available for purchase from the U.S. Army by WesPac and were deemed suitable for crude oil storage infrastructure by the City of Concord, the CNWS would be an alternative site worthy for consideration. This is because the CNWS contains two existing marine berths located close to existing pipelines that connect to other San Francisco Bay Area refineries, and appears to have open land where new storage tanks could be constructed. This aside, the majority of the infrastructure associated with this project, including all onshore storage terminal and pipeline connection facilities, would need to be built.

In addition, in 1994, the CNWS was listed as a Superfund cleanup site, containing 32 contaminated areas, including contaminants such as zinc, copper, lead, cadmium, and arsenic, as well as semi-volatile organic compounds and

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[12] The Reuse Plan is subject to approval by the U.S. Navy.

organochlorine pesticides. These existing hazardous substances have been identified as a significant concern for local populations of the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) and the California clapper rail (*Rallus longirostris obsoletus*). While environmental remediation is underway at the CNWS, including the removal and/or capping of hazardous soils to prevent the spread of contaminants, the timeframe for cleanup of contaminated areas is unknown.

While the CNWS has some existing infrastructure associated with the proposed marine terminal, these facilities are owned by the United States Army and it is not believed that the proponent can reasonably acquire or have access to these facilities for many years, if ever. Without access to the marine terminal, the project would not be feasible, and would not meet the basic goals and objectives, as outlined in Chapter 1.0: Introduction and Project Goals and Objectives. As previously mentioned, the City of Concord is currently in the midst of formulating a Reuse Plan for the inland area, and likewise, it is highly unlikely that this area would be made available for an oil storage facility for many years, if ever. In addition, the need to construct on a Superfund cleanup site, where there are known endangered species, suggests that the impacts associated with this alternative from potential hazards and hazardous materials to the community and local and regional biological resources would be much more substantial than those associated with the proposed project. Therefore, this alternative was eliminated from further consideration.

Docks and Storage Tanks at Existing Refineries

San Francisco Bay Area refineries typically have their own marine terminal and storage tanks for receiving and storing petroleum products. However, according to the California Energy Commission and the Western States Petroleum Association, these facilities are currently at or near capacity, resulting in a need for additional marine terminal and storage capacity infrastructure. Individually, no refineries within the San Francisco Bay Area have enough extra marine traffic capacity to justify constructing an additional marine terminal. But collectively, there is enough demand to justify the addition of a new marine terminal, as proposed in this project. There are also existing environmental constraints such as land use, water quality, biological resources, and geology, which inhibit refiners' ability to construct new docks.

While existing San Francisco Bay Area refineries may be able to build additional storage tanks on their existing land, such land must be located close to the marine terminal to allow rapid unloading of the vessels and transport to storage tanks, and the availability of land close to offshore facilities is limited. Marine vessels need to be unloaded rapidly (generally within 24 hours) to avoid additional charges called demurrage. The refinery pipelines are not large enough to handle the high flow rates needed to offload the ships in the required time, unlike those proposed to be used in this project. Therefore, a new larger-diameter pipeline would need to be constructed. This alternative would have additional environmental impacts to those of the proposed project. Because it is neither practical nor feasible to expect local refineries to have the means or available land to build an additional marine terminal and associated storage tanks, this alternative was removed from further consideration.

2.6.1.2 Alternatives Considered

Following is a list of the alternatives considered and analyzed in this EIR.

- Alternative 1: Reduced Onshore Storage Capacity
- Alternative 2: No Project

2.6.2 Alternatives Analysis

2.6.2.1 Alternative 1: Reduced Onshore Storage Capacity

This alternative addresses the lack of storage and receiving capacity for crude oil in the San Francisco Bay Area in a similar, but reduced, effort by modernizing and reactivating a portion of the existing storage facilities at the NRG Pittsburg Generating Station. Similar to the proposed project, the Terminal would be designed to receive crude oil from marine vessels, trains and pipelines; transfer the oil to existing storage facilities via existing and new onshore storage terminal pipelines, store the oil in the existing and new storage tanks, and transfer oil products to nearby refineries via new and existing pipelines. Alternative 1, however, would only involve the modernization and reactivation of the existing storage tanks within the South Tank Farm (see Figure 2-20: Reduced Onshore Storage Capacity Alternative). The tanks within the East Tank Farm would be left in their existing status (maintained at conditions similar to those currently displayed[13].) Similar to the proposed project, for this alternative all products at the facility would be handled by ship, barge, rail, or pipeline.

Under Alternative 1, the Terminal would be able to sustain approximately 82 percent capacity as compared to the proposed project, with a total throughput of approximately 72,406,000 BBLs of crude oil or partially refined crude oil per year.

Without the use of storage tanks within the East Tank Farm, the Terminal would be reduced in size to approximately 100 acres of land and would still lease approximately 39 acres of submerged tidelands from the City of Pittsburg. The

[13] Alternative 1 would exclude the usage of storage tanks within the East Tank Farm, but exact boundaries for the Terminal (and associated land ownership rights) have not been determined. For the purposes of discussion, it has been assumed that the current owner, NRG, would maintain existing levels of required maintenance to existing infrastructure; however, should such facilities be transferred over to new ownership, the new owner would be required to maintain infrastructure in accordance with local, state, and federal regulations.

Terminal and Rail Transload Facility would be located at the same site as the proposed project; however, under this alternative, single-family residences adjacent to the East Tank Farm (located along Linda Vista Avenue) would now have an approximately 500-foot buffer between any actively used infrastructure and the residences. Access to the site would be the same as for the proposed project, via West 10th Street.

Project Components and Construction

Under Alternative 1, the marine terminal and pipeline connection components and associated construction would be identical to those described for the proposed project. The sole difference between this alternative and the proposed project is that the onshore storage terminal component would be reduced by approximately 25 acres, and the Terminal boundary would not include existing Tanks 1 through 6, located within the East Tank Farm (see Figure 2-20). Tanks 1 through 6 and associated tank infrastructure would be left idle and maintained to the standards at which they are currently upheld. The South Tank Farm and infrastructure within this portion of the Terminal would be upgraded and modernized as described for the proposed project, including Tanks 8 through 17, the stormwater retention basin, pipeline pump station, and pumps.

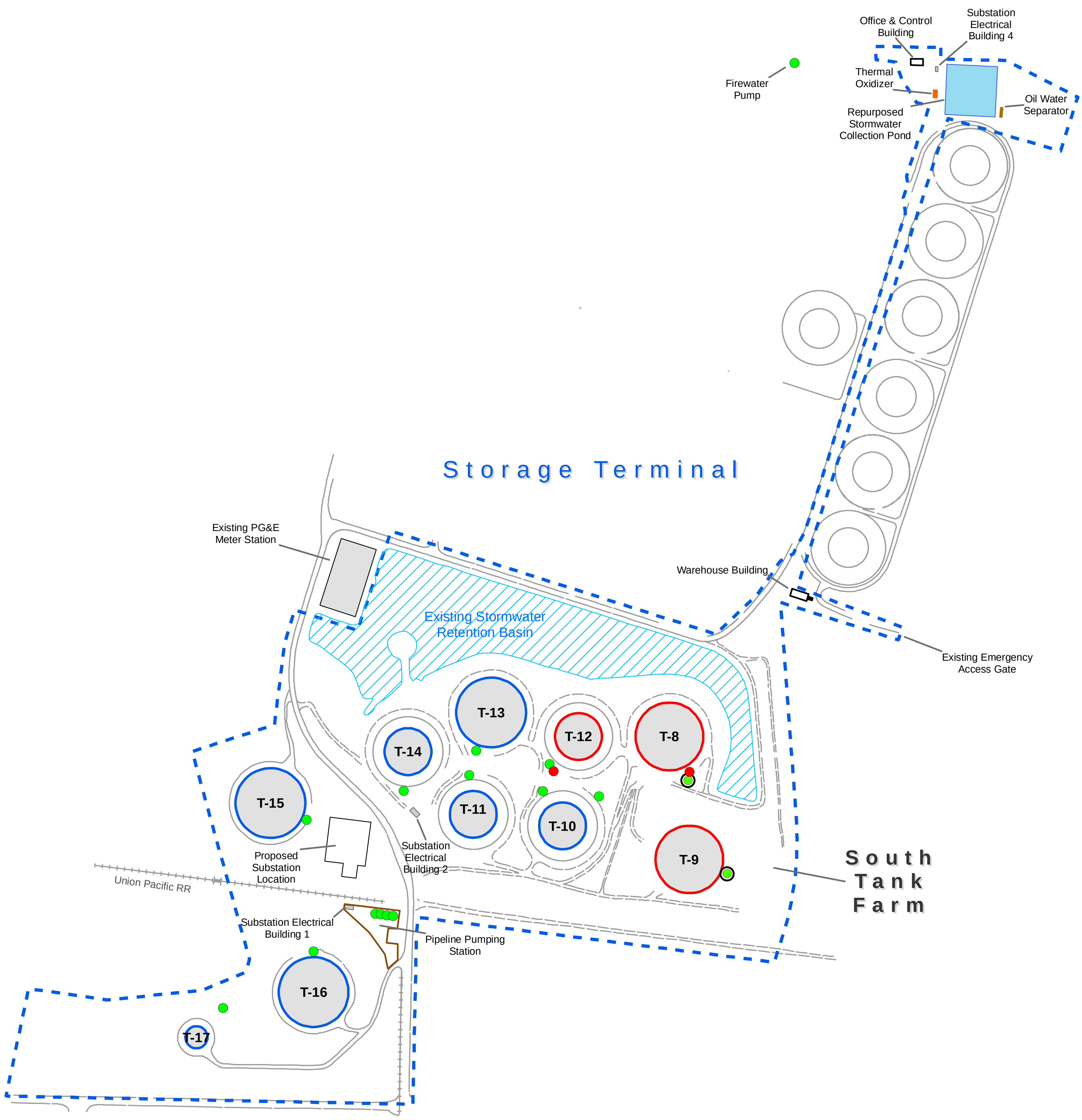
To maintain a transfer of crude oil product from the marine terminal to the South Tank Farm, some components within the East Tank Farm would still require upgrade, repair and/or replacement, or installation, including: Onshore storage terminal crude oil pipelines and associated pumps, thermal oxidizer, office and control building, warehouse building, electrical buildings, repurposed stormwater collection pond, OWS (and associated water pipelines and pumps), and plumbing and gas connection pipelines. Construction and operations associated with these components would be the same as for the proposed project.

The tank fire-protection system would be installed as described for the proposed project throughout the South Tank Farm; however, within the East Tank Farm underground fire-water pipelines and aboveground hydrants, monitors, and isolation valves would be limited to areas near the onshore storage terminal pipelines and utilized infrastructure only (and would not be needed around Tanks 1 through 6).

Operations and Maintenance

Operations and maintenance for the Terminal and Rail Transload Facility would be similar to what is described for the proposed project. In addition, facility equipment controls and the workforce associated with operations would be roughly the same. The only significant difference in operations and maintenance practices between the proposed project and Alternative 1 is an anticipated reduced capacity sustained by the Terminal, resulting from the reduced storage capacity within the storage terminal.

Preliminary and subject to change based on final engineering and other factors.



X:\WesPac\DEIR Reissue\02 Project Description\mxd\Figure 2-20 Reduced Onshore Storage Capacity Alternative.mxd

Figure 2-20 Reduced Onshore Storage Capacity Alternative
City of Pittsburg
WesPac Pittsburg Energy Infrastructure Project

TRC

6/19/2013

Pump
Pump with Noise Barrier Wall
Heater
Crude Oil Tank
Crude Oil Tank with Heating Potential
Terminal Boundary

N

1:6,000

1 inch = 500 feet

0 250 500 ft

Similar to the proposed project, only a single vessel at a time can be accommodated at the main berth; therefore, only one vessel would unload or load at the marine terminal at one time. As the marine terminal would be designed identical to the proposed project, it would be able to sustain the same range of vessel sizes. However, because there would be less storage capacity, it is anticipated that fewer vessels would be unloaded per year. In other words, the turnover rate of crude oil at the Terminal would operate at roughly the same speed. Under Alternative 1, the maximum number of vessels at the marine terminal would be approximately 15 tank vessels per month (which would equate to approximately 158,000 BBLs per day – assuming all vessels are Aframax or Panamax).The marine terminal would be anticipated to receive up to 180 unloading/loading events per year. As with the proposed project, most of the vessels are expected to be Panamax or Medium Range size, with up to one Aframax and one or two barges per month.

Operations and maintenance associated with the rest of the facility, including the storage terminal (within the South Tank Farm only), pipeline connection alignment, and Rail Transload Facility would be the same as for the proposed project.

2.6.2.2 Alternative 2: No Project

Under Alternative 2, existing facilities would remain at the project site and proposed construction associated with the modernization and reactivation of the current facilities and subsequent operation would not occur. Alternative 2 considers the allowable and reasonably foreseeable use of the proposed project site, which is to remain as an inactive, idled marine and storage terminal (maintained in caretaker status), and existing structures would not be used for any purpose. No construction or operations would take place. No other allowable or reasonably foreseeable uses have been proposed for the proposed project site.

For analysis purposes, under Alternative 2 a portion of the increasing demand for crude oil imports is assumed to be accommodated at existing liquid bulk terminals to the extent feasible according to their remaining capacities. Although additional demand for oil in excess of the capacity of existing marine terminals to receive it may come in by rail, barge, or other means, rather than speculate about the specific method by which more crude oil or refined products would enter northern California, for analysis purposes, the impact assessment for Alternative 2 in this EIR is based on marine deliveries only up to the available capacity of existing crude oil berths.

2.7 ENVIRONMENTAL COMMITMENTS

Environmental commitments are protective measures that are included within the proposed project design and operations. Upon project approval, these measures would be carried out by the project proponent to reduce or avoid adverse effects that could result from project construction or operation. Many of the measures reflect federal, state and local regulatory requirements applicable to the project (e.g., regulations regarding the use, handling, storage, transport and disposal of hazardous materials). These measures are proposed by the project itself, and thus are distinct from mitigation measures added to the project in this EIR. The following sections describe the project's environmental commitments adopted for the proposed project. These commitments include BMPs, and would be incorporated in construction documents (plans and permit specifications) prepared for the project. The commitments described below apply to both the proposed project and Alternative 1.

2.7.1 Aesthetics

Environmental Commitment Aesthetics (AE)-1: In accordance with PMC 18.82.030, lighting fixtures shall be located and designed to avoid casting light or glare toward off-site locations. If necessary, lights shall be provided with shields to reduce glare

Environmental Commitment AE-2: In accordance with PMC 18.54.130, additional trees shall be planted along the storage terminal property line just south of the East Tank Farm, and along the northern and southern boundaries of the Rail Transload Facility property line.

Environmental Commitment AE-3: In accordance with PMC 18.54.115, an additional 2.5 acres of vegetative landscaping shall be planted on the Terminal project site.

2.7.2 Air Quality

Environmental Commitment Air Quality (AQ)-1: Construction operations shall be performed using BMPs for the control of fugitive dust, as established in the BAAQMD CEQA Guidelines (2011), including:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles [unless covered], graded areas, and unpaved access roads) shall be watered two times per day, or as necessary.
- Haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- Tires of haul trucks shall be washed prior to exiting the site, as needed.

- The entrance/exit points to the site, if unpaved, shall be stabilized (e.g., installation of base rock).
- Visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day or as necessary.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- Grading operations shall be sequenced to minimize duration of exposed areas.
- Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible, and building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle idling times shall be minimized either by shutting equipment off when not in use and/or reducing the maximum idling time to 5 minutes.
- Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications.
- A publicly visible sign shall be posted, with the telephone number and person to contact regarding dust complaints. This person shall respond within 48 hours and take corrective action as appropriate. The BAAQMD's phone number shall be visible to ensure compliance with applicable regulations.

2.7.3 Greenhouse Gas Emissions

Environmental Commitment Greenhouse Gas Emissions (GG)-1: The BAAQMD CEQA Guidelines (2011) BMPs to reduce GHG emissions during construction shall be incorporated to the maximum extent practicable. These BMPs may include: using alternative fueled construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste.

2.7.4 Aquatic Resources

Environmental Commitment Aquatic Resources (AR)-1: BMPs shall be employed during dredging to minimize the consequences of dredging and disposal on water quality. BMPs shall be determined by the Dredged Material Management Office as conditions of the dredging permit. They may include but are not limited to:

- **Reduce the velocity of the ascending loaded bucket through the water column.** The majority of the sediment resuspension for a clamshell dredge occurs when the bucket hits the substrate bottom. Slowing the bucket's descent reduces the amount of sediment resuspended; however, it also reduces the volume of sediment that is picked up.

- **Eliminate multiple bites.** The bucket loses sediment as it is opened and closed multiple times to get a bigger bite.

- **Eliminate bottom stockpiling.** Similar to taking multiple bites, stockpiling silty sediments on the water bottom promotes sediment resuspension.

Environmental Commitment AR-2: The steel piles shall be cut 3 feet below the midline and removed by direct pull in an effort to suspend only small amounts of sediment.

Environmental Commitment AR-3: Steel piles shall be driven by vibratory hammers to the extent practicable.

Environmental Commitment AR-4: To manage future maintenance dredging and disposal in an environmentally sound manner, WesPac shall obtain coverage under the provisions of the Long-term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region Management Plan (2001), for biannual maintenance dredging of an approximate 8-acre area within the proposed dredging area (refer to Figure 2-15).

Environmental Commitment AR-5: A SPCC Plan shall be prepared and implemented to avoid and minimize the impact of minor spills during construction and operations. This SPCC Plan shall include provisions to prevent and control potential releases that could impact biological resources.

2.7.5 Terrestrial Resources

Environmental Commitment Terrestrial Resources (TR)-1: Construction activities shall be conducted in order to avoid and minimize impacts on special-status species, including timing those project activities that could affect special-status species to coincide with times when special-status species are likely to be absent, using work-exclusion areas, and confining work activities to previously disturbed and developed areas.

Environmental Commitment TR-2: The project proponent shall seek coverage for covered activities under the terms of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP). An application form and Planning Survey Report (PSR) shall be submitted to the City of Pittsburg for review and approval, in order to comply with and receive permit coverage under the ECCC HCP/NCCP.

Environmental Commitment TR-3: The project proponent shall comply with all relevant minimization measures as determined necessary in the final approved PSR, to reduce impacts to covered species under the ECCC HCP/NCCP.

Environmental Commitment TR-4: Construction at the storage terminal and for the proposed pipeline connection to the existing KLM Pipeline and the Rail Pipeline shall be designed to avoid impacts to wetlands and waters of the United States.

Environmental Commitment TR-5: All stormwater from the facility shall be ultimately collected into the existing stormwater retention basin situated along the north end of the South Tank Farm for discharge into Willow Creek. Provisions to ensure that contaminated water is treated prior to release include visual inspection, use of an oil-water separator, and laboratory testing, as necessary. Water can only be discharged into Willow Creek by manual activation of a pump. When not actively pumping, the valve between the basin and the creek shall remain closed, ensuring that the contents of the basin cannot accidentally flow into the creek.

Environmental Commitment TR-6: The parking lot associated with the office and control building shall be constructed with a permeable surface to reduce stormwater runoff.

Environmental Commitment TR-7: As described in Conservation Measure 1.10, Maintain Hydrologic Conditions and Minimize Erosion, the project would:

- Develop stormwater treatment controls such as detention basins sized, at a minimum, to treat runoff in accordance with the criteria provided in Provision C.3.

- Implement a verification program for treatment controls to ensure that all installed controls are appropriately operated and maintained.

- Control peak runoff flows and volumes by creating and implementing a Hydrography Modification Management Plan.

- Provide compensatory mitigation to the City where meeting Provision requirements is physically impractical.

- Limit the use of stormwater controls that function primarily as infiltration devices to protect groundwater quality and local stream hydrograph.

Environmental Commitment TR-8: Any aboveground power lines shall be constructed in accordance with PG&E bird-safe standards as defined in their Avian Protection Plan.

2.7.6 Geology, Soils, and Seismicity

Environmental Commitment Geology, Soils, and Seismicity (GSS)-1: BMPs shall be incorporated into the SWPPP for construction and excavation operations to minimize on-site soil erosion and off-site sedimentation.

Environmental Commitment GSS-2: Prior to operation of the San Pablo Bay Pipeline, the mitigation measures outlined in the Final Mitigated Negative Declaration for PG&E's Richmond-to-Pittsburg Pipeline Divestiture (PG&E, 2005) will be required to be performed by the pipeline owner. These mitigations include an evaluation of the historical effect of tectonic creep on the pipeline, as well as an overall pipeline inspection, as required by the California Public Utilities Commission. If it is determined, based on this evaluation, that the pipeline would be unable to withstand a major seismic event or further tectonic creep, necessary repairs or modifications will be required to be undertaken. During pipeline operation, the pipeline operator will be required to performed inspections on a regular basis in accordance with United States Code of Federal Regulations, Title 49, Section 195, which governs transportation of hazardous liquids by pipeline, and findings of the inspections will be required to be reported to the State Fire Marshall.

2.7.7 Hazards and Hazardous Materials

Environmental Commitment Hazards and Hazardous Materials (HM)-1: BMPs shall be incorporated into the construction SWPPP to limit the potential for hazardous materials exposure via stormwater for workers, the public, and the environment, as described in Environmental Commitment WR-1.

Environmental Commitment HM-2: The project shall comply with CCR, Title 22, Division 4.5, which includes specific requirements for identifying, accumulating, and managing hazardous wastes on-site, transport of hazardous wastes off-site, and treatment and disposal of hazardous wastes at properly designed and permitted facilities.

Environmental Commitment HM-3: The project shall comply with California OSHA standards for worker safety in the handling and use of hazardous materials and hazardous wastes (8 CCR Section 337-340). These include (1) employer requirements to monitor work exposure to hazardous substances and notify workers of exposure to hazardous substances; (2) employee training; (3) availability of safety equipment; (4) accident-prevention programs; (5) hazardous substances exposure warnings; and (6) the requirement of an Injury and Illness Prevention Plan (8 CCR 3203), which shall specify protective clothing and gear to be used during task-specific activities.

Environmental Commitment HM-4: The project shall comply with the SPCC Plan requirements of 40 Code of Federal Regulations (CFR) Part 112. These regulations are designed, in part, to ensure that petroleum products are properly contained to minimize the potential for a release of oil to surface waters.

Environmental Commitment HM-5: The project shall comply with CCR Title 19, Division 2, Chapter 4, Article 4, which requires that a HMBP be prepared and followed for project construction. The HMBP shall include, at a minimum: (1) an inventory of hazardous materials present and their characteristics; (2) requirements for employee training, inspections, and release preparedness; and (3) site maps designed for emergency response planning, and other measures.

Environmental Commitment HM-6: The project shall comply with the federal Hazardous Materials Transportation Law (49 USC 5101-5127), which contains requirements for hazardous materials classification, hazard communication, packaging, operational rules, training, security, and registration.

Environmental Commitment HM-7: Prior to construction activities, the site shall be surveyed to assess predictable hazards to employees and the kind, and extent, of safeguards necessary to execute the work in a safe manner (8 CCR 1511). In situations where employees are subject to known job-site hazards (e.g., flammable liquids and gases, toxic materials, confined spaces), they shall be instructed in the recognition of the hazard, procedures to protect themselves from injury, and first aid procedures in the event of an injury (8 CCR 1510).

Environmental Commitment HM-8: In addition to regulatory requirements, the project shall prepare a Soil Management Plan, for review by the City and the Certified Unified Program Agency, prior to construction. The Soil Management Plan shall identify procedures for identifying and handling impacted soils in excavations, in accordance with applicable laws and regulations.

Environmental Commitment HM-9: During upgrades or removal of ACMs, handling and disposal shall be in accordance with California OSHA regulations, and pre-existing signage warning of ACMs shall remain on-site during and after construction (29 CFR 1926.1101 and 8 CCR 1529). Protective measures shall include, but not be limited to: (1) training; (2) oversight by a competent individual; and (3) personal protective equipment such as respirators and special clothing for workers. Engineering controls could include: (1) enclosure or isolation of work-producing asbestos dust; (2) ventilation equipped with HEPA filters; and (3) negative-pressure enclosure systems such as glove bag systems, wet removal, and use of leak-tight containers.

Environmental Commitment HM-10: In accordance with 8 CCR 1532.1, which governs safe construction practices in the presence of lead-containing materials, protective measures shall be required, which include, but are not limited to: (1) training, (2) personal protective equipment such as respirators and special clothing for workers, and (3) required engineering controls and work practices to limit exposure to a safe level.

Environmental Commitment HM-11: The project shall fund the installation of a siren to be integrated into the Community Warning System (CWS) at an onsite or nearby location acceptable the Contra Costa County Fire Protection District and the Contra Costa Sheriff's Department to alert the public in the event of an imminent hazard to public health. The CWS, operated by the Contra Costa County Sheriff's Department, is an early warning system in place to notify the community of an industrial hazardous material release.

Environmental Commitment HM-12: The project shall comply with 40 CFR 112, which requires that a Fire Response Plan (FRP) be prepared and implemented. The FRP shall ensure that response resources and preparation for the worst-case spill are in place, including evidence of a contract with an oil spill response organization.

Environmental Commitment HM-13: Prior to operation of the San Pablo Bay Pipeline and the KLM Pipeline connection, a written plan describing the process to be used to demonstrate the integrity of the pipelines shall be submitted to the State Fire Marshall for review and approval. An inspection of the pipeline and pipeline records shall be conducted by the State Fire Marshall to determine compliance with state and federal pipeline regulations.

Environmental Commitment HM-14: Project pipeline operations shall be in accordance with California Government Code Chapter 5.5 and DOT Title 49 CFR Part 195 regulations, which call for regular integrity testing, training, corrosion control, qualifications of pipeline personnel, and other measures to minimize the potential for a release from pipelines, and recordkeeping and reporting to ensure compliance.

Environmental Commitment HM-15: In accordance with 49 CFR, Part 195.402, a manual of written procedures for providing safety during storage terminal and marine terminal pipeline maintenance and normal operations, abnormal operations, and emergencies shall be prepared and followed.

Environmental Commitment HM-16: In accordance with 49 CFR 194, the operator of the San Pablo Bay Pipeline shall prepare, implement, and maintain a Response Plan for an Onshore Oil Pipeline. The Response Plan shall include procedures and a list of resources responding, to the maximum extent practicable, to a worst-case discharge and to a substantial threat. The Response Plan shall identify environmentally and economically sensitive areas and address spill detection and mitigation procedures. Additionally, the plan shall detail notification procedures, establish provisions to ensure the protection of safety at the response site, identify training and equipment-testing procedures, and contain a drill program.

Environmental Commitment HM-17: Pursuant to the California Pipeline Safety Act, the project shall be required to provide each fire department with fire suppression responsibilities a map showing the locations of each pipeline, a description of all products being transported within the pipeline, and a contingency plan for pipeline emergencies, for use by the California State Fire Marshal in the event of an emergency.

Environmental Commitment HM-18: The project shall participate in the Contra Costa County Community Awareness & Emergency Response organization to facilitate emergency response planning within the community.

2.7.8 Public Services and Utilities

Environmental Commitment Public Services and Utilities (PSU)-1: A Health and Safety Plan shall be developed for project construction and shall include a Fire Hazard Management Plan. Standard BMPs shall be included in the Fire Hazard Management Plan, including issuance of hot work permits prior to work such as grinding, welding, or torch cutting; using safety fire watches as required by the OSHA; and ensuring that all contractors wear the minimum required personal protective equipment.

Environmental Commitment PSU-2: Trash containers, including containers for disposal of recyclable material, shall be provided for daily refuse generated by construction workers.

Environmental Commitment PSU-3: The design plans for the KLM Pipeline connection and the Rail Pipeline shall address setbacks from parallel existing pipelines and crossing of existing pipelines.

Environmental Commitment PSU-4: Underground Service Alert (USA) shall be notified at least 14 days before initiating underground utility construction activities to help workers avoid impacts to other underground facilities during digging or trenching activities.

Environmental Commitment PSU-5: Prior to subsurface work, a geophysical utility survey shall be conducted to identify subsurface features that may not have been identified by USA.

Environmental Commitment PSU-6: Existing underground utilities shall be visibly marked.

2.7.9 Land Use and Recreation

Environmental Commitment Land Use and Recreation (LUR)-1: Before construction or dredging begins, the construction/dredging company shall inform the U.S. Coast Guard (USCG) of the type and placement of vessels, and schedule, and the USCG shall disseminate this information to mariners using the Local Notice to Mariners process.

2.7.10 Noise and Vibration

Environmental Commitment Noise and Vibration (NV)-1: Construction work hours and days shall be limited in accordance with applicable policies of the *City of Pittsburg General Plan* Noise Element and Pittsburg Municipal Code Noise Ordinance.

Environmental Commitment NV-2: Truck traffic during construction shall use appropriate truck routes during the times required in the *City of Pittsburg General Plan* Noise Element and Pittsburg Municipal Code Noise Ordinance.

2.7.11 Land Transportation

Environmental Commitment Land Transportation (LT)-1: All deliveries of hazardous materials shall follow the City-designated truck route.

Environmental Commitment LT-2: In accordance with California Vehicle Code Section 35780, a Single Trip Transportation Permit shall be obtained to transport oversized or excessive loads over State highways.

Environmental Commitment LT-3: In accordance with California Streets and Highway Code, Division 2 Chapter 5.5 Sections 1460-1470, an encroachment permit shall be obtained prior to conducting work in a roadway.

Environmental Commitment LT-5: A Traffic Management Plan shall be filed with the City of Pittsburg as part of the encroachment permit approval process.

Environmental Commitment LT-6: The construction contractor for the pipeline shall prepare a construction Traffic Control Plan and implementation program to address timing of heavy equipment and building materials deliveries, signage, lighting, and the establishment of delivery/work hours outside of peak traffic periods.

Environmental Commitment LT-6: In accordance with California Streets and Highway Code, Division 2 Chapter 5.5 Sections 1460-1470, an encroachment permit shall be obtained prior to conducting work in a roadway.

2.7.12 Marine Transportation and Marine Terminal Operations

Environmental Commitment Marine Transportation and Marine Terminal Operations (MT)-1: Before construction or dredging begins, the USCG shall be informed of the type and placement of vessels in the bay, and schedule. The USCG shall disseminate this information to mariners, using the Local Notice to Mariners (LNM) process. The LNM is the primary means for disseminating information concerning aids to navigation, hazards to navigation, and other items of information of interest to mariners (refer to Environmental Commitment LUR-1).

Environmental Commitment MT-2: Construction vessels shall be marked and have lighting in accordance with USCG regulations.

Environmental Commitment MT-3: Lubricants and solvents stored on construction-related vessels shall be in approved containers.

Environmental Commitment MT-4: Refueling shall take place at approved dockside facilities to avoid fuel spills, when feasible.

2.7.13 Water Resources

Environmental Commitment Water Resources (WR)-1: Runoff of sediment and contaminants during construction activities shall be minimized through compliance with the State General Permit for Discharges of Storm Water Associated with Construction Activity (Water Quality Order 2009-0009-DWQ) and a project-specific SWPPP, which would be subject to review and approval by the City of Pittsburg Engineering Department. The SWPPP may include such BMP provisions as:

- implementation of hazardous or contaminated soil-handling procedures such as placing materials into lined bins and covering soils with plastic sheeting;
- designation of parking and fueling areas;
- deploying applicable sediment and runoff-control measures such as wattle;
- minimizing new land disturbance during the rainy season, and avoiding disturbance of sensitive areas (e.g., natural watercourses) where site improvements would not be constructed;
- providing temporary stabilization of disturbed soils whenever active construction is not occurring on a portion of the site;
- delineating a site perimeter to prevent disturbing areas outside the project limits;

- implementing handling and storage procedures for water generated during construction dewatering;

- implementing hazardous materials storage, containment, and control measures such as secondary containment berms; and

- diverting upstream run-on safely around or through the construction project.

Environmental Commitment WR-2: Groundwater from dewatering operations shall be transferred into water storage tanks and profiled for proper disposal, potentially to the City of Pittsburg or the Delta Diablo Sanitation District, under a batch or temporary permit. Water used for hydrotesting of pipes and tanks shall be similarly disposed.

Environmental Commitment WR-3: The USA or a similar service shall be contacted to help workers avoid impacts to known underground facilities during digging or trenching activities.

Environmental Commitment WR-4: A geophysical survey shall be performed prior to subsurface work to identify other operational subsurface structures and pipelines that may have been installed historically at the site.

Environmental Commitment WR-5: The safety of site personnel during a potential flood shall be addressed through site-specific flood safety protocols, which shall be detailed in the FRP (refer to Environmental Commitment HW-15 above).

Environmental Commitment WR-6: Permeable asphalt for the proposed office and control building parking lot area shall be used in order to decrease runoff, promote infiltration, reduce pollution carried to storm drains or waterways, and aid with reducing peak runoff velocity and volume (refer to Environmental Commitment TR-6).

Environmental Commitment WR-7: A site-specific Stormwater Management Plan shall be prepared and maintained. The Stormwater Management Plan shall include structural and non-structural controls, including visual inspection of stormwater prior to discharge, stormwater BMPs as discussed in WR-1 above, and routine monitoring and water testing procedures to ensure that pollutants are not present in stormwater discharged from the facility.

2.8 REFERENCES

Bay Area Air Quality Management District (BAAQMD). 2011. California Environmental Quality Act Air Quality Guidelines. Online: http://www.baaqmd.gov/~/media/Files/Planning%20and%20 Research/CEQA/BAAQMD%20CEQA%20Guidelines%20May%202011.ashx?la=en. Site visited January 15, 2012.

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Pacific Gas and Electric Company (PG&E). 2005. *Pacific Gas and Electric Company's Richmond-to-Pittsburg Pipeline Divestiture: Final Mitigated Negative Declaration (Revised)*. CPUC Application Numbers 00-05-035 and 00-12-008, SCH No. 2001102139, March 11, 2005, pp 2.F-6-2.F-8.