TESORO SAVAGE VANCOUVER ENERGY DISTRIBUTION TERMINAL

PRELIMINARY SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

Prepared for:

TESORO SAVAGE PETROLEUM TERMINAL LLC
Tesoro Savage Vancouver Energy Distribution Terminal
5501 Northwest Lower River Road
Clark County
Vancouver, WA 98660

Date prepared: January 2014

This document is a PRELIMINARY version of the Spill Prevention Control and Countermeasure Plan that will be prepared and implemented in accordance with applicable laws and regulations prior to the beginning of operations of the Tesoro Savage Vancouver Energy Distribution Terminal (TSVEDT or Facility). This Plan has been developed based on Facility design completed at the time of writing. This Preliminary plan is intended to be indicative of the planning and response strategies to be implemented by Tesoro Savage Petroleum Terminal LLC at the TSVEDT.

Spill Prevention Control and Countermeasure Plans are typically prepared after all approvals have been received to construct a facility, and are based on final facility design. Spill Prevention Control and Countermeasure Plans are usually written in the present tense, reflecting actual facility configurations and documented operation procedures. This Preliminary version of the Plan has been written in the present tense to reflect this approach; use of the present tense does not intend to convey approval of the plan contents at present by any regulatory agency that will be involved in the review of this plan at a future time.

It is also recognized that this Plan is not a standalone document, and that it relies on the concurrent implementation of numerous other documented procedures and operations manuals. These additional procedures and manuals will be prepared prior to Facility operations in accordance with applicable rules, laws and industry standards. This Preliminary Plan may refer to such future documents but does not control their content.

This Plan will be updated based on additional consultation conducted during the permitting effort for the TSVEDT and the final Facility design.

PRELIMINARY SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

Tesoro Savage Vancouver Energy Distribution Terminal

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PRELIMINARY SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

1.0 GENERAL INFORMATION

The following is a Preliminary Spill Prevention Control and Countermeasure Plan (SPCC Plan) for the Tesoro Savage Vancouver Energy Distribution Terminal (TSVEDT).

This document is a PRELIMINARY version of the plan that will be prepared and implemented in accordance with applicable laws and regulations prior to the beginning of operations of the TSVEDT. This plan has been developed based on TSVEDT facility design completed at the time of writing. This Plan will be updated based on additional consultation conducted during the permitting effort for the TSVEDT and the final design of the Facility. This preliminary plan is intended to be indicative of the planning and response strategies to be implemented by Tesoro Savage Petroleum Terminal LLC at the TSVEDT.

This Plan describes how the TSVEDT proposes to comply with the regulations and guidelines published on October 1, 2013 by the Environmental Protection Agency (EPA) in the Federal Register, Part II, 40 CFR Part 112 and as clarified in subsequent Federal Register notices[1].

This SPCC Plan applies to the portions of the TSVEDT that are subject to the EPA's Spill PCC Rule, 40 CFR Part 112. It is not applicable to the marine loading activities.[2] This SPCC Plan applies to portions of the facility inland from the first valve inside on shore secondary containment.

Location of the site

The site is located in Clark County, Washington, at the Port of Vancouver.

Directions to the site

From Vancouver, Washington: At the intersection of Interstate 5 (I-5) and Fourth Plain Boulevard, take Fourth Plain Boulevard west for 1.64 miles to the intersection with Mill Plain Boulevard and Lower River Road. Continue west through the intersection onto Lower River Road; go approximately 0.5 miles to the intersection with Northwest Lower River Road; turn left on Northwest Lower River Road and drive approximately 0.50 mile. The facility administrative offices are located on the right (north) side of the road.

[1] The TSVEDT may also be required to comply with provisions of other state and federal spill response and reporting requirements. This SPCC Plan has been prepared to address requirements under EPA's Spill Prevention Control and Countermeasure Rule, 40 CFR Part 112.

[2] Tesoro Savage Petroleum Terminal LLC has also prepared a Preliminary Oil Spill Contingency Plan that addresses potential releases from marine loading activities.

Facility Name

Tesoro Savage Vancouver Energy Distribution Terminal (TSVEDT)

Wellhead Protection Area

Not applicable; the TSVEDT is not located within a Wellhead Protection Area

Facility Location

5501 Northwest Lower River Road
Vancouver, Clark County, Washington 98660

Facility Phone Number

TBD

Owner Name

Tesoro Savage Petroleum Terminal LLC

Owner Address

6340 South 3000 East, Suite 600
Salt Lake City, Utah 84121

Owner's Phone Number

801-944-6600

Qualified Individual

TBD

Qualified Individual Title

TSVEDT Facility Manager
5501 Northwest Lower River Road
Vancouver, Washington 98660

Date of Start-up

TBD

1.1 Management Approval

I hereby certify that this SPCC Plan will be implemented by Tesoro Savage Petroleum Terminal LLC

Signature _____ Date _____

Printed Name _____ Title _____

1.2 Certification by Licensed Professional Engineer[3]

By means of this certification I attest that I am familiar with the requirements of 40 CFR 112; that I, or my agent, have visited and examined the facility; that this Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and with the requirements of this part; that procedures for required inspections and testing have been established; and that the Plan is adequate for this facility.

Signature _____

Printed Name _____

Date _____

Registration _____

[3] 40 CFR 112 requires that a final SPCC Plan be reviewed and certified by a licensed Professional Engineer for the Plan for it to be effective to satisfy the applicable requirements. The following statement is indicative of the certification that will be provided as part of the final plan.

1.3 Review

Five-year SPCC Plan reviews and Plan amendments resulting from change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in §112.1(b) will be documented below with the date of review and signature of individual performing the review.

If Amendments are made, list the Plan Sections amended and a brief description of amendments on the following SPCC Plan Review and Amendment Log 40 CFR 112.5(a).

I have completed a review and evaluation of the SPCC Plan for Tesoro Savage Vancouver Energy Distribution Terminal.

____________________________ (Signature) _______________ (Date)

(☐ will, ☐ will not) amend the SPCC Plan as a result.

____________________________ (Signature) _______________ (Date)

(☐ will, ☐ will not) amend the SPCC Plan as a result.

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(☐ will, ☐ will not) amend the SPCC Plan as a result.

____________________________ (Signature) _______________ (Date)

(☐ will, ☐ will not) amend the SPCC Plan as a result.

Certificate of Substantial Harm Determination

Facility Name Tesoro Savage Vancouver Energy Distribution Terminal

A facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to 40 CFR 112.20(e), 40 CFR 112.20(f)(1).

		Yes	No
1.	Does the facility transfer oil over water to or from vessels and have a total oil storage capacity greater than or equal to 42,000 gallons?	☒	☐
2.	The facility's total oil storage capacity is greater than or equal to 1 million gallons and does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation?	☐	☒
3.	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is located at a distance (as calculated using the appropriate formula or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?	☒	☐
4.	The facility's total oil storage capacity is greater than or equal to 1 million gallons and is located at a distance (as calculated using the appropriate formula or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?	☐	☒
5.	The facility's total oil storage capacity is greater than or equal to 1 million gallons and has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?	☐	☒

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature Date

Printed Name Date

1.4 Emergency Plan

General Emergencies	In the event of any natural or man-made emergency including, but not limited to, earthquakes, floods, tank rupture, fire, unintended Facility release, water pollution caused by an accident, etc., the notification delineated by the Facility Oil Spill Contingency Plan shall be executed, including the notifications to Tesoro Savage Petroleum Terminal LLC personnel listed in the plan. The following supplements the notifications in the Facility Oil Spill Contingency Plan
	For adjacent property owners: — Phone Number • Port of Vancouver — 360-992-1120 • Keyera Energy — 360-694-2844 • Clark Public Utilities — 360-992-3000 • Clark County Jail Work Center — 360-397-2138 • Tidewater Terminal Company — 360-693-1491 • Farwest Steel — 360-735-8744 • Subaru of America — 360-737-7630 • CalPortland — 360-694-1627 • Tristar Transload — 360-823-1000 • Kelly Pipe — 360-737-1848 For Tesoro Savage Vancouver Energy Distribution Terminal security: • Port of Vancouver — 360-992-1120 • Vancouver Police Department — 911
Employee Evacuation	The first step to be taken in the event of a major disaster involving the facility will be to evacuate the property. All product transfers should be secured. Evacuation locations are found in the Facility Oil Spill Contingency Plan.
Safeguarding Records	Protecting and safeguarding records will be the responsibility of the Facility Manager. That person will be determined at a later date.
Equipment	Safeguarding the equipment at the Facility will be the responsibility of the Facility Manager. That person will be determined at a later date.
Press and Visitors	All contacts with the press and the handling of visitors during the emergency is the responsibility of the Facility Manager. That person will be designated at a later date.

Event and Actions

Event	Action
Reporting a Discharge (Spill)	See Section 1.4
Information Needed When Reporting a Discharge	See Section 3.4, Table B-3, and Table B-5
Procedures When a Discharge Occurs	See Section 3.5
Scheduled Inspections and Tests	See Sections 3.7, 4.3.6 and 4.3.8 See Tables B-5 and B-5a
Personnel Training	See Section 3.8 and Table B-4
Site and Failure Summary	See Table B-6
Rainfall Drainage	See Section 3.3.3 and Table B-7
Inspection of each Storage Container	See Sections 3.7 and 4.4.1
Inspection of Facility Transfer Operations	See Section 4.4.1

1.5 Reporting of Spills to the EPA (40 CFR 112.4)

For the purpose of SPCC Plans, the EPA considers a release (or spill) to be a "discharge of oil into or upon the navigable waters of United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States, including resources under the Magnuson Fishery Conservation and Management Act." (112.1(a)(1).

Any discharge (spill), as defined above, which also meets the following criteria must be reported to the EPA. If the volume and frequency of (a) a single spill discharge of oil is more than 1,000 gallons, or (b) discharges of more than 42 gallons of oil in each of two discharges occur within any 12-month period, then a report must be submitted to the EPA Region 10 Administrator. The reporting procedures to be used are documented in the Facility Oil Spill Contingency Plan, Sections 2 and 3.

1.6 SPCC Plan Implementation

This SPCC Plan must be prepared and implemented prior to the beginning of operations.

1.7 Secondary Containment

In accordance with 40 CFR 112.1, the facility must implement procedures, equipment and other measures for oil discharge control. Sized secondary containment must be provided for all bulk storage containers 55 gallons and greater. Secondary containment measures may include curbing, gutters, spill diversion ponds, retention ponds, and sorbent materials.

Examples of equipment specifically mentioned in the regulation include oil-filled operational equipment (such as transformers and heat transfer systems), piping systems and pipelines, tanks, treating facilities and sumps. Bulk storage containers, defined as any

container used to "store" oil, must have sized secondary containment. **Table B-1a** lists all the bulk storage containers present at the facility. The location of bulk storage containers regulated under 40 CFR 112 in relation to their associated discharge controls is illustrated in **Appendix A, Figure 2, Site and Drainage Plan**.

1.7.1 Bulk Storage Containers

In accordance with 40 CFR 112.8 (c) (2) the six aboveground crude oil storage tanks are located within an earthen berm surrounding the aboveground storage tanks, which provides adequate secondary containment for the contents of the single largest tank plus adequate freeboard for an accumulation of rainwater. The criteria used to determine dike adequacy is identified in **Table B-2**. Construction details of the required berm are illustrated in **Appendix A, Figure 4, Containment Berm**.

The three diesel storage tanks and their associated secondary containment are located within an enclosed structure to prevent exposure to rainwater. Each tank is located within a concrete curb which provides adequate secondary containment for the contents of each tank.

1.7.2 Rail Unloading Area

The rail unloading areas are covered to divert precipitation. Ground surface within the unloading areas consists of concrete slab laid between structure walls and the unloading tracks, and between the three unloading tracks. Areas between the rails making up each track are surfaced with rail ballast over which drip containment pans have been installed to capture spills. Leaks or spills captured in the drip pans will be diverted to spill containment sump tanks which provide adequate secondary containment for the contents of the single largest compartment of a rail car. Piping trenches associated with each unloading track also provide secondary containment.

1.7.3 Other Equipment

Secondary containment is provided for all oil handling, use, and transfer areas. As provided in 112.7(c)(viii), sorbent materials are available on site for additional discharge control. Pipeline alignments are routed over areas in which surface drain inlets are designed to retain oil in the event of leaks or drips.

2.0 IMPLEMENTATION REQUIREMENTS

2.1 Initial Implementation Requirements

SPCC Plan Section	40 CPR 112 Section	Topic	Implementation Action Recommended
	112.7(g)	Security	An Operations Site Security plan will be completed pursuant to 33 CFR 105 and will be approved by the Port and USCG. Security measures anticipated at the site include fencing to prevent any public access to project facilities.
	112.7(h)(2)	Prevent premature departure	During unloading operations rail cars will not be uncoupled from the main engine. The locomotives will be disabled, braking systems will be engaged on the main train engine, and an appropriate number of rail cars will be secured to prevent early departure. Chocks are also placed at the first and last rail cars indexed in the rail unloading building. Communication between the train engineer(s) and facility personnel will be maintained throughout the unloading process to prevent early departure.
	112.8(d)(5)		Warning signs will be erected to warn drivers of aboveground piping and that they are entering an oil transfer operation facility.

2.2 Inspections, Record Keeping, and Training Requirements

SPCC Plan Section	40 CFR 112 Section	Topic	Operational Action Recommended/Comments
3.4	112.	Record of Discharge	Record every spill to water as defined by 112.(a)1
		Report of Discharge all	Report a single spill discharge of oil or more than 1,000 gallons, or discharges of more than 42 gallons of oil in each of two discharges occurring within any twelve month period. A report must be submitted to the EPA Region X Administrator providing the information.
3.4	112.7(4)	Information to Report	Information to be reported if a reportable discharge occurs.
3.3.6	112.7(a)(3)(vi)	Emergency Contacts	Maintain a list of persons to contact should a discharge occur
3.5	112.7(a)(5)	Procedures for a spill	Detailed list of procedures to be followed should a discharge occur
	112.7(e)	Equipment Inspection Checklist	This Checklist is or equivalent checklist is to be completed as directed and filed at the facility.
	112.7(e)	Record of Inspections and Tests	All Inspection and Tests required by this Plan will be recorded in this Table or an equivalent form designated by Tesoro Savage Petroleum Terminal LLC.

SPCC Plan Section	40 CFR 112 Section	Topic	Operational Action Recommended/Comments
	112.7(f)	Training Record	Record SPCC training sessions and discharge prevention training sessions in the record
	112.9(c)(3)	Record of Rainwater Drainage from Berm	This record must be completed whenever rainwater is discharged from the bermed area or curbed area or other secondary containment areas
	112.8(c)(6)	Integrity Testing	Each aboveground storage tank will be integrity tested on an industry prescribed basis as determined by Tesoro Savage Petroleum Terminal LLC and whenever material repairs are made.
	112.8(c)(8)	Test Liquid Level Sensing Devices	Liquid level sensing devices in use will be tested regularly to ensure proper operations.
	112.8(c)(10)	Visual Inspection of Each Container	Visible discharges which result in a loss of oil from a container will be promptly corrected and any accumulated oil will be promptly removed.
	112.8(d)(4)	Inspection of aboveground valves and piping	Once a month all aboveground valves, piping and appurtenances will be inspected to assess the general condition of items such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Integrity and teak testing will be conducted on buried piping at the time of installation, modification, construction, relocation or replacement.

3.0 GENERAL REQUIREMENTS FOR THE SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN)

3.1 112.7(a)(1) Facility Compliance with this Part

The facility as designed conforms to the requirements listed in Subpart A – Applicability, Definitions, and General Requirements for All Facilities and all Types of Oils, as set out in Sections 112.1 through and including 112.7.

3.2 112.7(a)(2) Compliance with Applicable Requirements Listed in this Part

The Plan complies with all applicable requirements listed in this part. Should the Plan deviate from the requirements listed in 112.7 (a)(2) a statement or justification for non-conformance will be provided in this paragraph.

3.3 112.7(a)(3) Physical Layout of the Facility

The Tesoro Savage Vancouver Energy Distribution Terminal (Facility) is located at the Port of Vancouver (Port) within the City of Vancouver (City) in Clark County (County), Washington. The site is located on the north (Washington) shore of the Columbia River. State Route (SR) 501 (Lower River Road) is located immediately to the north of the site. I-5 is located approximately 2.5 miles west. Rail access to the site is available from the

east. The entire Facility is constructed on approximately 44.9 acres. Berths 13 and 14 are located at approximately RM 103.5.

The function of the Facility is to receive heavy to light crude oil from rail cars, provide aboveground storage of crude and transfer crude oil to vessels for shipment. The Facility includes operations in different "Areas" on the overall facility, each area serving different functions as follows:

Area 200 – Unloading and Office: The proposed Administration office is located at 5501 NW Lower River Road. Immediately south of the Administration office is the Rail Unloading facility. The primary function of the Rail Unloading facility is to unload crude oil from rail cars.

Area 300 – Storage Area: Six aboveground storage tanks (ASTs) will be used for the storage of heavy to light crude. Each AST has 380,000 barrel shell capacity. The Storage Area is located approximately one mile east of the Rail Unloading facility.

Area 400 – Marine Terminal: Vessel loading operations are conducted at berths 13 and 14. The equipment and operations from the first valve inside on shore secondary containment and continuing out over the water are not included in this SPCC Plan. Piping running from the first valve inside on shore secondary containment to the tank farm is within the EPA jurisdiction and the scope of this SPCC Plan.[4]

Area 500 – Transfer Pipelines: Transfer pipelines are used to transfer crude oil from the Rail Unloading facility to the Storage Area and from the Storage Area to the Marine Terminal.

Area 600 – West Boiler: The West Boiler building generates and delivers steam to the Rail Unloading facility to heat crude oil for transfer to the Storage Area. The building is located west of the Administration building

Rail Infrastructure: A series of loop tracks are used to move rail cars to and from the Rail Unloading facility.

3.3.1 112.7(a)(3)(i) Each Container – Type of Oil and Storage Capacity

The Facility only handles Groups 2, 3, and 4 persistent oils, as defined in WAC 173-182-030 (42), with a specific gravity less than 1 and an API gravity ranging from 10 to 45.

The crude oil is stored in six, double-bottom, internal floating-roof ASTs. These tanks are 48 feet in height and 240 feet in diameter, with a shell capacity of approximately 380,000 barrels each.

Three 500-gallon diesel tanks are used at the facility to store ultra-low sulfur diesel for powering emergency fire water pumps. Each of the tanks is located adjacent to the

[4] Tesoro Savage Petroleum Terminal LLC has also prepared a Preliminary Oil Spill Contingency Plan that addresses potential releases from marine loading activities.

associated fire water pump it serves, one at each of the following locations: Area 200 – Unloading and Office, Area 300 – Storage Area, and Area 400 – Marine Terminal.

Table B-1a presents a list of bulk storage containers, their contents and capacities; T**able B-1b** presents a list of other containers, their contents and capacities. The locations of all containers are presented on separate figures for each area.

3.3.2 112.7(a)(3)(ii) Discharge Prevention Measures for Routine Handling

Written procedures for routine product handling have been prepared; employees receive training based on the written procedures prior to working at the facility. All transfers of product will be through steel piping or steel reinforced rubber hoses. Rail car unloading hoses are fitted with dry fit connectors.

Written procedures are readily available to all employees in the Administration office. Facility employees follow the general transfer operating procedures listed in **Table 1.1**.

Table 1.1 - Operating Procedures – General Transfer

Step	Action
1	All tank valves will be maintained in the closed and locked position when not in use.
2	All tank water draw valves will be closed and locked when not in use
3	All pipeline and rail deliveries to the facility will be monitored at all times by trained facility employees. Audible alarms will be activated by the tank high level alarm systems. In response to an alarm, the facility employees will divert flow to another tank or stop pumping operations.
4	All marine loading activities will be monitored at all times by trained employees. The marine loading operations will be performed in accordance with a wharf operations manual.

The operating procedures listed in **Table 1.2** will be followed for the receipt of product.

Table 1.2 – Operating Procedures – Oil Receipt from Rail

Step	Action
1	The new facility will have developed detailed written procedures for the receipt of rail deliveries. These procedures are extensive and will only be highlighted here. Copies of written procedures will be available at time of completion.
2	Unit train locomotives will be attended at all times within the Facility site.
3	The designated responsible facility employee will arrange to open the tank receiving valve.
4	During receipt of oil: Qualified employees will be on duty at all times. Communications will be maintained by two-way radio between rail unloading and tank employees
5	After completion of pumping: Valves on the transfer line will be closed and locked. The tanks are electronically gauged. All transfers will be recorded as required by the facility operating procedures.

The operating procedures listed in **Table 1.3** will be followed for the loading of product.

Table 1.3 – Operating Procedures – Oil to Berth

Step	Action
1	The new facility will have developed detailed written procedures for the marine loading operations. Marine loading operations are beyond the scope of this SPCC Plan. Copies of written procedures will be available at time of completion. These procedures are extensive and only the tank farm aspects are highlighted here.
2	The designated responsible facility employee will arrange to open the source tank valve.
3	During transfer of oil: Qualified employees will be on duty at all times. Communications will be maintained by two-way radio and video surveillance between berth and tank employees
4	After completion of pumping: Valves on the transfer line will be closed and locked. The tanks are electronically gauged. All transfers will be recorded as required by the facility operating procedures.

3.3.3 112.7(a)(3)(iii) Discharge or Drainage Controls

The entire tank containment area, including the earthen berm, is lined with an impervious membrane to prevent spills from leaving the containment area. The containment area is sized to contain 110 percent of the volume of the largest tank plus the volume of rain from a 24-hour, 100-year event.

The rail unloading building has a 9-foot-wide and 5-foot-deep sealed concrete trench under each unloading track. Each trench has the capacity to contain at least the entire contents of a single rail car. In addition, metal spill pans are located under each rail car unloading location. Any oil or rainwater collected by either system is pumped to holding tanks next to the Administration building, from which it will be pumped to vacuum trucks and disposed off-site at an approved location.

The dock (berths 13 and 14) has a 3-barrel catchment and sump located under the vessel loading control tower. The catchment and sump capacity meets the requirement of 33 C.F.R. § 154.530. The sump provides secondary containment for the connections to the hose tower as well as for the first valve along the pipeline alignment.

Each diesel storage tank is located in an enclosure not subject to rainwater and spill containment consists of concrete flooring with concrete curbing surrounding the tank. The containment area for each diesel tank has the capacity of 100 percent of the tank volume plus 4 inches of freeboard.

Deliveries of diesel to the diesel ASTs are infrequent. The truck delivering the diesel will be staged adjacent to and outside the curbed area. An operator and the driver will be present during the transfer, and will rely on deployable sorbent from a spill kit for secondary containment. Diesel tanks will have a level gage/indicator that is monitored by the TSVEDT operators and will be visually indicated at the tank. The operator and driver will follow Facility operating procedures to gauge tank level prior to filling.

Areas underlying the pipelines are designed with surface drain inlets that will retain oil in the event of a leak.

Transformers are staged on concrete pads. In the event of a mineral oil leak, operators would deploy sorbent to block and absorb the oil. Reliance on active secondary containment measures for this purpose is appropriate because the Facility is staffed 24/7.

3.3.4 112.7(a)(3)(iv) Countermeasures for Discharge Discovery, Response and Cleanup

All six bulk storage tanks at the Facility are fitted with liquid level gauges and equipped with high-level alarms. Trained employees patrol the Storage Area on a regular basis and immediately report any discovered releases. Should a release occur to the bermed area, released materials would be collected in approved temporary storage containment or using a vacuum truck and removed for disposal off-site at an approved location.

Secondary containment of the diesel storage tanks will be monitored by employees on a regular basis. An operator and the driver will be present during the transfer, and will rely on deployable sorbent from a spill kit for secondary containment and response.

Areas surrounding transformer locations will be monitored by employees on a regular basis. In the event of a mineral oil leak, operators would deploy sorbent to block and absorb the oil.

An Oil Spill Contingency Plan has been prepared and addresses the specific procedures to be followed for notification and response actions in the event of a spill.

3.3.5 112.7(a)(3)(v) Methods of Disposal of Recovered Materials

In the event of a spill, recovered oil and oily water will initially be loaded to approved temporary storage containment or vacuum trucks. The materials will be taken to an approved facility for temporary storage. The materials will be held in storage tanks where the volume can be measured, the oil analyzed, and the oil properly recycled or disposed.

If a spill occurs in open water, Tesoro Savage Petroleum Terminal LLC will collect oily water and will seek approval to decant the water at the skimming location. Water that cannot be decanted will be collected and managed by appropriately permitted transporters and destination facilities.

Oily debris collected from on-water spill response, oiled shorelines or on-land spill response will be segregated by placing it into color-coded bags or dumpsters for subsequent removal. Permits will be sought to transport and store oily debris within the Facility where it will be held for testing, as required by Resource Conservation and Recovery Act (RCRA) regulations and disposed of as required under RCRA as well as other state and federal regulations.

Non-oily debris will be visually examined to verify absence of oil and will be managed by appropriately permitted transporters and destination facilities.

3.3.6 112.7(a)(3)(vi) Contact Lists and Phone Numbers

In the event of an oil spill, the operator will rely on the Facility Oil Spill Contingency Plan to implement appropriate notifications. See Chapter 3 of the Facility Oil Spill Contingency Plan.

3.4 112.7(a)(4) Information and Procedures for Person Reporting Occurs

In the event of an oil spill, the operator will rely on the Facility Oil Spill Contingency Plan to implement appropriate notifications. See Chapter 3 of the Oil Spill Contingency Plan.

3.5 112.7(a)(5) Procedures to use when Discharge has Occurred

In the event of an oil spill, the operator will rely on the Facility Oil Spill Contingency Plan to implement appropriate response measures. See Chapters 2 and 7 of the Oil Spill Contingency Plan.

3.6 112.7(b) Equipment Failure Considerations

40 CFR 112.7(b) requires that the Plan identify a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure "where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge)." Within the meaning of 40 CFR 112.7(b), the analysis required "will depend on the experience of the facility and how sophisticated the facility equipment is."[5] Consequently, while this Plan conforms to the language of the regulation, and is applicable to any facility, given the design, engineering and character of the facility and the site as described herein, "experience" does not indicate a "reasonable potential for equipment failure" for this Facility.

It is Tesoro Savage Petroleum Terminal LLC policy to conduct all facility operations in a safe and conscientious manner. Inherent in the storage and handling of petroleum products, however, is the potential for spills from equipment failure or human error. Potential spill scenarios and applicable preventative measures are summarized in **Table B-3**. The following scenarios were considered[6]:

- Storage Tank Leak or Failure
- Storage Tank Overflow
- Tank Bottom Chronic Leak
- Spill or Rail Car Failure at the Rail Unloading Facility
- Leak from Transfer Pipeline, Unloading Area to Storage Area
- Leak from Transfer Pipeline, Storage Area to Marine Terminal
- Bulk Diesel Storage Tank Failure

[5] EPA Guidance, Federal Register Vol. 67, No. 137 at 47100 (July 17, 2002). "'Experience' includes the experience of the facility and the industry in general." "[T]he required explanation will be tailored to the type of equipment used and the experience with that equipment."

[6] Discharge scenarios, including those with release to waters of the U.S., are also considered as part of the Facility Oil Spill Contingency Plan.

- Bulk Diesel Storage Tank Overfill
- Transformer Container Leak

3.7 112.7(c) Containment and/or Diversionary Structures or Equipment

The appropriate containment and/or diversionary structures or equipment to prevent a discharge are described below on an individual basis. The proposed containment systems, including walls and floor, are capable of containing oil and will be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs.

Crude Oil Storage Area

Crude oil is stored and handled at the site in field-erected ASTs. Storage facilities for crude oil storage consist of six steel tanks 240 feet in diameter, 48 feet high, with a total capacity of 380,000 barrels each; however, actual capacity is 360,000 barrels each, based on capacity reductions due to the presence of a floating roof and other internal tank equipment and appurtenances.

The tanks include double bottoms with built-in interstitial monitoring capability. The tanks are enclosed by a containment berm approximately 6 feet in height. The bermed containment area is designed with a capacity at least equal to 110 percent of the volume of the largest tank plus precipitation from a 24-hour, 100-year storm event, which meets the Washington spill prevention and control and National Fire Protection Association (NFPA) requirements and exceeds the requirements for secondary containment under 40 CFR 112.7. Intermediate berms are installed within the larger area to separate each tank area from the larger containment area. The entire tank containment area is lined with an impervious membrane to prevent any spills from leaving the containment area via the ground.

Stormwater collected in the bottom of the berm gravity-drains to the berm area sumps. Each sump houses three pumps to convey the stormwater through a treatment system before it discharges to the existing Port stormwater system. Each sump drainage system has a valve set in the closed and locked position. Prior to opening the valve and pumping water out of the sumps to the treatment and stormwater system, a visual inspection is conducted to detect the presence of any oil sheen. Inspections are conducted by authorized personnel on a continuous basis. Staff are assigned to the control room that is located at the storage area. Staff will continuously observe the operations at the site, and are instructed to inspect each sump for an oil sheen and begin to pump out rainwater once ponding in the sumps is observed.

Pumps and Piping

Piping is constructed of ASTM A53 pipe and consists of above- and below-ground piping. Aboveground runs of piping are supported so that the bottom of the piping is approximately 2 feet off the ground on vertical supports located every 20 to 25 feet. Runs of aboveground pipeline are standard-walled, to ensure ease of inspection and maintenance, and in accordance with the applicable requirements of WAC 173-180-340 and 49 CFR 195.246 through 49 CFR 195.254. Runs of underground piping are placed in

secondary containment systems with incorporated leak detection. Cathodic protection has been provided for piping to prevent corrosion. Spill containment measures along the pipeline alignment comply with 40 CFR 112.7 by providing secondary containment, inspections, and contingency planning. Spill kits are located at the unloading area, storage area and marine terminal area.

Stormwater catchbasins in the vicinity of the aboveground pipeline are fitted with sumps and 90-degree elbows at each outlet point to prevent spilled oil from entering the stormwater system.

Rail Car Unloading Facility

The rail car unloading facility is composed of a covered structure through which the trains are pulled and safely secured where the unloading occurs. Unloading is accomplished with a closed-loop system, i.e., the crude oil will be contained in an enclosed system at all times from when it leaves the rail car to when it enters the storage tanks. Collection pans are located between the rails and connected to piping that conveys releases to the spill control and holding tanks located near the office area. A 9-foot-wide by 5-foot-deep concrete trench is located underneath each rail unloading area and runs the length of the rail car unloading facility. The trench acts as secondary containment. The capacity of the trench containment systems is sufficient to contain and store at least the entire volume of a single rail car (approximately 750 barrels) staged within the unloading building.

Any spills from the collection pans or trench are pumped to the spill holding tanks located adjacent to the administrative/support area, (total holding capacity of approximately 900 barrels). These connected tanks provide secondary containment to the piping system that receives inadvertent releases captured in the collection pans and trenches. The combined volume of the tanks is sized to contain the entire contents of a single tank car. Crude oil captured in a collection pan or containment trenches flows by gravity into a dedicated line, and is pumped from the unloading facility to the spill holding tanks.

Diesel Storage Area

Each diesel storage tank will be located within a concrete berm sized to contain the contents of the tank. The tank and its curbed location are located within an enclosure to prevent exposure to rain water.

Diesel Fuel Delivery

Diesel fuel delivery operations will be fully attended during transfers and will rely on deployable sorbent. The contractor delivering fuel also follows a spill plan and carries a spill kit.

Transformers

Transformers will be located in concrete surfaced areas. Sorbent will be deployed to recover spilled materials.

Dock Area

The dock area (outside of the first block valve inside onshore secondary containment) and associated spill prevention and response measures are addressed in the dock operations manual and the Facility Oil Spill Contingency Plan. The following is a summary of dock containment and response measures included.

- A catchment and sump constructed at or below the deck level for the containment of inadvertent releases in addition to stormwater that may fall in the catchment area. Within 1 hour of completion of any transfer, materials captured in the catchment and sump are discharged by pumping them into the return line for return to the storage tanks.
- A spill response boat stationed at the dock to install a containment boom around the berthed ship prior to loading of product. The spill response boat is also equipped with additional boom and oil spill recovery equipment and absorption materials.

Other Containment Controls

Other than the Storage Area berm and concrete unloading trench and diesel containment, there are no oil spill retention ponds located at the Facility. Absorbent materials and trained spill response staff will be stationed at the Facility at all times.

3.8 112.7(d) Oil Contingency Plan Required if Controls Cannot be Used

As shown in 112.7(c) above, containment and/or diversionary structures or equipment have been incorporated in the facility design and, therefore, the provisions of this section do not apply to this facility. However, a Facility Oil Spill Contingency Plan has been prepared in compliance with 40 CFR 112.20 because of responses to the Substantial Harm Criteria Checklist.

3.9 112.7(e) Inspection, Testing, and Records

Tesoro Savage Petroleum Terminal LLC maintains test and inspections reports for the required three years. A qualified supervisor or inspector is assigned to signing and maintaining inspection and testing reports.

The crude oil ASTs will be inspected periodically in accordance with API Standard 653 to assess their physical condition and determine their suitability for continued use.

The basic requirements that will be used to test the tanks include:

- Radiograph examination of shell butt welds; Vacuum box testing of floor seams; and
- Hydrostatic or vacuum box testing of the tank shell.

The general requirements for safety, external inspection, and internal inspection (by certified employees) are:

- Emphasize safety as the most important aspect of inspection program;
- Consider all tanks as permit-required confined space;
- Use inspectors with appropriate training;
- Use access structures that comply with OSHA provisions; and
- Employ a test plate of the same thickness as the tank segment to be scanned when using ultrasonic equipment to detect corrosion metal loss within the desired threshold

External (visual) tank inspection and data collection will include:

- The bottom course of shell joints;
- Acoustic emission testing for mapping and locating defects in the shell;
- Inspection of shell for bulges and distortion;
- Ultrasonic spot testing of roof and shell for thickness determination;
- Inspection of tank appurtenances for defects and evidence of leakage;
- Tank plumbness, secondary containment volume and permeability survey; and
- Integrity of labels and placards.

Internal tank inspection will include:

- Inspection of the shell for pitting, bulges and distortions;
- Inspection of bottom plate for corrosion damage;
- Visual inspection of the floor for evidence of leakage;
- Visual inspection of floor-to-shell weld and shell joints;
- Inspection of the interior of the roof, nozzles and piping; and
- Survey of tank shell and floor edge for settlement-induced distortion.

The diesel ASTs will be inspected periodically in accordance with STI SP-001. In accordance with SP-001, for 500-gallon shop fabricated tanks, documented periodic owner/operator visual inspections are sufficient to meet the requirements. Intermittent inspection and testing by an STI-certified tank inspector will not be required if appropriate periodic visual inspections are performed and documents.

3.10 112.7(f) Employee Training and Discharge Prevention Procedures

The following procedures are followed in connection with employee training and discharge prevention procedures.

3.10.1 112.7(f)(1) Training

New employees are provided documented orientation covering these materials within one week of their start of employment. Tesoro Savage Petroleum Terminal LLC has developed a Computer Based Training (CBT) program for SPCC. This computer based training will be used for this facility. When the facility becomes operational the SPCC training records will be maintained by the Facility Manager.

3.10.2 112.7(f)(2) Person Accountable for Discharge Prevention at this Facility

Tesoro Savage Petroleum Terminal LLC has assigned a qualified and trained staff person to be accountable for discharge control and prevention for the facility. This individual

will report to the Facility Manager. An example Employee Training and Discharge Prevention Training Record is included as **Table B-4**.

3.10.3 112.7(f)(3) Discharge Prevention Briefings

The SPCC Plan is the subject of annual training for all oil-handling employees in this facility. A person is assigned to this Facility to provide discharge prevention briefings. It is anticipated that spill drill training and exercises will be held at least annually to ensure adequate understanding of the SPCC Plan for this facility. These exercises will highlight and describe known discharges as described in 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures. Spill/incident reports are also highlighted periodically during safety meetings.

An example records of this training are included in **Table B-4**. Training records will be maintained with the SPCC Plan for at least three years.

3.11 112.7(g) Security (excluding oil production facilities)

The Facility is staffed 24 hours per day, 7 days a week. Operations at the Marine Terminal are staffed during vessel loading operations.

Security placards and emergency contact names and 24-hour telephone numbers are posted at the Facility office. Facility security measures are implemented in accordance with the Port's security program. Security cameras and lighting are installed throughout the Facility to monitor facility premises involved in oil handling and storage.

Access to the Port's marine terminals is allowed primarily through the main security gate at the 26th Avenue overpass. The Port's security plan and policies require that all people entering the Port's terminal areas show photo identification and have a valid business purpose to be on the facility. This is accomplished through the Port's screening process, administered to anyone who enters the Port's marine terminals. In addition, this area is secured with fencing, video camera monitors and 24/7 stationary and mobile patrols.

The Facility has implemented An Operations Site Security plan pursuant to 33 CFR 105. Security measures anticipated at the site include fencing to prevent any public access to project facilities. The northern side of the Terminal 5 rail loop facilities is fenced to prevent public access. Security gating is provided at the rail loop access at the Gateway overpass. Parking for the Facility's operations and maintenance staff is provided at the administration and support buildings. All other persons, such as vendor equipment employees, maintenance contractors, material suppliers, and all others, must acquire permission for access from a designated site employee prior to entrance. Access to each project area is granted on a project/job need basis by the Plant Manager.

Locations where oil handling and storage occur are fenced by a 6-foot-tall chain link fence with three strands of barbed wire above to prevent unauthorized entry. Fencing is provided around the Administration Building, Rail Unloading Facility, and the Storage Area. Access to the Marine Terminal is through locked gates. All gates are locked 24 hours a day, and there is no unattended public access for these areas. Persons entering the Facility must be granted authorization from a responsible Facility employee. It is

possible for the public to have access to a portion of the transfer pipelines; however, the pipelines are monitored both by Facility staff and electronic monitors.

All employees who perform work (including contractors and consultants) within Area 400 – Marine Terminal are required to have a Transportation Worker Identification Credential (TWIC) or be escorted by a person with the appropriate TWIC credentials.

All valves and pump controls are enclosed within the locked security areas. Outlet valves which could lead to an oil spill are protected by facility security fencing, blind flanges, and all valves that could direct the outward flow of the tank contents directly to the surface are securely locked in the closed position.

Automated pump starters associated with the rail unloading, Storage Area, and vessel loading facilities are authorized through the secure terminal automation system at each location.

There will be no normal transportation loading/unloading connections that are idle or not in use at the facility. All tank and pipeline connections, such as drains or vents, are securely capped or blank-flanged when not in service or placed in standby service for extended periods of time.

The Facility is equipped with low-level lighting around exits, and general outdoor lighting for operating areas, roadways, fuel storage areas, and ship loading, rail car unloading, and parking areas. This lighting is provided for operator access and safety under regular operating conditions and assists in the detection of leaks. Spot lighting is provided for illumination-level enhancement, where needed, around loading equipment maintenance areas and stairwells and catwalks. This lighting will be higher in intensity than general outdoor lighting, but will be limited to specific areas and assist in the detection of oil leaks.

The lighting systems installed at the Facility are appropriate to both prevent acts of vandalism and assist in the discovery of oil discharges.

3.12 112.7(h) Facility Tank Car and Tank Truck Loading/Unloading Rack

Crude oil is offloaded from rail cars at the rail unloading area. In addition, diesel fuel is intermittently received from trucks. However, the diesel is delivered at unloading areas that are not considered unloading racks and are not subject to the requirements of this section.

3.12.1 112.7(h)(1) Rail Unloading Rack

The facility only involves unloading of tank cars. Employees trained in unloading procedures, including emergency shutdown, transfer crude oil from the rail car by using the rail car rack system. Unloading hoses are manually connected to the valves on the cars using dry-fit connectors, one hose per tank car. Dry-fit connectors are designed so that the crude oil in the hose cannot come into contact with the atmosphere. The connector is designed such that crude oil will not flow without a secure connection. Each hose is equipped with an automatic shutoff valve. Containment pans are located under

each rail car stationed for unloading; the pans drain to spill holding tanks with the capacity to contain the entire contents of a single tank car.

3.12.2 117.2(h)(2) Prevention of Early Departure

Rail cars will not be uncoupled from the main engine. The locomotives will be disabled, braking systems will be engaged on the main train engine, and an appropriate number of rail cars will be secured to prevent early departure. Chocks are also placed at the first and last rail cars indexed in the rail unloading building. Communication between the train engineer(s) and facility employees will be maintained throughout the unloading process to prevent early departure.

3.12.3 117.2(h)(3) Prevent Discharges at Departure

This facility is used for unloading crude oil from tank cars only. Before an empty rail car leaves the rail unloading building it is thoroughly inspected for leaks or the presence of oil on the surface of the rail car. This includes all valves, inlets, or outlets on the car. If necessary, equipment is tightened or adjusted and a record maintained of maintenance activity that occurred.

3.13 112.7(i) Inspection for Brittle Fracture or Other Catastrophe

If ever a field-constructed aboveground container at this facility undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil, or has failed due to brittle fracture failure or other catastrophe, the container will be evaluated for risk of discharge or failure due to brittle fracture or other catastrophe and appropriate action will be taken.

Tesoro Savage Petroleum Terminal LLC has adopted this recommendation to the maximum extent practical for this facility. Tesoro Savage Petroleum Terminal LLC's tank assessments for the likelihood of brittle fracture are based on applicable criteria set forth in API 653 and the use of prudent engineering judgment. An assessment for brittle fracture is required on all field constructed aboveground containers during change of service, inspection, repairs, alteration and complete tank reconstruction. During original construction, major repairs, alteration and complete tank reconstruction a hydrostatic test is required. Major tank repairs and alterations can forgo a hydrostatic test after additional nondestructive testing has been performed and accepted and repairs approved by an authorized tank inspector and engineer experienced in storage tank design. Experience shows that once an existing tank has demonstrated the ability to withstand the combined effects of maximum liquid level and lowest operating temperature without failing, the risk of failure due to brittle fracture with continued service is minimal.

3.14 112.7(j) Conformance with State Rules and Other Requirements

The Facility conforms with the following applicable requirements and other effective discharge prevention and containment procedures listed in 40 CFR 112 or any applicable more stringent State rules, regulations, and guidelines:

The Washington State Energy Facility Site Evaluation Council's Site Certification Agreement for the Facility, which addresses compliance with the following state and local requirements:

- City of Vancouver Water Resources Protection Ordinance, VMC Chapter 14.26
- Washington Department of Ecology, WAC 173-180 Facility Oil Handling Standards
- Washington Department of Ecology, WAC 173-182 Oil Spill Contingency Plan

U.S. Coast Guard requirements:

- 33 CFR 154, Facilities Transferring Oil or Other Hazardous Materials in Bulk
- 33 CFR 154, Subpart F – Response Plans for Oil Facilities
- 33 CFR 156, Oil and Hazardous Material Transfer Operations

4.0 REQUIREMENTS FOR ONSHORE FACILITIES (EXCLUDING PRODUCTION FACILITIES)

4.1 112.8(a) Requirements for the Plan

This Plan meets the general requirements listed under 40 CFR 112.7 (as addressed above) and the specific discharge prevention and containment procedures listed in section 112.8.

4.2 112.8(b) Facility Drainage

4.2.1 112.8(b)(1) Diked Storage Area Drainage

Drainage from the berm surrounding the storage area is controlled by valves kept in the closed position and not opened until a visual inspection has been conducted by trained staff for the presence of oil. Pumps are used to transfer stormwater from the bermed area to the treatment system sumps located outside of the berm. The pumps are manually activated; prior to transfer the condition of the accumulation in the sumps is inspected to ensure no oil will be discharged.

Drainage from the curbed area(s) around the diesel tank(s) is contained within the curbed areas until pumped out using a vacuum truck.

4.2.2 112.8(b)(2) Diked Storage Area – Use of Valves

Flapper-type valves are not used in the storm drainage system that drains the berm surrounding the Storage Area. Manual valves with an open/close design are installed for the berm drainage system.

4.2.3 112.8(b)(3) Drainage Facilities for Undiked Areas

Undiked areas of the facility include paved and gravel roads, administration building, rail unloading facility, pipeline rights of way and dock. Storm drainage systems in these areas with a potential for oily runoff are designed with oil/water separators and water quality vaults to capture oil prior to discharge. These systems are inspected and cleaned periodically. These areas are outside the 100-year floodplain and not prone to flooding.

4.2.4 112.8(b)(4) Drainage Facility not Engineered

As described in section 4.2.3 above, drainage systems are designed to retain oil. Therefore, a diversion system per 112.8(b)(4) is not applicable.

4.2.5 112.8(b)(5) Drainage Treatment Facility – Pumping Systems

As described above in section 4.2.1, drainage from diked areas relies on a pump system to transfer accumulated water through the treatment system and to discharge point. To

prevent potential loss of containment dike capacity due to water transfer pump failure, active pumps backed up by a pump on standby are provided.

4.3 112.8(c) Bulk Storage Containers

4.3.1 112.8(c)(1) Compatible Materials and Construction

Storage containers are constructed of materials compatible with the materials to be stored and storage conditions. Storage tanks and oil storage containers are constructed to meet appropriate industry standards. Crude oil storage tanks will be maintained at atmospheric pressure. Two of the six crude oil storage tanks will be equipped with electrical heating systems, and internal temperature and pressure sensors to ensure oil temperatures do not exceed operating parameters. Diesel storage tanks will also be maintained at atmospheric pressure and will not be heated. Transformer containers will be maintained and operated in accordance with the transformer specifications.

4.3.2 112.8(c)(2) Secondary Containment

The bulk storage tanks are enclosed by a containment berm approximately 6 feet in height. The containment berm is designed with a capacity at least equal to 110 percent of the volume of the largest tank plus precipitation from a 24-hour, 100-year storm event. The berm is lined with material impermeable to crude oil.

Each aboveground diesel tank is constructed in an enclosure and is located inside concrete containment curbing approximately 1 foot in height. The containment curbing is designed with a capacity at least equal to 100 percent of the volume of the tank. The tanks and their curbed containment are located in enclosures to protect from exposure to rainwater.

4.3.3 112.8(c)(3) Drainage of Stormwater

Stormwater from the bermed storage area is drained from the sumps by pumps to the stormwater treatment systems located outside of the bermed area. The valves at the sumps are locked in the closed position when not in use. Stormwater is inspected for evidence of oil prior to discharging to the treatment systems. Treated stormwater is released to an existing drainage system within the Port. Trained employees will monitor all discharges from the bermed area and ensure that drain valves are closed and locked after drainage. Records will be kept documenting events when the bermed storage area is drained.

Each diesel tank will be enclosed and undercover and will not be subjected to rainwater; stormwater runoff will not be generated.

4.3.4 112.8(c)(4) Buried Tanks

There are no underground storage tanks installed at the facility.

4.3.5 112.8(c)(5) Partially Buried Tanks

There are no partially buried storage tanks installed at the facility.

4.3.6 112.8(c)(6) Testing and Inspection of Aboveground Tanks

- Exteriors of the bulk storage tanks are observed and recorded during tank farm daily routines.
- In-service inspections are conducted to industry standards; API 653 for the crude oil ASTs, and STI SP-001 for the diesel ASTs.
- Tesoro Savage Petroleum Terminal LLC has established testing schedules to assure that aboveground storage tanks are tested in accordance with existing industrial and regulatory standards.
- Documentation is maintained on all Facility tanks storing oil including monthly inspections, in-service inspections and internal inspections.
- Records of these tests are recorded in **Table B-5** and **Table B-5a** or an equivalent format of this report.

4.3.7 112.8(c)(7) Internal Heating Coils – Leakage

Two of the crude oil bulk storage tanks may be equipped with steam heating coils. The steam/condensate return from the heating lines is discharged to the boiler system. Condensate return is passed through a proprietary package treatment system prior to discharge to the sanitary sewer. Prior to discharge to the City system an additional oil-water separator is installed to ensure that discharge water quality meets the discharge limits. Visual inspection and telemetry controls including flow and pressure monitor the steam limes for possible leaks.

4.3.8 112.8(c)(8) Alarm Systems – Good Engineering Practices

The crude oil storage tanks are equipped with high liquid level pump cutoff devices set to stop flow at a predetermined content level.

The diesel tanks are equipped with level gauges and audible high level alarms to prevent tank overfills.

4.3.9 112.8(c)(9) Effluent Treatment Systems

Sewage effluent from the facility is discharged to the City's wastewater treatment plant (WWTP); this effluent system does not have the capability to come into contact with discharges from oil storage. Process effluent from the boiler buildings is discharged to the on-site sanitary sewer system. Each of the boiler buildings has an on-site treatment system to address water quality and temperature prior to discharge to the on-site sanitary sewer system. Each on-site sanitary sewer system has an oil-water separator that is installed prior to connection with the City's system to capture any remaining oil that is not removed with treatment provided at the boiler buildings. There is no on-site sanitary sewer system located at either of the rail unloading building or at the marine terminal. Sanitary sewer discharges from the facility are discharged to the City's WWTP.

Stormwater effluent is treated by Facility systems and discharged to Port conveyances prior to discharge to surface water. Facility systems are operated and monitored to detect system upsets that could cause a discharge to Port stormwater conveyances. Facility stormwater inlets are designed to retain oil.

4.3.10 112.8(c)(10) Visible Discharges

Visible discharges which result in a loss of oil from the container, transfer line or pipelines including, but not limited to, seams, gaskets, pipes, valves, rivets, and bolts, will be promptly corrected in accordance with Facility monitoring, inspection and repair procedures. Any accumulation of oil in a diked area will be promptly removed by trained employees. Inspections of these systems are conducted daily during the normal course of business.

4.3.11 112.8(c)(11) Mobile and Portable Containers

Mobile oil storage tanks are not used at the facility. The primary activity at this facility is unloading mobile oil storage tanks (rail cars). The rail car unloading facility provides secondary containment equal to the largest capacity of a rail car compartment. Rail cars are staged over the secondary containment area prior to making any unloading connections, and remain in the contained area until empty, disconnections and checked for absence of leaks and drips. Unloading details are covered above in section 3.12.

Drums and other "portable" containers are not used for normal oil product storage operations at the Facility. Portable containers may be used to temporarily store products recovered during response actions; such storage will occur on portable containment devices or within a containment structure.

4.4 112.8(d) Facility Transfer Operations

4.4.1 112.8(d)(1) Buried Pipelines

Buried piping at the facility is provided with secondary containment including leak detection systems. The piping including the secondary containment is provided with cathodic protection to satisfy the corrosion standards set out in 40 CFR 280 or more stringent State regulations. If buried piping is ever exposed a thorough inspection is conducted by trained employees to detect deterioration due to corrosion. If corrosion damage is detected additional examination and corrective action will be implemented.

4.4.2 112.8(d)(2) Terminal Connectors

Capping or blank-flange are used at the terminal connection at the transfer point and will be marked as to origin when piping is not in service or is in standby service for an extended period of time.

4.4.3 112.8(d)(3) Piping Supports

Piping supports are designed to minimize abrasion and corrosion and allow for expansion and contraction.

4.4.4 112.8(d)(4) Aboveground Pipeline Inspection

All aboveground valves, piping, and appurtenances are inspected on a regular basis in accordance with Facility inspection and maintenance procedures. Daily visual inspections are performed in the normal course of business. Inspections include the assessment of the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Integrity and leak testing was conducted at the time buried piping was installed and will be conducted at the time of any modification, construction, relocation, or replacement.

4.4.5 112.8(d)(5) Vehicles Entering Facility

Warning signs are erected to warn drivers of aboveground piping and that they are entering an oil transfer operation facility.

5.0 INDUSTRY STANDARDS

The EPA suggested industry standards that have been implemented by the facility are summarized below.

40 CFR Section	Section Description	Organization Name	Standard No.	Standard Name (Reason for use)
112.2	Definitions	API	653	Tank Inspection, Repair, Alteration, Reconstruction (Help in understanding term alteration)
112.2	Definitions	NFPA BOCA API API	30 none 2015 1604	Flammable & Combustible Liquids Code National Fire Prevention Code Safe entry and Cleaning of Petroleum Storage Tanks Removal and Disposal of Used Underground Storage Tanks (Useful for permanent closure of tanks)
112.2	Definitions	API	653	Tank Inspection, Repair, Alteration, Reconstruction (Helpful to understand “repair”)
112.2.7(c)	Secondary Containment	NFPA BOCA API	30 None 2610	Flammable & Combustible Liquids Code National Fire Prevention Code Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist with secondary containment)
112.7(d)	Contingency Planning	API API API ASME ASME STI UL	653 575 570 B31.3 B31.4 SP001-00 142	Tank Inspection, Repair, Alteration, Reconstruction Inspection of Atmospheric and Low Pressure Tanks Piping Inspection Code - Inspection, Repair, Alteration, & Re-rating of Inservice Piping systems Process Piping Liquid Transportation systems for Hydrocarbons etc. Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible & Flammable Liquids Steel Aboveground Tanks for Flammable & Combustible Liquids (Helpful for integrity testing)
112.7(g)	Security (excluding oil production facilities	API	2610	Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist in Security purposes)
112.7(h)	Loading/ unloading (excluding offshore)	NFPA API	30 2610	Flammable & Combustible Liquids Code Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist in loading/unloading area)

40 CFR Section	Section Description	Organization Name	Standard No.	Standard Name (Reason for use)
112.7(i)	Brittle fracture	API	653	Tank Inspection, Repair, Alteration, Reconstruction
		API	920	Prevention of Brittle Fracture in Pressure Vessels
				(Assist with brittle fracture evaluation)
112.8(b)(1)	Diked Storage Area Drainage	NFPA	30	Flammable & Combustible Liquids Code
		API	2610	Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities
				(Assist with facility drainage)
112.8(c)(1)	Construction & Materials Used for Containers	API	620	Design and Construction of Large, Welded, Low-Pressure Storage Tanks
		API	650	Welded Steel Tanks for Oil Storage
		STI	F911	Standard for Diked Aboveground Steel Tanks
		STI	R931	Double Wall Aboveground Storage Tank Installation
		UL	58	Standard for Steel Underground Tanks for Flammable & Combustible Liquids
		UL	142	Steel Aboveground Tanks for Flammable and Combustible Liquid
		UL	1316	Glass Reinforced Plastic USTs for Petroleum Products
		PEI	200	Installation of AST for Motor Vehicle Fueling
				(Assist w/ materials and construction of containers)
112.8(c)(2)	Secondary Containment Bulk Storage Containers	NAPF	30	Flammable and Combustible Liquids Code
		BOCA	none	National Fire Prevention Code
		API	2610	Construction, Operations, Maintenance, and Inspection of Terminal and Tank Facilities
		PEI	200	Installation of AST for Motor Vehicle Fueling
				(Assist w/ secondary containment for bulk storage containers)
112.8(c)(6)	Integrity Testing	API	653	Tank Inspection, Repair, Alteration, Reconstruction
		API	575	Inspection of Atmospheric & Low Pressure Tanks
		STI	SP001	Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible & Flammable Liquids
				(Assist with integrity testing)

40 CFR Section	Section Description	Organization Name	Standard No.	Standard Name (Reason for use)
112.8(c)(8)	Good Engineering Practice – Alarm Systems	NFPA API API	30 2350 none	Flammable & Combustible Liquids Code Overfill Protection for Storage Tanks in Petroleum Facilities Manual of Petroleum Measurement Standards (Assist with alarm systems, discharge prevention systems and inventory control systems)
112.8(c)(11)	Mobile Containers	NFPA BOCA	30 none	Flammable & Combustible Liquids Code National Fire Prevention Code (Assist with secondary containment for mobile containers)
112.8(d)(1)	Buried Piping, Etc. (Excludes production facilities)	NACE STI	0169 892	Control of external corrosion on Underground or submerged metallic piping systems Corrosion Protection of underground piping networks associated with liquid storage and dispersing systems (Assist corrosion protection for buried piping)
112.8(d) (4)	Inspection of Aboveground Valves and Piping	API API ASME ASME	570 574 B31.3 B31.4	Piping Inspection Code - Inspection, Repair, Alteration, & Rerating of Inservice Piping systems Inspection Practices for Piping System Components Process Piping Liquid Transportation for Hydrocarbons, etc. (Assist with inspection & testing of valves, piping, appurtenances)

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Appendix A
Figures

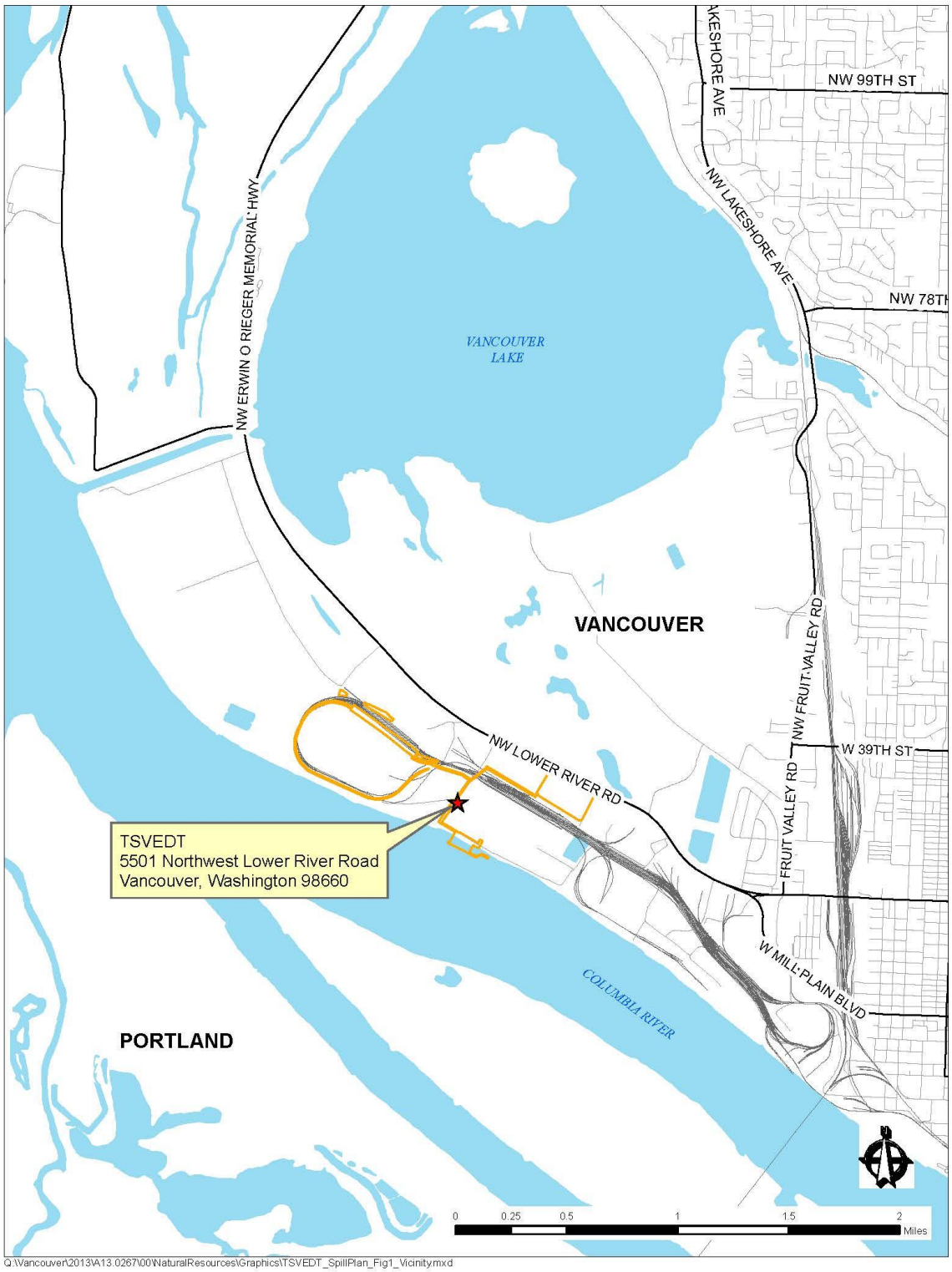

Figure 1. Vicinity Map

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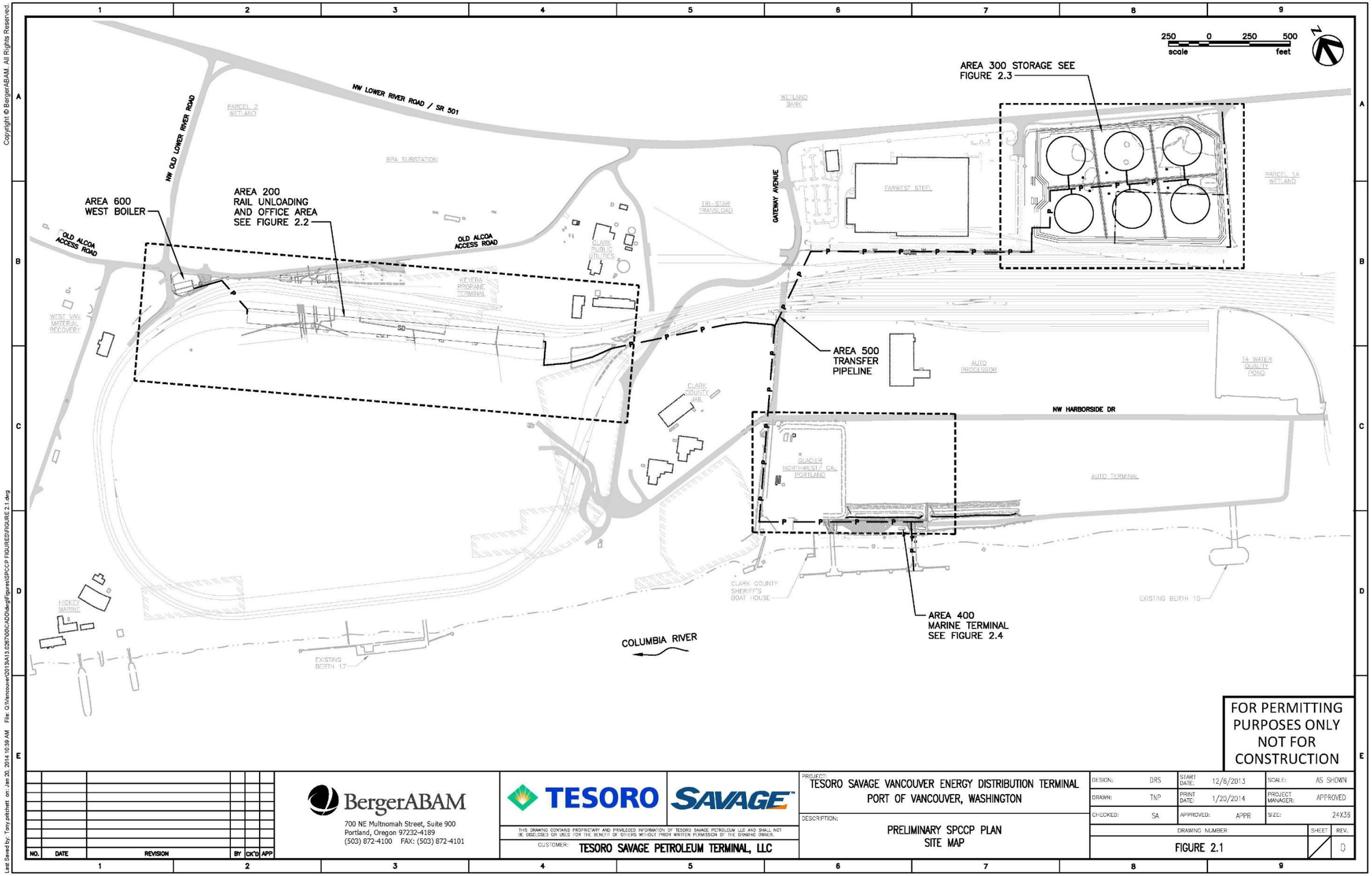

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NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

TESORO SAVAGE

THIS DRAWING CONTAINS PROPRIETARY AND PRIVILEGED INFORMATION OF TESORO SAVAGE PETROLEUM LLC AND SHALL NOT BE DISCLOSED OR USED FOR THE BENEFIT OF OTHERS WITHOUT PRIOR WRITTEN PERMISSION OF THE OWNING OWNER.

CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL, LLC

PROJECT: TESORO SAVAGE VANCOUVER ENERGY DISTRIBUTION TERMINAL
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: PRELIMINARY SPCCP PLAN
SITE MAP

DESIGN:	DRS	START DATE:	12/6/2013	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	1/20/2014	PROJECT MANAGER:	APPROVED
CHECKED:	SA	APPROVED:	APPR	SIZE:	24X36

DRAWING NUMBER: FIGURE 2.1 SHEET: / REV.: 0

Figure 2 – Site and Drainage Plan

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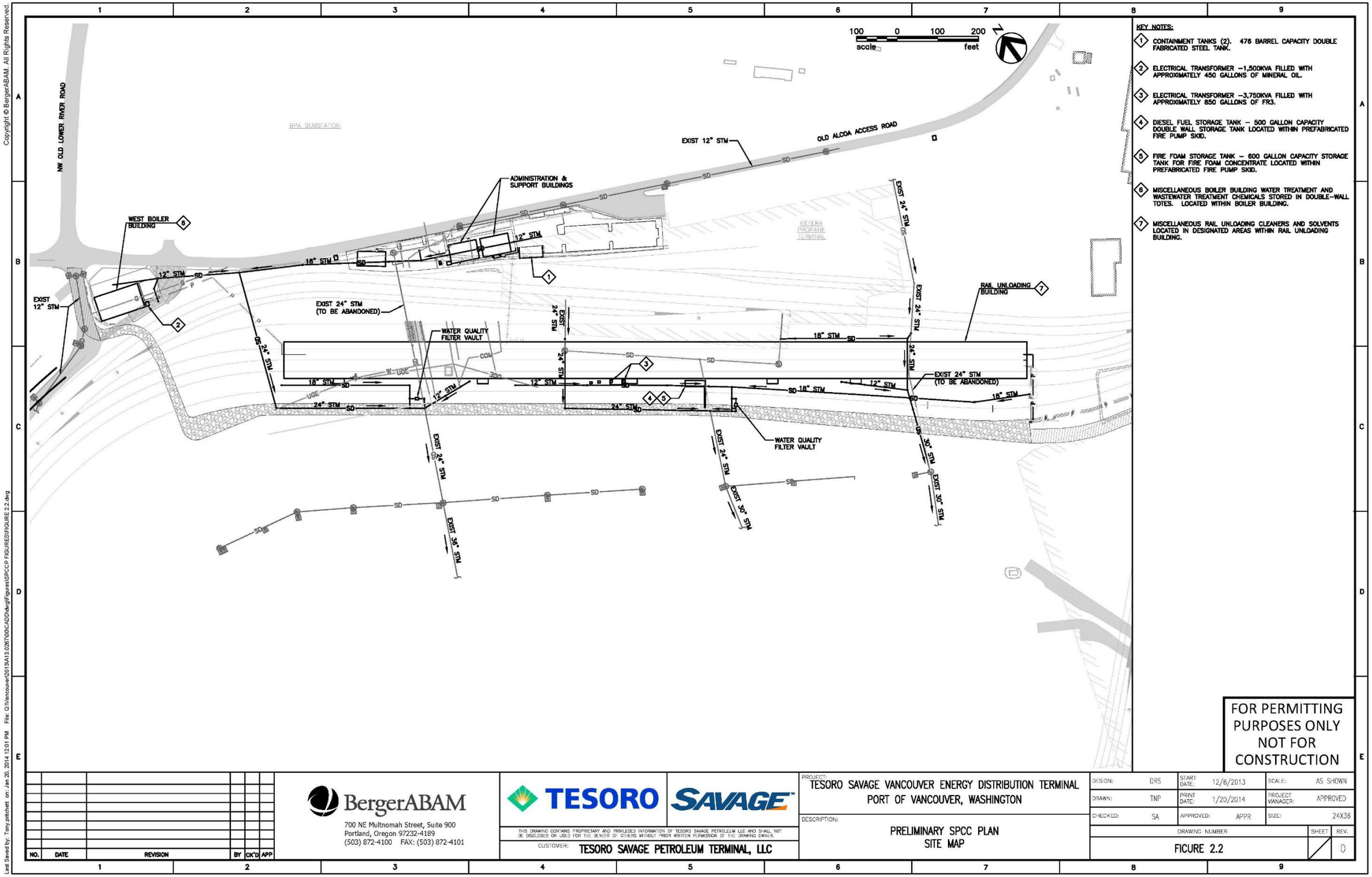

Figure 2 – Site and Drainage Plan (Continued)

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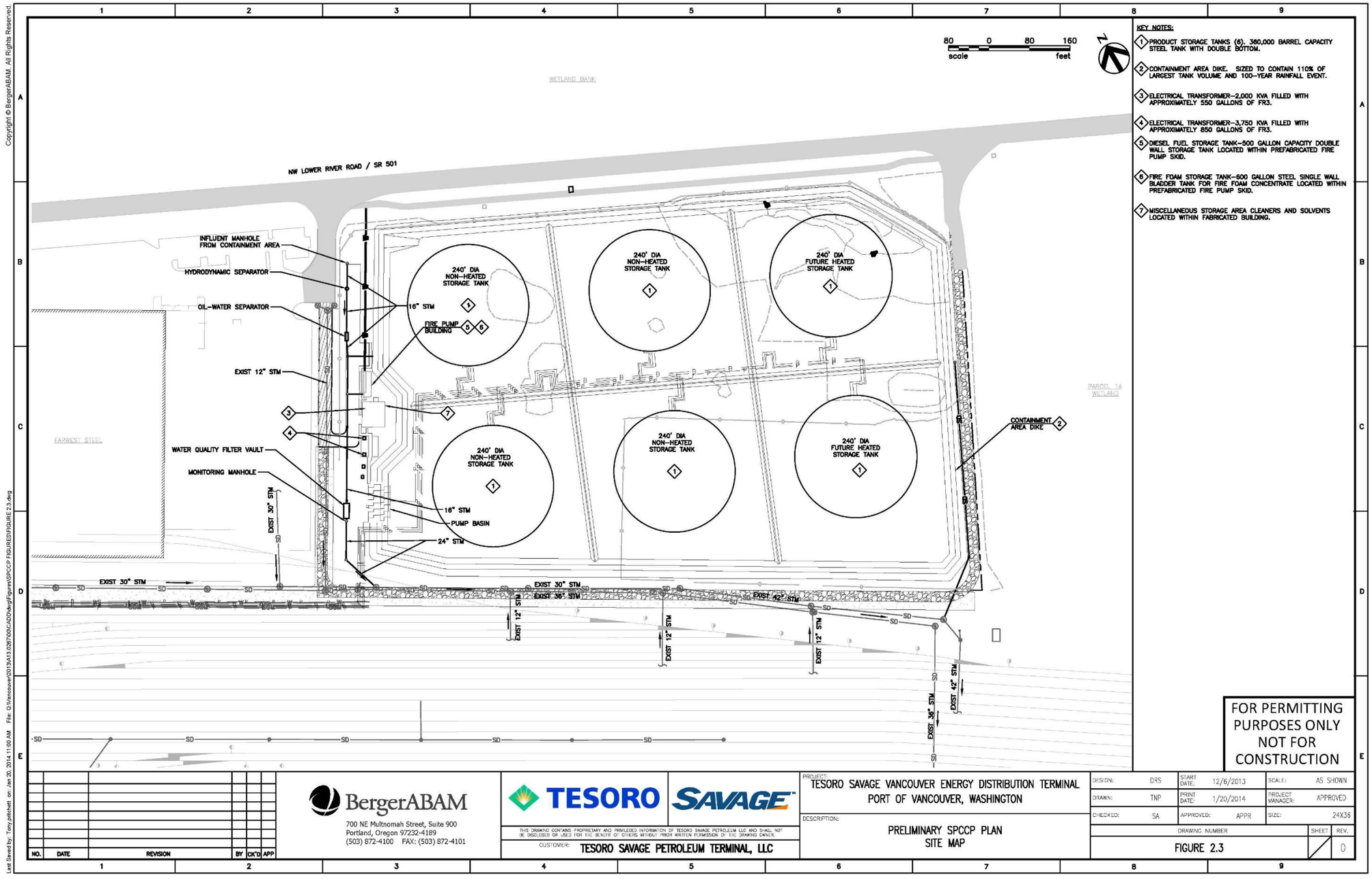

KEY NOTES:

1. PRODUCT STORAGE TANKS (6). 360,000 BARREL CAPACITY STEEL TANK WITH DOUBLE BOTTOM.
2. CONTAINMENT AREA DIKE. SIZED TO CONTAIN 110% OF LARGEST TANK VOLUME AND 100-YEAR RAINFALL EVENT.
3. ELECTRICAL TRANSFORMER-2,000 KVA FILLED WITH APPROXIMATELY 550 GALLONS OF FR3.
4. ELECTRICAL TRANSFORMER-3,750 KVA FILLED WITH APPROXIMATELY 850 GALLONS OF FR3.
5. DIESEL FUEL STORAGE TANK-500 GALLON CAPACITY DOUBLE WALL STORAGE TANK LOCATED WITHIN PREFABRICATED FIRE PUMP SKID.
6. FIRE FOAM STORAGE TANK-600 GALLON STEEL SINGLE WALL BLADDER TANK FOR FIRE FOAM CONCENTRATE LOCATED WITHIN PREFABRICATED FIRE PUMP SKID.
7. MISCELLANEOUS STORAGE AREA CLEANERS AND SOLVENTS LOCATED WITHIN FABRICATED BUILDING.

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TESORO SAVAGE

CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL, LLC

PROJECT: TESORO SAVAGE VANCOUVER ENERGY DISTRIBUTION TERMINAL
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: PRELIMINARY SPCCP PLAN SITE MAP

DESIGN:	DRS	START DATE:	12/6/2013	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	1/20/2014	PROJECT MANAGER:	APPROVED
CHECKED:	SA	APPROVED:	APPR	SIZE:	24X36

DRAWING NUMBER: FIGURE 2.3 | SHEET: | REV.: 0

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Figure 2 – Site and Drainage Plan (Continued)

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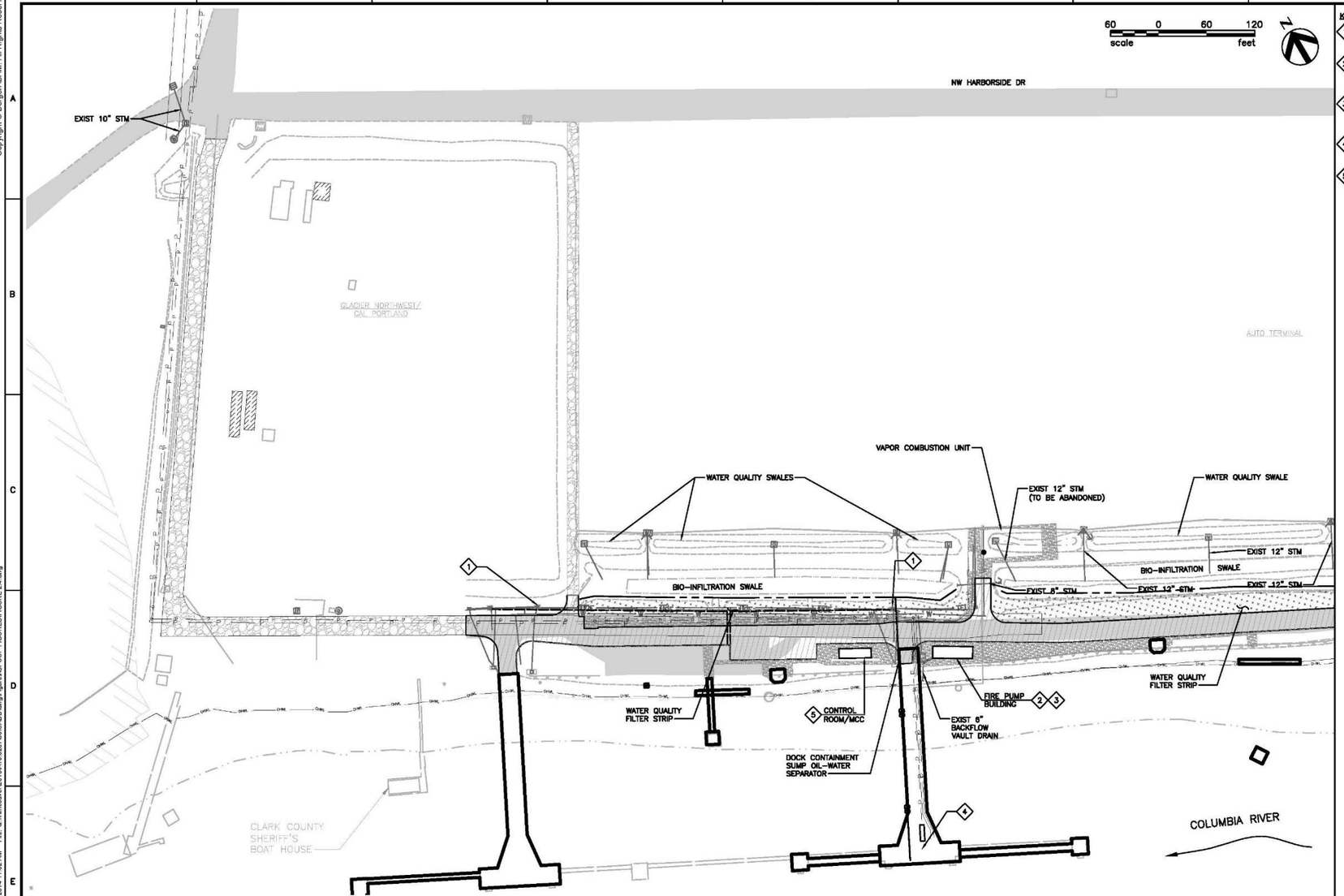

KEY NOTES:

1. ELECTRICAL TRANSFORMER–1,500 KVA FILLED WITH APPROXIMATELY 550 GALLONS OF FR3.
2. DIESEL FUEL STORAGE TANK–500 GALLON CAPACITY DOUBLE WALL STORAGE TANK LOCATED WITHIN PREFABRICATED FIRE PUMP SKID.
3. FIRE FOAM STORAGE TANK–500 GALLON CAPACITY STEEL SINGLE WALL BLADDER TANK FOR FIRE FOAM CONCENTRATE LOCATED WITHIN PREFABRICATED FIRE PUMP SKID.
4. CONTAINMENT SUMP LOCATED ON DOCK–SIZED TO CONTAIN MINIMUM REQUIRED 3 BARREL CAPACITY. ACTUAL SIZE TBD.
5. MISCELLANEOUS MARINE TERMINAL AREA CLEANERS AND SOLVENTS LOCATED WITHIN FABRICATED BUILDING.

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PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: PRELIMINARY SPCCP PLAN
SITE MAP

DESIGN:	DRS	START DATE:	12/6/2013	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	1/20/2014	PROJECT MANAGER:	APPROVED
CHECKED:	SA	APPROVED:	APPR	SIZE:	24X36

DRAWING NUMBER: FIGURE 2.4 | SHEET: | REV.: 0

Figure 2 – Site and Drainage Plan (Continued)

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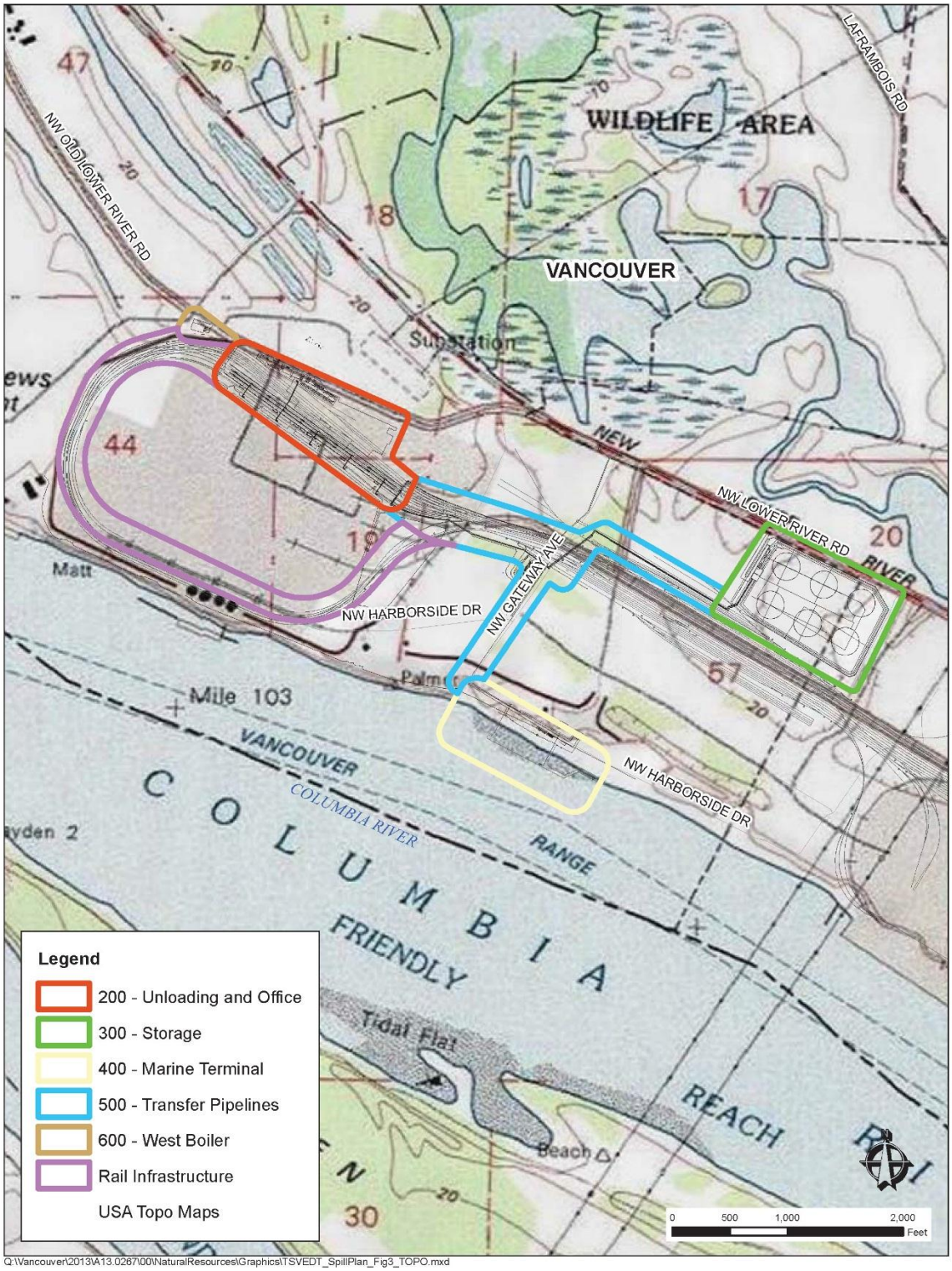

Figure 3 – USGS Topographic Map

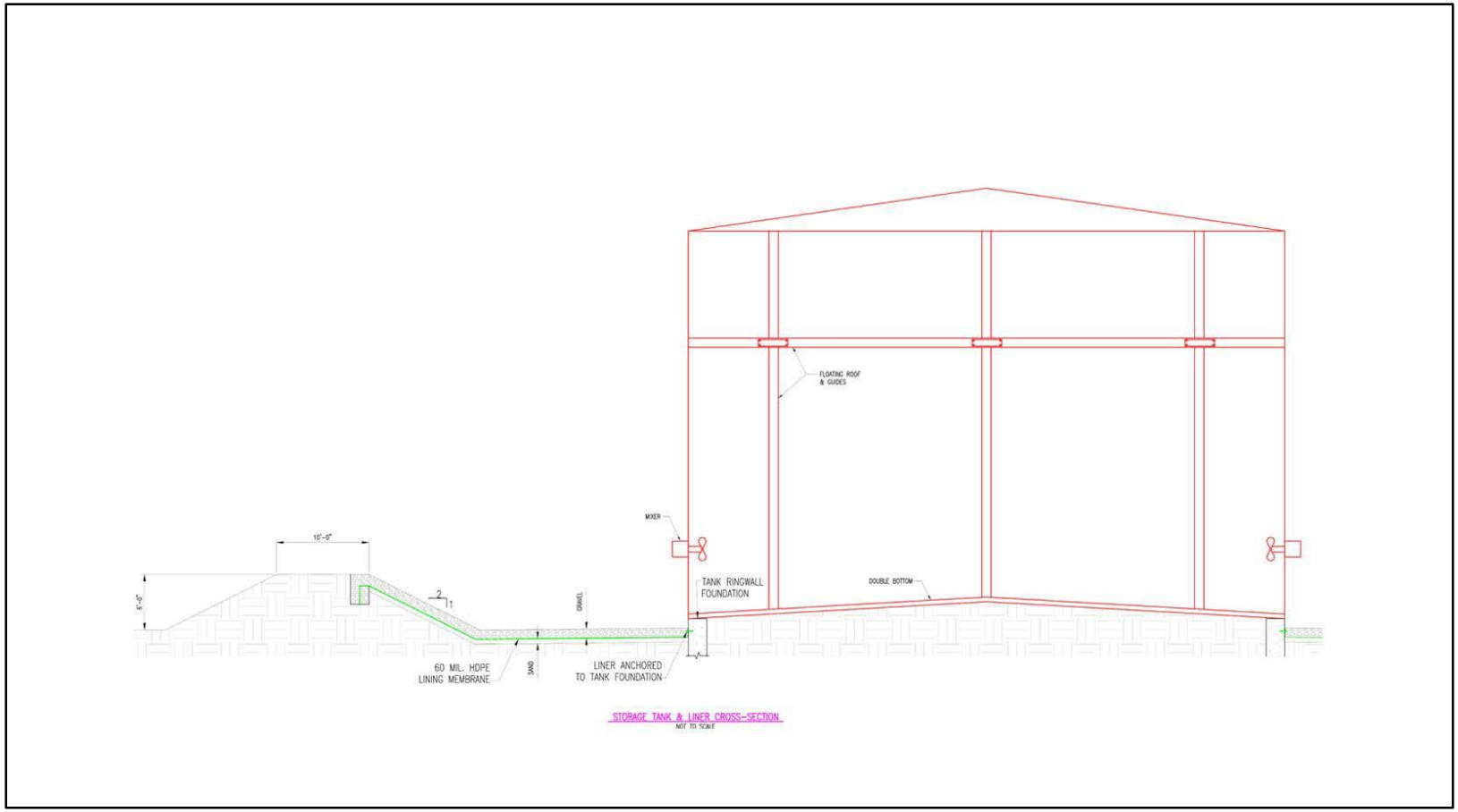

Figure 4 – Containment Berm

Appendix B
Tables

Table B-1a – Bulk Storage Container Summary

Tank No.	Description	Liquid Stored/Treated	Discharge Control	Construction Material	Height/ Length (feet)	Diameter (feet)	Measured Volume (bbl)	Date Installed
300-TK-001	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	48	240	360,000	TBD
300-TK-002	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	48	240	360,000	TBD
300-TK-003	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	48	240	360,000	TBD
300-TK-004	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	48	240	360,000	TBD
300-TK-005	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	48	240	360,000	TBD
300-TK-006	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	48	240	360,000	TBD
TBD	Fuel Tank	Low Sulfur Diesel	Containment Berm	Steel	TBD	TBD	500 gallons	TBD
TBD	Fuel Tank	Low Sulfur Diesel	Containment Berm	Steel	TBD	TBD	500 gallons	TBD
TBD	Fuel Tank	Low Sulfur Diesel	Containment Berm	Steel	TBD	TBD	500 gallons	TBD

Table B-1b –Container Summary

Tank No.	Description	Liquid Stored/Treated	Discharge Control	Construction Material	Height/ Length (feet)	Diameter (feet)	Measured Volume (gallons)	Date Installed
Area 200 Transformer A	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	450	TBD
Area 200 Transformer B	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	850	TBD
Area 300 Transformer A	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	550	TBD
Area 300 Transformer B	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	850	TBD
Area 400 Transformer	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	550	TBD

Table B-2 – Calculated Minimum Dike Dimensions

Proposed Dike Dimensions				Container Volume			Effective Dike Volume (bbl)	Minimum Required Height for Largest Container (ft)	Minimum Dike Height Including 4-inch Freeboard (ft)
Width (ft)	Length (ft)	Height (ft)	Volume (bbl)	Diameter (ft)	Height (ft)	Effective Volume (bbl)			
Storage Area									
1,152	2,080	5.0	759,908(1)	(5) 240	48	360,000(2)	558,308	3.5	3.8
Fire pump diesel tanks									
Diesel tank 1	TBD	TBD	500 gallons	TBD	TBD	TBD	500 gallons	TBD	NA
Diesel tank 2	TBD	TBD	500 gallons	TBD	TBD	TBD	500 gallons	TBD	NA
Diesel tank 3	TBD	TBD	500 gallons	TBD	TBD	TBD	500 gallons	TBD	NA

(1) The calculations to determine the minimum dike height incorporate the NOAA 100-year, 24-hour rainfall (inches) isopleth to determine sufficient freeboard. For this site "sufficient freeboard" is determined to be 4.5 inches.

(2) Although shell capacity is 380,000 barrels, actual capacity is restricted to 360,000 barrels due to the presence of a floating roof and other internal tank appurtenances.

Table B-3 – Overview of Potential Spill Scenarios

Spill Scenario	Flow Direction	Rate of Flow	Total Quantity Released	Preventative Measures
Crude Storage Tank Leak or Failure	South	Instantaneous	360,000 barrels	• Berm constructed around tanks • Inspection and testing of tanks and associated level monitoring equipment • Monitoring of storage area
Crude Storage Tank Overflow	South	Pipeline flow rate	Flow rate * discovery time * shutdown time	• Berm • Communications between rail pad and tank operators • High level alarms • High level shutdown interlock
Storage Tank Bottom Leak	Subsurface	Slow	Quantity depends on duration before detection	• Double bottom • Interstitial monitoring • Visual leak monitoring at detection weep points • Cathodic protection
Spill or Rail Car Failure at the Rail Unloading Area	South	Instantaneous	900 barrels	• Containment trenches • Spill holding tanks
Leak from Transfer Pipeline, Unloading Area to Storage Area	South	Pipeline flow rate	Flow rate * discovery time * shutdown time	• Communications between Unloading Area and Storage Area operators • Pipeline flow and pressure measurement • Line inspections and maintenance • Emergency shutdown system od transfer operations • Oil retention system in surface water drains
Leak from Transfer Pipeline, Storage Area to Marine Terminal	South	Pipeline flow rate	Flow rate* discovery time* shutdown time, Maximum of 3,802 barrels.	• Communications between Storage Area operators and Marine Terminal operators • Pipeline flow and pressure measurement • Line inspections and maintenance • Emergency shutdown system for transfer operations • Oil retention system in surface water drains

Spill Scenario	Flow Direction	Rate of Flow	Total Quantity Released	Preventative Measures
Bulk Diesel Storage Tank Failure	Localized	Instantaneous	500 gallons	• Concrete berm • Tank maintenance and inspections
Bulk Diesel Storage Tank Overfill	Localized	Slow	20 gallons	• Operator present during diesel transfers • Driver required to stay in immediate area during diesel transfers • Secondary containment curbing • Visible liquid level gauge • Audible high level alarm
Transformer Container Failure	Localized	Slow	Transformer volume	• Monthly visual inspections • Concrete slab

[1] As required by Section 3.6, (112.7(b)) – Fault Analysis, listed below are potential "major Equipment" failures which could cause a discharge as described in 112.1(b).

Table B-4 – Personnel Training and Discharge Prevention Training Record

This information is to be included as shown in Section 3.10, required by 112.7(f). This Training Record must be maintained for three (3) years.		
112.7(f)(2) Facility Accountable Person		
Name:	Title:	Phone:

112.7(f)(1) Oil handling personnel have been trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and the contents of this facility SPCC Plan.	
Leader:	Training Date:
Attendee Sign:	Title:
Attendee Sign:	Title:
Attendee Sign:	Title:
Describe Material Covered:	

112.7(f)(3) Discharge prevention briefings for oil-handling personnel are conducted at least once a year to assure adequate understanding of the SPCC Plan for this facility. These briefings highlight and describe known discharges as described in 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.	
Leader:	Training Date:
Attendee Sign:	Title:
Attendee Sign:	Title:
Attendee Sign:	Title:
Describe Material Covered:	

Table B-5 – Equipment Inspection Checklist

This information is required by 112.7 (e); this information is also required in 112.8 (c)(6) under Section 4.3.6. These record sheets will be maintained for a period of three years. (See Tesoro Savage Vancouver Energy Distribution Terminal Daily Gauging, Terminal Inspection Reports, Monthly Leak Inspections under Terminal file and Quarterly Floating Roof Visual Inspection Form).

INSTRUCTIONS: This checklist is to be completed monthly and is to complement daily and weekly inspections. If any items need attention, they should be noted on the second page of this Table and corrected as soon as possible. These inspection reports should be maintained for at least three years.

Inspected by _____ Date Inspected _____

Field Supervisor _____

Storage Tanks (Include Crude Oil and Diesel Fuel Tanks)						
Good	Needs Attention			Good	Needs Attention	
		Foundation				Support
		Equalization lines				Vacuum protection
		Shell				Fittings/flanges
		Alarms/level indicator				Manways
		Vents				Thief hatch
Lines and Fittings (Transfer Pipelines and other Lines and Fittings)						
Good	Needs Attention			Good	Needs Attention	
		Above-ground flowline				Corrosion protection
		Flanges				Screw fittings
		Coating				Bleeders
		Gate Valves				Check Valves
Pumps						
Good	Needs Attention			Good	Needs Attention	
		Seals				Bleeders
		Flanges				Screw fittings
Secondary Containment (Dikes, Curbs, Trenches, Etc.)						
Good	Needs Attention			Good	Needs Attention	
		Berm				Wall
		Drain				Other

Table B-5 – Equipment Inspection Checklist (Continued)

Loading						
Good	Needs Attention			Good	Needs Attention	
		Valves				Drip pans
		Valve Locks/seals				Other
Spill Kits and Spill Response Supplies						
Good	Needs Attention			Good	Needs Attention	
		Sorbent socks				Containment boom
		Sorbent boom				Other
Comments						
Additional information and records pertaining to this issue can be found at the Facility Administration Office.						

Table B-5a – Record of Inspections and Tests

This information is to be included as shown in Section 3.9, required by 112.7 (e); this information is also required in 112.8 (c)(6) under Section 4.3.6; . These record sheets will be maintained for three years.

Name of Inspection or Test	Date Performed	Signature of Appropriate Supervisor or Inspector	Follow-up Action Taken

Additional information and records pertaining to this issue can be found at the Facility Administration Office.

Table B-6 – Site & Failure Summary

Equipment Failure Details[1]	
Equipment Failure Sources	Rupture; valve failure, leaks from valves, flanges, catch pas, tank overflow, loading and unloading
Worst case failure	Rupture of 380,000-barrel storage tank
Maximum release quantity	360,000 barrels
Failure flow rate	360,000 barrels per hour
Flow direction	Containment berm – south/southwest
Nearest navigable water	The Columbia River is located 0.30 miles south of the containment berm

[1] As required by Section 3.6, (112.7(b)) – Fault Analysis, listed below are potential "major Equipment" failures which could cause a discharge as described in 112.1(b).

Table B-7 – Record of Drainage of Rainwater from Diked Areas

This information is to be included as shown in Section 4.3.3, required by 112.8(c)(3). These records sheets will be maintained for three years.

Date of Drainage	Time of Drainage	Employee/Supervisor Present	Duration of Drainage	Was Water Free of Any Sign of Oil?	Valves Locked