



**TESORO**

***Clean Products Upgrade  
Project***

**SEPA Checklist**

Tesoro Refining & Marketing Company LLC  
Anacortes Refinery

June 2015

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# List of Acronyms and Abbreviations

ARU	Aromatics Recovery Unit
A-UD	Anacortes Urban Development District
BACT	Best Available Control Technology
BMPs	Best Management Practices
BSU	Benzene Saturation Unit
CH <sub>4</sub>	methane
CNG	Cascade Natural Gas
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CPS	Coastal Puget Sound
CPU	Clean Products Upgrade
CR	Catalytic Reformer
CWA	Clean Water Act
DAHP	Department of Archaeology and Historic Preservation
DPS	Distinct Population Segment
DSU	Dock Safety Unit
Ecology	Washington Department of Ecology
ESU	Evolutionary Significant Unit
FRP	Facility Response Plan
GHG	Greenhouse Gas
HazMat	Hazardous material response
HM	Heavy Manufacturing
Isom	Isomerization
MSRC	Marine Spill Response Corporation
MTCO <sub>2</sub> e	metric tons of CO <sub>2</sub> equivalents
MVEC	Marine Vapor Emission Control
MW	megawatts
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NHT	Naphtha Hydrotreater
NOC	Notice of Construction
NO <sub>x</sub>	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWCAA	Northwest Clean Air Agency
OWS	Oily Water Sewer
PEM	palustrine emergent
PHS	Priority Habitat Species
PM <sub>2.5</sub>	particulate matter less than 2.5 microns
PM <sub>10</sub>	particulate matter less than 10 microns

PS	Puget Sound
PSD	Prevention of Significant Deterioration
scf/day	standard cubic foot per day
SCR	Selective Catalytic Reduction
SPCC	Spill Prevention Control & Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
SWS	Stormwater Sewer System
TAPs	toxic air pollutants
TESC	temporary erosion and sediment control
Tesoro	Tesoro Refining & Marketing Company LLC
USACE	U.S. Army Corps of Engineers
VCU	Vapor Combustion Unit
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSPA	Western States Petroleum Association
WWTP	Wastewater Treatment Plant



**ENVIRONMENTAL CHECKLIST**

**A. BACKGROUND**

**1. Name of proposed project, if applicable:**

Clean Products Upgrade (CPU) Project

**2. Name of applicant:**

Tesoro Refining & Marketing Company LLC ("Tesoro")

**3. Address and phone number of applicant and contact person:**

Rebecca Spurling, Lead Engineer, Environmental  
10200 West March Point Road  
PO Box 700  
Anacortes, WA 98221  
(360) 293-1664

**4. Date checklist prepared:** June 2015

**5. Agency requesting checklist:** Skagit County Planning & Development Services

**6. Proposed project timing or schedule (including phasing, if applicable):**

Start of construction: April 2016

Mechanical Completion:

- Isomerization (Isom) Unit: 2017
- Aromatics Recovery Unit (ARU): 2017
- Marine Vapor Emission Control (MVEC) System: 2017
- Naphtha Hydrotreater (NHT) Expansion: 2018

**7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

There are no planned future additions, expansions, or further activity related to or connected with the proposed CPU Project.

**8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**





# Planning & Development Services

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## SEPA ENVIRONMENTAL CHECKLIST

UPDATED 2014

- SEPA FEE \$ \_\_\_\_\_  PUBLICATION FEE \$ \_\_\_\_\_
- STAMPED ENVELOPES FOR OWNERS OF RECORD WITHIN 300' OF ALL PARCEL BOUNDARIES. INCLUDE MAP AND LIST OF ADDRESSES.

### ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

### ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

### ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

### ***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements - that do not contribute meaningfully to the analysis of the proposal.

Forms online:

<http://www.skagitcounty.net/PlanningAndPermit/Documents/Forms/SEPA/Environment/IS20Checklist.pdf> OR  
<https://forbes.wa.gov/ecy/publications/summarypages/ecy05045.html>

- Attachment A, USACE Jurisdictional Determination of Wetland and Ditches (USACE, 2015)
- Isolated Wetland Information Sheet (CH2M HILL, 2015)
- Tesoro Refinery Wetland Delineation and Ditch Assessments – CPU Project (CH2M HILL, 2015)
- No Effects Letter to USACE (CH2M HILL, 2015)
- Mitigation Site Use Plan (CH2M HILL, 2015)
- Construction Stormwater Pollution Prevention Plan (SWPPP) (prior to start of construction)

**9. Do you know of pending applications for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

Tesoro's Wharf Routine Maintenance Permit (NWS-2014-01169) is currently pending with the U.S. Army Corps of Engineers (USACE). This approval is not directly affecting the proposed CPU Project; however the CPU Project is proposing two components to be installed on the wharf and causeway, permitted separately and independently from the Tesoro Wharf Routine Maintenance permit.

Tesoro's Gate 20 Parking Lot Expansion Project (NWS-2014-00110) is currently pending with the USACE and is independent from the CPU Project. The Gate 20 Parking Lot Expansion Project also includes the construction of a wetland mitigation site, which is proposed to be used for mitigating wetland impacts from the proposed CPU Project, if required. A Mitigation Site Use Plan has been prepared to address potential mitigation requirements.

**10. List any government approvals or permits that will be needed for your proposals, if known:**

Tesoro will comply with all applicable local, state and federal regulations. Expected project approvals and permits include the following:

- Northwest Clean Air Agency (NWCAA) Notice of Construction (NOC) Approval Permit
- Washington Department of Ecology (Ecology) Prevention of Significant Deterioration (PSD) Air Permit
- USACE Section 10 of the Rivers and Harbors Act
- Ecology CWA Section 401 Water Quality Certification, if applicable
- Ecology National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit
- Ecology NPDES Industrial Wastewater Discharge Permit
- Ecology Coastal Zone Management Consistency
- Washington Department of Fish and Wildlife Hydraulic Project Approval
- Skagit County Critical Area Review
- Skagit County Grading Permit

- Skagit County Building Permit
- Skagit County Shoreline Management Substantial Development Permit

**11. Give a complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist which ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.**

Tesoro is proposing the CPU Project to improve the company's capability to deliver cleaner local transportation fuels and global feedstock primarily for polyester, making the Anacortes refinery a stronger, more economically viable member of the communities it serves.

Included in the proposed CPU Project are plans to:

- Build an Aromatics Recovery Unit (ARU) capable of producing 15,000 barrels per day of mixed xylenes, a feedstock used to make clothing, film for medical x-rays, plastics, cleaners and many other products we use every day.
- Install a new Marine Vapor Emission Control (MVEC) System that will reduce emissions of volatile organic compounds (VOCs). The MVEC System will control hydrocarbon emissions from marine vessels during loading operations.
- Expand the Naphtha Hydrotreater (NHT) to process 46,000 barrels of naphtha per day. This will allow Tesoro to further reduce the sulfur content in gasoline as required by the new federal Tier 3 regulations.
- Install a new Isomerization (Isom) Unit to increase the amount of octane available to the refinery. Coupled with the NHT expansion project, this provides more flexibility for production of gasoline.

Figure 1 - Vicinity Map shows an overview of the Tesoro Anacortes Refinery and vicinity.

The following discussion provides an explanation of the purpose of these changes and a brief description of what each change includes. The locations of the project components are shown on Figure 2 - Project Overview and Topographic Map. Figures 3 through 7 show the principal elements of the proposed CPU Project in more detail. The list of figures is as follows:

- Figure 1 Vicinity Map
- Figure 2 Project Overview and Topographic Map
- Figure 3 New Tanks Area Layout
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The new ARU will process heavy reformate from the Catalytic Reformer (CR). This ARU will use both distillation and liquid sulfolane extraction to produce a mixed xylenes product that meets the high purity commercial specifications for petrochemical feedstock. This process involves well-known and proven technology, used at refineries and other industrial facilities worldwide. The mixed xylenes product will be stored and periodically shipped by marine vessel via the existing Anacortes wharf facility. The remaining ARU byproduct will be used in gasoline blending or marketed as a gasoline blendstock. The sulfolane used in the extraction process will be stored in a new tank located within the ARU.

A new, natural gas-fired steam boiler will be installed adjacent to the ARU to provide the process heat needed for the CPU Project. The new steam boiler will be equipped with Selective Catalytic Reduction (SCR) and oxidation catalyst to control nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) emissions respectively. The SCR is a standard emission control device that uses 19% aqueous ammonia to convert NO<sub>x</sub> to nitrogen and water.

Supplemental feedstock to the ARU will be received from outside sources by marine vessel and unloaded using the existing refinery wharf system. Loading of the mixed xylenes product will also be performed at the existing wharf. Existing piping will be used to off-load the liquid feedstock and to load finished product.

Displaced vapors associated with refinery marine loading activities, including vapors from typical operations and the new project will be routed to a new MVEC System to control hydrocarbon emissions. The displaced marine loading vapors will be collected by vapor hoses routed to the DSU consisting of two skid-mounted units positioned on the wharf structure. The DSU is an essential piece of the overall MVEC System that ensures the safety of the marine vessels and the overall MVEC System. The DSU requires the use of natural gas, which will be provided via a new 3-inch natural gas line routed along the wharf/causeway structure. The vapors exiting the DSU will be routed through an existing line available on the wharf/causeway structure, to the new VCU located on-shore in the refinery, adjacent to the Wastewater Treatment Plant (WWTP). A natural gas line will also be routed to the VCU to provide support gas to optimize the combustion efficiency. The new natural gas lines to the DSU and VCU will be supplied by an existing natural gas line within the refinery.

The processing capacity of the existing NHT will be increased by about 15 percent to provide additional sulfur removal from an existing gasoline component stream. This capacity change will be accomplished by replacing the hydrotreating reactor, plus replacement and addition of other equipment items such as pumps, vessels, and heat exchangers, and modifications to distillation columns. The additional treated intermediate from the NHT will provide feed to the existing Catalytic Reformer (CR) and the existing Benzene Saturation Unit (BSU).

The intermediate from the CR, referred to as *reformate*, is currently, and will continue to be split into two streams, *light reformate* feeding the BSU and *heavy*

*reformate* used for a gasoline blendstock. The heavy reformate will be processed at the new ARU and consists of several gasoline-range chemical compounds that includes *mixed xylenes*. Mixed xylenes is a high-octane gasoline-range material that can be separated from gasoline as a marketable product. The ARU is a process unit by which the mixed xylenes can be separated from the gasoline. The remaining gasoline, after the mixed xylenes are removed, is a highly valuable gasoline blendstock.

A new Isom Unit will be added downstream and integrated into the existing BSU. This unit will process light hydrocarbons to produce a low sulfur, low benzene, relatively high octane gasoline blending component, called *isomerate*, to allow the refinery to economically meet the new clean fuel standards. The isomerate provides octane to the range of gasoline blending components, compensating for the loss of octane associated with extracting the mixed xylenes for a separate market.

Perchloroethylene, a chemical already used within the refinery, will be stored in a new tank within the Isom Unit and injected into the process as a reaction promoter.

Three new storage tanks will be constructed in the tankage area of the refinery (New Tanks Area) to support the receipt of feedstock and the shipment of the mixed xylenes product. Two of these vertical, cylindrical tanks will be sized at about 384,000 barrels (gross volume) and the third tank will be sized at around 193,000 barrels (gross volume). Each tank will incorporate the required VOC emission controls.

With the exception of the new 3-inch natural gas line that extends from a natural gas supply point in the refinery to the new DSU on the wharf, the project is located outside of the 200-foot shoreline setback.

**12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal should occur over a range of area, please provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map if possible. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The Tesoro Anacortes Refinery is located on the northern end of March Point, east of the City of Anacortes in Skagit County, Washington. The project is located within the existing refinery property and is located within previously developed areas of the refinery. The project area is located within Sections 21, 28, 29 of Township 35 N Range 02 E. Figure 1 shows the location of the proposed CPU Project and the project area.

A portion of the project (New Tanks Area) consists primarily of upland vegetated pasture used for livestock grazing. The New Tanks Area is believed to have been graded during the development of the facility in the 1950s.

Two small isolated Class IV wetlands (W47 and W48) and four man-made stormwater drainage ditches (Ditches 2, 3, 4, and 5) have been identified in the New Tanks Area. These wetlands and ditches are isolated and not connected to the waters-of-the-state, as determined by USACE, with concurrence from EPA. (See Attachment A). The two small isolated wetlands are in the process of being evaluated by Skagit County and the Department of Ecology to determine mitigation requirements. The New Tanks Area is heavily grazed and the ground has been impacted by the cattle kept on site. An inventory of wetlands located within the delineated areas of the Tesoro property is presented in Figure 2. Figure 2 also shows the CPU Project component areas and other environmental boundaries and features including the 200-foot shoreline buffer and existing eagle nests. With the exception of the VCU, all land-based CPU Project areas are located on the western side of the refinery property. The topography on this western side slopes gently to the west, northwest towards Fidalgo Bay.

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

- a. **General description of the site (circle one):** , rolling, hilly, steep, slopes, mountainous, other (describe).

The proposed CPU Project area is relatively flat with the exception of the New Tanks Area on the west side of the existing tank farm. Figure 2 - Project Overview and Topographic Map, provides existing contour information.

- b. **What is the steepest slope on the site (approximate percent slope)?**

The topography in the area slopes to the west towards Fidalgo Bay (about 5 percent).

- c. **What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, please specify and note agriculture land of long-term commercial significance and whether the proposal results in removing any of these soils.**

The Natural Resources Conservation Service (NRCS) Web Soil Survey classifies the soils in the project area as Xerorthents, which according to the NRCS is an excessively drained soil on hillslopes and floodplains composed of human transported and disturbed material (presumably resulting from construction of the refinery). The NRCS data indicate the soils in the proposed project areas are not considered agricultural land.

- d. **Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe:**

No unstable soils are known or observed.

- e. **Describe the purpose, type, and approximate quantities of total affected area of any filling, excavation, and grading proposed. Indicate source of fill.**

The proposed CPU Project areas will be graded with earthwork quantities of onsite cut material (approximately 163,000 cubic yards) and structural fill material (approximately 131,000 cubic yards). Over 90% of the fill and grade activities will occur within the 18-acre area identified as the New Tanks Area (see Figure 3) for the construction of the three new tanks, associated pumps, appurtenances, and containment berms. The remaining amounts will occur at the 3-acre ARU and the 0.15-acre VCU Areas.

A 5-acre area located to the west of the New Tanks Area could potentially be used for temporary construction laydown. However clearing, grubbing, filling, excavation, grading or other permanent improvements are not planned. If used as a temporary construction laydown area, the area will be restored to grazing land after construction is complete.

If on-site excavated material is unsuitable for use as structural fill materials due to the presence of excessive clay or other deleterious elements such as excessive moisture, unsuitable excavated materials will be removed and disposed to an approved location. If additional fill material is required, it will be imported by truck from an off-site location.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

Soils exposed during construction are subject to erosion. Construction activities associated with fill placement, and grading for the components of the proposed CPU Project (i.e., New Tanks Area) could result in erosion. The potential for erosion will be minimized through proven construction techniques.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

Approximately 18-acres of new impervious surface will be created. This would add approximately 1.8 percent of new impervious surface to the 1,020 acres of the overall Tesoro site.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

Proposed measures include the use of Best Management Practices (BMPs) including:

- Following the Stormwater Management Manual for Western Washington guidelines and preparing a Stormwater Pollution Prevention Plan prior to construction of the project.
- Covering stockpiled soils.
- Installing silt fence.
- Designing and implementing a temporary erosion and sediment control (TESC) plan.

## 2. Air

- a. **What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

### **Construction**

During construction, emissions will consist of exhaust from intermittent welding and use of some heavy machinery.

The use of construction equipment would result in temporary dust, vehicle exhaust, and other construction-related emissions related to the excavation, grading, and heavy equipment usage needed to install the project components. Construction emissions would be short term (about 24 months) and intermittent and not anticipated to result in air quality impacts. Construction emission quantities and impacts are anticipated to be minor.

### **Operation and Maintenance**

New air emission sources to be installed as part of the project include a Boiler (F-6870), MVEC System, three new storage tanks for mixed xylenes and medium reformate, and new component equipment in VOC service within the new ARU, Isom Unit, NHT, and storage and product load-out areas. The new Boiler and MVEC System will result in emissions from combustion consisting of criteria and toxic air pollutants (TAPs). Emissions of VOC and TAPs will occur from the new storage tanks and component equipment in VOC service. The project will reduce VOC and TAP emissions from the existing marine vessel loading system by installing the MVEC System.

Tesoro will be submitting a PSD Air Permit application to Ecology for particulate matter less than 10 microns ( $PM_{10}$ ), particulate matter less than 2.5 microns ( $PM_{2.5}$ ), and Greenhouse Gas (GHG) emissions as the result of the project. Tesoro will be required to install Best Available Control Technology (BACT) for these pollutants on the new equipment installed as part of the project. Tesoro will demonstrate that the ambient air impacts of the project will be in compliance with the National Ambient Air Quality Standards (NAAQS) for  $PM_{10}$  and  $PM_{2.5}$ . Additionally, the proposed CPU project is not expected to impair visibility or the quality of soils and vegetation at the refinery and surrounding area.

Tesoro will concurrently submit an NOC application to the NWCAA for the project for other pollutants for which a PSD Air Permit is not required. This NOC application will also demonstrate that the emissions of CO,  $NO_x$ , and  $SO_2$  from the project will be in compliance with the NAAQS and any other applicable state and local ambient air quality standards for these pollutants. The project complies with the TAPs program codified by Washington Administrative Code (WAC) 173-460 as demonstrated through an analysis of expected ambient concentrations of TAPs compared to their respective ASILs.

## Greenhouse Gas Emissions

In March of 2008, Ecology developed rules for the mandatory reporting of Greenhouse Gas (GHG) emissions by sources that emit more than certain specified threshold amounts. GHG pollutants associated with the proposed CPU Project include carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>).

The proposed CPU Project will result in an increase in GHG emissions greater than 25,000 metric tons; therefore, quantitative disclosure of GHG emissions is required. The primary source of GHG emission for this project will be from stationary combustion, in particular emissions from the new natural gas fired boiler. Additional sources of GHG emissions include fugitive emissions from the process, electricity usage, and transportation. The estimated emissions are summarized in Table 1 below. Based on the predicted GHG emissions for the project, Tesoro will be required to include these emissions in its annual reports to Ecology and EPA.

**Table 1 - Summary of Estimated Greenhouse Gas Emissions**

Source	Stationary Combustion	Fugitive Emissions	Electricity Use	Transportation	Total
Emissions Summary (MTCO <sub>2e</sub> )*	313,009	389	28,087	5,860	347,345

(\*) MTCO<sub>2e</sub> – metric tons of CO<sub>2</sub> equivalents

The GHG emissions from stationary combustion and fugitive emissions from new equipment components are included in the emission calculations provided for criteria pollutants. GHG emissions from electricity usage and transportation were calculated using Ecology's GHG Calculation tool. For transportation, it was assumed that there would be up to five marine vessels per month for receiving feedstock and shipping mixed xylenes and other gasoline components. For shipments of mixed xylenes to Asia, travel distances were estimated by applying Washington's nautical 3 mile boundary. For shipments of feedstock and gasoline components, travel distances were estimated using a port-to-port estimate along the west coast of the United States.

The majority of the project area is located within previously developed areas of the refinery with a portion of the project (New Tanks Area) consisting primarily of upland vegetated areas. No forested lands will be cleared. Based on current use of the project site, and because construction emissions are temporary and of short duration, GHG emissions from construction are insignificant.

**b. Are there any off-site sources of emissions or odor which may affect your proposal? If so, generally describe.**

There are no regional air quality limitations or off-site sources of emissions or odor that will impact the construction or operation of this proposed project.



**c. Proposed measures to reduce or control emissions or other impacts, if any:**

The SEPA rules include a process for determining when impacts are considered significant (WAC 197-11-330). Under this rule, the responsible official is also directed to consider mitigation measures which the proponent proposes to implement as part of the proposal, including any mitigation measures required by other existing environmental rules or laws.

In accordance with Ecology's GHG Guidance document for SEPA, projects subject to Prevention of Significant Deterioration (PSD) Air Permit requirements under the Clean Air Act may mitigate their GHG emissions by applying BACT for GHGs. Tesoro will install BACT for GHGs on the new emission units with increases in GHG emissions, and as opportunities arise, will continue to evaluate other potential emission-reduction opportunities.

In addition, because Tesoro operates in an environmentally sensitive location, we will continue to strive for environmental improvements through reviewing and strengthening procedures, programs, tools, and systems.

During construction, the following measures are proposed to reduce or control emissions:

- Installing mufflers on construction equipment in proper operating order
- Wetting exposed soils to minimize dust during dry weather
- Covering and/or wetting surfaces as necessary when transferring excavated materials offsite
- Covering stockpiled materials
- Covering loads on trucks, as necessary.
- Utilizing existing electrical infrastructure to minimize gas or diesel driven generators

**3. Water**

**a. Surface Water:**

**1) Is there any surface water on or in the immediate vicinity of the site (including year-round and seasonal stream, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

The Tesoro Anacortes Refinery located on March Point is surrounded by marine water bodies with Fidalgo Bay to the west and Padilla Bay to the east. The DSU and the 3-inch natural gas line are located over water on the existing refinery wharf and causeway (see Figure 2).

The construction of three new tanks in the New Tanks Area will unavoidably impact two small palustrine emergent (PEM), small, isolated wetlands (W47 and W48) as described in Table 2 below. USACE has determined that these wetlands are not waters of the United States under Clean Water Act (CWA) Section 404 jurisdiction

(see Attachment A). Ecology Isolated Wetlands Information Sheets have been completed and submitted with the Critical Areas Review application.

**Table 2 - Wetland Ratings and Characterizations of Wetlands**

Wetland Name	Wetland Rating	Cowardin Class	Hydrogeomorphic Class	Total Area (Acres)
W47	IV	PEM	Depressional	0.09
W48	IV	PEM	Depressional	0.015

In addition to W47 and W48, the construction of three new tanks may also unavoidably impact four isolated, man-made stormwater drainage ditches (Ditches 2, 3, 4, and 5). The lengths of these existing ditches and the lengths impacted are shown in Table 3. USACE has also determined that these ditches are not waters of the United States under CWA Section 404 jurisdiction (Attachment A). Additional information about these wetlands and ditches are presented in the Tesoro Anacortes Refinery Wetland Delineation and Ditch Assessment – CPU Project (CH2M HILL, 2015).

**Table 3 – Stormwater Drainage Ditch in the New Tanks Area**

Stormwater Ditch	Total Length (feet)	Length Impacted (feet)	Average Width (feet)	Average Depth (feet)
Ditch 2	605	605	2	1
Ditch 3	234	234	2	1.5
Ditch 4	382	263	2	1.5
Ditch 5	509	400	3	2

In addition, a number of wetlands and ditches have been identified by URS and CH2M HILL between 2005 and 2015. These wetlands and ditches are shown on Figure 2. All of the wetlands located within the immediate vicinity of the project are identified to be Category IV wetlands. Of these, Wetland W6 located to the west of the New Tanks Area, Wetland W9 located to the north of the New Tanks Area, Wetlands W44 and W49, and Ditches 1 and 6 located to the south of the New Tanks Area discharge to the west to Fidalgo Bay through a series of ponds, ditches and culverts. Wetlands W50 through W55, also located to the north of the New Tanks Area, appeared to be isolated Category IV wetlands that do not have connections to

Fidalgo Bay. All of the wetlands in the immediate vicinity of the project area are not directly impacted by the proposed CPU Project.

Consistent with the SWPPP, all critical areas in the immediate vicinity of any construction activities, including wetland buffers will be marked with high visibility fencing to prevent disturbance during construction. Construction activities would occur outside of the ditches, wetlands, and buffers that have been delineated in the project area, with exception to the impacted areas as listed in Table 2 and Table 3 above.

**2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

The construction of the DSU and a 3-inch natural gas line will occur within 200 feet of the Fidalgo Bay shoreline (see Figures 2 and 4).

Tesoro will be installing a DSU that consists of two skid-mounted units that will be installed on the wharf. It is anticipated that some of the construction might require the use of a spud barge adjacent to the wharf. The DSU skid-mounted units are currently planned to be lifted onto the wharf by a crane mounted on the spud barge. The spuds will be deployed in an area where there is no eelgrass. Temporary scaffolding installed under the wharf will be used to facilitate the work. Scaffolding platforms will include toe boards and cross planks to prevent debris and other material from entering the water and will provide a base for environmental protection and to ensure worker safety.

The 3-inch natural gas line will be installed along the causeway and wharf to supply the DSU. This line will be installed in the existing wharf/causeway pipe rack using cranes and equipment deployed from the causeway. Construction activities associated with installation of the line will include installation and removal of scaffolding, crane operation and lifting, welding, sandblasting, weld joint coating and hydrostatic testing. To the extent possible, multiple pipe joints will be welded together and coated onshore or on the causeway road and lifted into place in the pipe rack, thus minimizing the welding and coating activities that must be performed over the water. Temporary scaffolding will be used to facilitate the work, provide a base for environmental protection at the welding and coating sites over the water and to ensure worker safety.

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

The two small isolated wetlands [W47 (0.09-acres) and W48 (0.015-acres)] will be excavated to an average depth of 11 feet below existing ground surface. The amounts of dredge material that will be removed from Wetlands W47 and W48 are approximately 1,600 cubic yards and 270 cubic yards respectively.

Approximately 190 cubic yards of fill material will be placed in Ditches 2, 3, 4, and 5 calculated based on an average width and depth identified in Table 3. The source of fill material will be from onsite sources or imported from offsite if necessary. Ditch 4 will be re-designed and Ditch 5 will be realigned around the New Tanks Area. The approximate lengths of the re-designed Ditch 4 and the realigned Ditch 5 are 393 and 653 feet respectively. Both Ditch 4 and Ditch 5 will continue to provide drainage after the construction is complete.

**4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

With the exception of the new tank installations at the New Tanks Area, construction and operation of the proposed CPU Project do not require surface water withdrawals or diversions.

Four man-made stormwater drainage ditches (Ditches 2, 3, 4, and 5) are located within the New Tanks Area where three new tanks will be installed. Ditches 2, 3, and 4 currently drain stormwater runoff from adjacent gravel roads surrounding the existing tank farm. Ditches 2 and 3 terminate in an upload area and Ditch 4 drains into Ditch 5. When the project is completed, the stormwater runoff that currently enters Ditches 2 and 3 will be directed towards the facility's stormwater sewer system. Ditch 4 and 5 originate from the area to the north of the New Tanks Area and continues in a southwesterly direction and extends down the slope to the west. Ditch 4 will be re-designed and Ditch 5 will be permanently rerouted around the northwest corner of the New Tanks Area as part of the project construction.

**5) Does the proposal lie with a 100-year floodplain? If so, note location on the site plan.**

As shown on Figure 2 - Project Overview and Topographic Map, a portion of the 3-inch natural gas line is located within the designated 100-year flood plain and the Skagit County Flood Hazard Area. The boundary for the Skagit County Flood Hazard Area runs along the shoreline of Fidalgo Bay. The proposed 3-inch natural gas line is located on the existing pipe rack and does not result in any changes to the flood hazard area.

**6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No, the proposed CPU Project would not involve the discharges of waste materials to surface waters.

**b. Ground Water:**

**1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to**

**groundwater? Give general description, purpose, and approximate quantities if known.**

Groundwater will not be withdrawn from a well during construction or operation of the proposed CPU Project. Water will not be discharged to groundwater.

**2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals . . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No new sewer or septic facilities nor modifications to existing facilities are planned for this project.

**c. Water runoff (including stormwater):**

**1) Describe the source of runoff (including stormwater) and method of collection and disposal, if any (including quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

Tesoro's refinery facility collects runoff and stormwater from the proposed CPU Project areas via an existing refinery sewer system. Although the CPU Project will add approximately 18-acres of impervious surface, the proposed CPU Project will not result in any significant changes to runoff volumes. Therefore, the existing stormwater system can meet the increase in runoff caused by the increased impervious surface area.

Stormwater is directed to two different systems in the facility: 1) Oily Water Sewer System, and 2) Stormwater Sewer System. Both systems are directed to the refinery's Wastewater Treatment Plant (WWTP) and managed under the NPDES Industrial Wastewater Discharge Permit.

Oily Water Sewer (OWS) System: The OWS system serves the refinery's process areas where there is a potential for oil or chemicals to contact water. The OWS system collects stormwater, oily water, plant wash-down water or firefighting runoff from the process areas and is conveyed to the treatment plant. The NHT, Isom Unit, ARU, MVEC System and the New Tanks Area will all have connections to the OWS.

The ARU will be equipped with a sulfolane-specific OWS system designed to minimize the chance of sulfolane entering the refinery OWS. This special sewer system serves as an upstream wastewater pollution prevention technique consistent with Ecology's NPDES Wastewater Discharge Permit Pollution Prevention goals. The following engineering controls will be included to responsibly manage sulfolane at the refinery:

- Closed drain system and sump to collect and recycle the sulfolane to the process
- Closed sewer system to collect stormwater that will be isolated and quality-verified to check sulfolane concentration prior to releasing to the OWS

- Secondary containment around the sulfolane storage tank and pumps that transfer sulfolane to the process.

Additionally, sulfolane-management practices and procedures will be developed prior to operating the facility that will include recycling and treatment methodologies.

**Stormwater Sewer (SWS) System:** The SWS system serves the stormwater drainage surfaces of the refinery that do not contact oil, including non-process areas, roads, gravel areas, and also includes the tank farm dike areas. The tank dike areas are managed carefully and drain valves are maintained in a normally closed position. In rain events, the water is checked for quality before draining to the SWS. If needed, the water can be drained slowly to the OWS. The New Tanks Area will be equipped with the same type of dikes and drainage design, to allow clean stormwater to be drained to the refinery's SWS, or if needed, drained to the OWS.

Tesoro will prepare a Stormwater Pollution Prevention Plan (SWPPP) consistent with Ecology guidance. Consistent with applicable water quality requirements, the SWPPP will be prepared prior to the start of construction.

**2) Could waste materials enter ground or surface waters? If so, generally describe.**

Storage areas for hazardous materials and wastes will be provided with secondary containment such that potential spills cannot reach surface or ground waters. The proposed New Tanks Area and chemical storage facilities will be designed with a spill containment system that is equal to or greater than 100% of the volume of the largest tank in the diked area, plus individual freeboard allowances for precipitation in compliance with applicable spill prevention, control, and countermeasure (SPCC) regulations per 40 CFR 112. Furthermore, the tanks in the New Tanks Area will be monitored through in-tank sensors that transmit fluid level data to the refinery control room. Refinery operations personnel constantly monitor fluid level data to prevent spills.

Similar to the existing plant, process areas will be paved and sloped to the refinery's OWS system. The OWS system consists of a series of drains and catchment basins located at regular intervals across the process area. The OWS system flows to the on-site WWTP where processes are in place to separate oil from water, and to further treat the water in accordance with the facility's NPDES Industrial Wastewater Discharge Permit. Spills that may occur in the process unit areas would therefore be contained within curbed areas and directed towards catch basins along the OWS system. This system minimizes the risk of any oil migrating to groundwater or surface water.



**3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

The construction and operation of the proposed CPU Project are not expected to alter or otherwise affect drainage patterns in the vicinity of the site, except for the New Tanks Area.

As described in 3.a.(4), four man-made stormwater drainage ditches (Ditches 2, 3, 4, and 5) are located within the New Tanks Area where three new tanks will be installed. Ditches 2, 3, and 4 currently convey stormwater runoff from adjacent gravel roads. After construction of the New Tanks Area, runoff that currently terminates in the upland area west of the New Tanks Area will instead be directed into the facility's stormwater sewer system and discharged according to the Tesoro NPDES Industrial Wastewater Discharge Permit.

Ditch 4 will be re-designed and Ditch 5 will be realigned around the northwestern corner of the New Tanks Area as part of the project construction.

As a result, the area to the west of the New Tanks Area may receive less stormwater runoff. Resources located downslope to the west of the New Tanks Area include upland pasture, Wetland W6, and several manmade ditches that drain to a stormwater facility. Field studies support that the water feeding W6 is dominated by a groundwater supply that is not impacted by this project. This conclusion is supported by the observation of groundwater seepage during a field visit on April 17, 2015, along with upland surface soil samples that support this same conclusion.

**d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:**

Ditch 5 will be realigned around the northwestern corner of the New Tanks Area so that stormwater from the area north of the New Tanks Area will continue to flow in a southwesterly direction and down the slope to the west. Similarly, Ditch 4 will be re-designed so that it continues to drain into Ditch 5.

Tesoro will prepare a SWPPP consistent with the latest Ecology guidelines prior to construction. The SWPPP will identify Best Management Practices (BMPs) to minimize or prevent the discharge of pollutants to waters of the state. A temporary erosion and sediment control (TESC) plan, which could include measures such as filter fabric fence and check dams to control surface and ground water, will be prepared.

**4. Plants**

**a. Check the types of vegetation found on the site:**

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture

- \_\_\_ crop or grain
- \_\_\_ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- \_\_\_ water plants: water lily, eelgrass, milfoil, other
- \_\_\_ other types of vegetation.

**b. What kind and amount of vegetation will be removed or altered?**

Clearing of vegetation will only be conducted in the New Tanks Area and VCU, and these areas are currently covered with grazed or mowed grasses. All other areas are located in existing, developed portions of the facility where no additional vegetation clearing will be required. The area of disturbance associated with the New Tanks area is about 18-acres. The area of disturbance associated with the VCU area is 0.10 acres and is a small patch of grass amongst industrially impacted land.

A 5-acre area located to the west of the New Tanks Area could potentially be used for temporary construction laydown. If used, the area will be restored to grazing land after construction is complete.

**c. List threatened or endangered species known to be on or near the site.**

No threatened or endangered species are known to be on or near the site. None were identified during any of the surveys conducted in the proposed CPU Project area.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**

Landscaping is not proposed. Vegetation planted within the refinery property is regulated by the Department of Homeland Security. These regulations prohibit plantings that would screen the site.

**e. List all noxious weeds and invasive species known to be on or near the site.**

Canada Thistle (*Cirsium arvense*), classified as a noxious weed by the Washington State Noxious Weed Control Board, has been observed in and around the New Tanks Area.

**5. Animals**

**a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:**

birds: HAWK, HERON, EAGLE, SONGBIRDS, other:  
 mammals: DEER, bear, elk, beaver, other: OTTERS HARBOR SEAL  
 fish: bass, SALMON, trout, HERRING, SHELLFISH, other: FORAGE FISH

**b. List any threatened or endangered species known to be on or near the site.**

Endangered Species Act (ESA) listed species that could occur in the general vicinity include three (3) fish, one (1) mammal, and one (1) bird.

Each of the following three (3) fish species are listed as threatened and has either designated or proposed critical habitat in Padilla Bay:

1. Distinct population segment (DPS) of coastal-Puget Sound (CPS) bull trout,
2. Puget Sound (PS) evolutionarily significant unit (ESU) of Chinook salmon, and
3. PS DPS of steelhead trout.

Bull trout are under the management jurisdiction of the USFWS, although they can occur in marine waters, and Chinook and steelhead are under the jurisdiction of the National Marine Fisheries Service (NMFS).

The one (1) ESA-listed endangered mammal species is the Southern Resident killer whale (*Orcinus orca*) DPS and has a designated critical habitat that includes Padilla Bay and Fidalgo Bay where water depths are 20 feet or greater.

The one (1) ESA-listed bird species is the marbled murrelet listed as endangered, under the management jurisdiction of the USFWS. The species itself is not expected to occur in close proximity to the project area.

Hérons, eagles, and hawks were observed in the vicinity of the project area. The Washington Department of Fish and Wildlife, 2008, Priority Habitat and Species (PHS) list indicates the presence of a heron rookery approximately 2.7 miles southeast of the project area. Heron rookeries are a priority for breeding. The Great Blue Heron has a criteria 2 listing.

PHS information from WDFW indicates the presence of a bald eagle nest located 1,100 feet west of the closest project component (the 3-inch natural gas line). Bald eagles are listed by the State of Washington as a Sensitive species, with a Federal listing of Species of Concern. Eagle habitat is listed as a priority for breeding and roosting. The construction and operation of the proposed CPU Project would not result in any effects on the nest. The area already experiences heavy human activity from the West March Point Road (located adjacent to the nest location), the employee parking lot, and existing refinery operations.

Both Fidalgo Bay and Padilla Bay are listed as forage fish (surf smelt, Pacific Herring) habitat by WDFW. The onsite ditches are not fish bearing.

In addition, WDFW priority habitat information indicates the presence of a harbor seal haul out area and Dungeness Crab habitat area in Padilla Bay; however, these are located on the east side of March Point and the proposed CPU Project would have no effect given the distance of approximately 4,700 feet (0.9 miles) from the proposed CPU Project.

Construction activities will be temporary in nature and will include proposed management measures discussed in 8a. Therefore it is not anticipated that the proposed project would have any effect on threatened or endangered species within the project area.

**c. Is the site part of a migration route? If so, explain.**

The Pacific Flyway extends from the North American Pacific coast east to the Rocky Mountains. All of Washington, including this site, lies within the Pacific Flyway for migratory birds. Waterfowl migrate through the area and can periodically concentrate in Padilla and Fidalgo Bays. The proposed CPU Project will not have any impacts to known migratory bird routes through the area and would not preclude the use of known migratory bird routes through the area.

**d. Proposed measures to preserve or enhance wildlife, if any:**

The proposed CPU Project is not expected to impact wildlife known to be near the project location, and therefore no specific measures are proposed or required.

**e. List any invasive animal species known to be on or near the site.**

Invasive animal and/or non-native species observed on or near the site include European starling and Eastern cottontail rabbit.

**6. Energy and natural resources**

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's needs? Describe whether it will be used for heating, manufacturing, etc.**

Electricity use will increase by approximately 6 megawatts (MW), mainly due to new electric motor-driven equipment such as new pumps. For example, the new pumps will be used in the new ARU process unit; to replace lower capacity pumps in the NHT; and to load mixed xylenes product for shipment.

The new boiler will utilize natural gas fuel to provide energy in the form of steam for the CPU Project. The project will increase the refinery use of natural gas by approximately 13 million standard cubic foot per day (scf/day), primarily for the new boiler, but also to supply the MVEC.

**b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No.

**c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

The project includes the following energy conservation features:

- The new, high-efficiency boiler will incorporate energy conservation features such as combustion air pre-heat and feed water pre-heat (economizer) to maximize energy recovery and minimize natural gas consumption.
- The new and modified process units will use heat recovery and reuse techniques to reduce fuel energy consumption to the extent that is technically and economically feasible.
- Electric motors and pumps will use the most energy efficient design that is economically justifiable and meets the technology specifications required by each operating service.

## 7. Environmental health

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

The existing refinery safety, emergency response, and health management programs are currently in place to accommodate the proposed CPU Project.

- 1) Describe any known or possible contamination at the site from present or past uses.**

No known contamination from present or past uses is located within the proposed project areas.

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

New process units are being installed adjacent to areas of the refinery that will be in operation. Constructing adjacent to operating equipment and pipes is commonly executed in the utility, petroleum and various other industries in a safe and responsible manner. Tesoro has strict procedures and practices that are followed to minimize risk to underground pipelines during construction. Tesoro maintains underground line drawings, uses the technique of *potholing* (whereby underground pipes are exposed to view by digging test holes), uses vacuum excavators to minimize the chance of excavation equipment contacting underground pipes, uses spotters and observers, develops construction work plans, and follows a strict work permit practice.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

As a result of the CPU Project, the refinery will produce, store, and transfer up to 15,000 barrels per day of mixed xylenes. Mixed xylenes, a component of gasoline,

may be considered as a toxic or hazardous chemical in the same manner as the other petroleum related substances that are present at the facility.

Sulfolane, a solvent commonly used in the extractive distillation process, will be used in the ARU. In addition, perchloroethylene will be used to maintain catalyst activity at the Isom Unit. Aqueous ammonia will be used at the SCR to control NO<sub>x</sub> emissions from the new boiler. Additional commodity chemicals already in use at the refinery include caustic, acid, catalysts, corrosion inhibitors, and foaming inhibitors.

These chemicals will all be delivered to the refinery by truck. Based on expected usage rates and typical truck capacity, the proposed CPU Project, once operational, would generate a total of approximately 40 vehicle trips per year for these three chemicals. Through the use of proper handling procedures and engineering controls, these chemicals do not pose a health risk to individuals or impacts to the environment.

**4) Describe special emergency services that might be required.**

Fire, ambulance, and emergency medical services might be required. These services are already provided by trained on-site refinery personnel who are prepared and available to provide special emergency services within the proposed CPU Project area. If necessary, the Anacortes Fire Department's Summit Park Fire Station is located approximately 3 miles to the southeast of the proposed CPU Project and would respond as needed. Additionally, Tesoro is a member of Western States Petroleum Association (WSPA) Mutual Aid Organization whose purpose is to join firefighting, rescue, hazardous material response (HazMat), oil spill, and medical resources, as well as personnel for mutual aid assistance in the event of an emergency situation, either natural or man-made, at any of the refining facilities in Washington State.

**5) Proposed measures to reduce or control environmental health hazards, if any:**

Displaced vapors associated with refinery marine loading activities, including vapors from existing operations and the new project will be routed to a new MVEC System to control emissions. This system eliminates emissions that would otherwise be emitted at the wharf, and is protective of human health and the environment.

Best available control technology will be installed on new equipment to minimize emissions to atmosphere, including but not limited to technologies at the New Boiler that will minimize NO<sub>x</sub> and CO emission. Refer to the Section B.2. for additional details.

Tesoro maintains a Spill Prevention Control & Countermeasures (SPCC) Plan to address accidental spills that may occur within refinery property. This plan will be revised to include the proposed CPU Project. The proposed new tanks and pumps



will be designed in compliance with applicable SPCC regulations per 40 CFR 112. Refer to Section B.3. for additional details.

In addition to the SPCC Plan, Tesoro maintains a Facility Response Plan (FRP) pursuant to 40 CFR 112.20. Whereas the SPCC Plan is primarily focused on equipment and measures to prevent an oil spill from occurring and limiting its potential impact, the FRP is geared towards ensuring rapid and effective responses to an oil spill or other emergency. Tesoro has a contract with Marine Spill Response Corporation (MRSC) to ensure availability of the necessary equipment and personnel within appropriate response times in the event of a release of any petroleum-based material present at the refinery. The Tesoro Anacortes Refinery maintains its own spill response organization and equipment. Each of these programs apply to the proposed CPU Project and any associated plans will reflect changes associated with the CPU Project.

**b. Noise**

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

The existing background noise in the area is minor and will not affect the project.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

During construction there would be temporary increases in noise associated with construction activities.

After the project is in operation, the noise level at the refinery will be within the same range as is currently observed.

**c. Proposed measures to reduce or control noise impacts, if any?**

Temporary construction noise will be mitigated by properly using mufflers and other noise reduction devices on motorized construction equipment and by limiting the noisiest activities, such as excavation and pile driving, to daytime hours.

Operational noise will be mitigated through engineering controls that are similar to those currently used in the refinery, including the application of noise reduction techniques in the design of rotating equipment, mufflers and other noise reduction devices where needed.

**8. Land and shoreline use**

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.**

The proposed CPU Project is within an operating petroleum refinery. Areas of the refinery property are leased to an adjacent property owner for cattle grazing and seasonal haying. The New Tanks Area will occupy approximately 18-acres which will no longer be accessible for cattle grazing and seasonal haying.

A 5-acre area located to the west of the New Tanks Area could potentially be used for temporary construction laydown. If used, the area will be restored to grazing land after construction is complete.

The current use of the project site is for the refining of petroleum. The adjacent property to the south is also used for petroleum refining, and is owned and operated by another company. The refinery is also bordered by pasture land and a limited number of residential properties.

- b. Has the project site been used as working farmland or working forest lands? If so, describe. How much agriculture or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

Previous studies indicate that the property was used for agricultural purposes prior to construction of the refinery in the 1950s. The New Tanks Area will result in 18-acres of refinery property that is currently leased for cattle grazing and haying that will be developed for industrial use.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:**

No, there will not be effects to normal business operations.

- c. Describe any structures on the site.**

In close proximity to the landward components of the proposed CPU Project are operating equipment, tank farm, rail facility, offices and support buildings for the Tesoro Anacortes Refinery. The existing refinery is equipped with a causeway leading out to a wharf, used for marine transfer operations. The DSU will be located on the wharf.

- d. Will any structures be demolished? If so, what.**

No structures are proposed to be demolished.

- e. What is the current zoning classification of the site?**

The site is located within unincorporated Skagit County, and is within the city of Anacortes' Urban Growth Boundary. County zoning for the area is Anacortes Urban Development District (A-UD). The purpose of the A-UD district is to permit development in the unincorporated urban growth area of the City of Anacortes. The City of Anacortes has already made adequate provisions for urban services, including

sewer, within this district. The City's zoning for this area (including the Tesoro site on March Point) if it were to be annexed, would be Heavy Manufacturing (HM). The HM zoning designation identifies development regulations that would be applied to the area upon annexation. Permitted uses within the HM zone include industrial uses.

**f. What is the current comprehensive plan designation of the site?**

The City of Anacortes comprehensive plan designation is HM. The Skagit County comprehensive plan designation for the area is A-UD.

**g. If applicable, what is the current shoreline master program environment designation of the site?**

The Skagit County Shoreline Master Program shoreline designation for the March Point area north of North Texas Road is Urban.

**h. Has any part of the site been classified as an critical area by the city or county? If so, specify.**

Some of the project components including the DSU, 3-inch natural gas line, and the new tank installations are located in areas classified as a critical area by Skagit County. The DSU and the 3-inch natural gas line are located on the wharf and causeway within Fidalgo Bay which is considered environmentally sensitive.

The wetlands found adjacent to the New Tanks Area are Category IV wetlands with low hydrologic and habitat functions. The stormwater ditches that drain through the New Tanks Area are located in an area that was disturbed during development of the refinery facilities.

**i. What are proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**

The proposed CPU Project is consistent with both Skagit County and Anacortes existing and planned land uses. The proposed CPU Project is an industrial project. Current zoning permits the use.

**j. Approximately how many people would reside or work in the completed project?**

The proposed CPU Project would create an estimated 20 new permanent full-time positions at the Tesoro Anacortes Refinery. Each refinery job has a positive economic impact on the surrounding community.

**k. Approximately how many people would the completed project displace?**

None.

**l. What are proposed measures to avoid or reduce displacement or other impacts, if any?**

Does not apply.

**9. Housing**

- a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

Not applicable.

- b. **Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

Not applicable.

- c. **What are proposed measures to reduce or control housing impacts, if any?**

Not applicable.

## **10. Aesthetics**

- a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

The tallest proposed structures are three distillation columns that will be approximately 190 feet tall. This equipment will be installed within the refinery where similar equipment is already in use.

No new buildings will be constructed as part of this project. The principal exterior building materials for the industrial facilities will be steel and concrete.

- b. **What views in the immediate vicinity would be altered or obstructed?**

Views from West March Point Road looking east towards the proposed CPU Project area include the existing refinery operations. The proposed CPU Project components would be consistent with the existing structures in the surrounding area.

- c. **Proposed measures to reduce or control aesthetic impacts, if any.**

Tesoro is exploring options for incorporating context sensitive design elements and applying green paint to the new tanks, similar to what is currently used in the refinery. Tesoro would also comply with any landscaping requirements identified in any of the required permits and the Skagit County Code.

## **11. Light and glare**

- a. **What type of light or glare will the proposal produce? What time of day would it mainly occur?**

Continuous general site lighting and area flood lights for safety and security will be provided. There will be no perceivable light or glare changes to the existing refinery setting.

- b. **Could light or glare from the finished project be a safety hazard or interfere with views?**

No. There is already lighting from the existing refinery and traffic. New efficient lighting technologies and directional lighting techniques will be used.

**c. What existing off-site sources of light or glare may affect your proposal?**

None.

**d. Proposed measures to reduce or control light and glare impacts, if any:**

Directional lighting techniques will be used to minimize light overcasting onto neighboring areas. Shrouds will be used, where needed, to avoid glare impacts.

**12. Recreation**

**a. What designated and informal recreational opportunities are in the immediate vicinity?**

Fidalgo Bay lies immediately west and Padilla Bay lies to the north of the project site. Both are used for recreational purposes. The Tommy Thompson Trail is located west of the project area and crosses Fidalgo Bay via an old railway trestle. Bicyclist, runners and walkers utilize the trail and March Point Road for recreational activity. A segment of the Pacific Northwest Trail travels around March Point and is located west of the proposed CPU Project area.

**b. Would the proposed project displace any existing recreational uses? If so, describe.**

No.

**c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:**

None are proposed. There would be temporary construction traffic which could vary depending on the need to import fill material from offsite or export soils offsite. Any importing of fill would temporarily increase truck traffic along West March Point Road.

**13. Historic and cultural preservation**

**a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.**

Background research was conducted of the National Historic Landmarks, List of Sites website as part of past projects on Tesoro property. The research showed no places or objects, listed or proposed, within the proposed CPU Project area. A search of the Washington State Department of Archaeology and Historic Preservation (DAHP) website showed no places or objects as listed or proposed within the project area. However, the background research did identify locations in close proximity of the project area.

**b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

A homestead site, the Munk's Homestead, is located about 1,200 feet southwest of the nearest project component (ARU). The homestead site is not listed on the National Register of Historic Places for Skagit County and is not impacted by this project.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

Cultural and historic resource assessments were conducted through a search of the National Historic Landmarks, List of Sites website as part of past projects on Tesoro property. The Washington State Department of Archaeology and Historic Preservation (DAHP) website was also searched.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

The proposed CPU Project does not disturb historic and cultural resources.

#### **14. Transportation**

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The project site can be accessed via State Route 20 to the south and is located on West March Point Road at North Texas Road (Figure 1).

- b. Is site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

Tesoro is not served by public transit. The March Point Park & Ride lot is located off State Route 20, approximately 3 miles south of the project site.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?**

No parking spaces will be added or eliminated by the proposed CPU Project.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

To provide access to the new facilities, private existing gravel access roads will be improved on Tesoro property within and adjacent to the proposed CPU Project. A new perimeter road will be added around the New Tanks Area and maintenance access ways will be included in the new ARU area and for the MVEC System.



- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

The proposed CPU Project will increase vessel traffic in Fidalgo Bay by up to five (5) marine vessels per month for transportation of feedstock and finished products to and from the existing Tesoro Wharf. The overall vessel traffic will continue to be within the historical annual average and does not constitute a significant change. No additional rail or air transportation will occur as a result of the proposed CPU Project.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

There would be an increase in vehicular trips generated by new employees to the proposed facility. The increase in vehicle trips would occur during normal shift change hours. Up to 20 new vehicle trips would be added per workday and all the trips would not occur in the same timeframe, but would be broken up depending on the different employee shifts at the proposed CPU Project.

If fill material needs to be imported from offsite there would be a temporary increase in truck trips along SR 20 and West March Point Road. Both roadways are identified as truck routes by the City of Anacortes. The temporary increase in vehicular traffic would not result in changes to the existing traffic patterns that would require mitigation measures.

Once the CPU Project is in operation, additional truck traffic will be associated with delivery of commodity chemicals and other supplies to the refinery. Based on expected usage rates and typical truck capacity, the project would generate approximately 40 vehicle trips per year.

- g. Will the proposal interfere with, affect or be affected by the movement of agriculture and forest products on roads or streets in the area? If so, generally describe.**

Does not apply.

- h. Proposed measures to reduce or control transportation impacts, if any.**

During operation, no measures are proposed to reduce or control the amount of vehicular traffic going into and out of the facility.

## **15. Public services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

No. There are existing fire and emergency medical services provided by Tesoro at the refinery that would not require any increase in services. Existing community services including police protection, community health care, and schools, are adequate.

**b. Proposed measures to reduce or control direct impacts on public services, if any.**

None are proposed. Tesoro would continue to conduct emergency response training and the increase in shipping traffic would have no direct impact on public services.

**16. Utilities**

a. Circle utilities currently available at the site:  ELECTRICITY,  NATURAL GAS,  WATER,  REFUSE SERVICE,  TELEPHONE,  SANITARY SEWER, septic system, other(describe).

b. Describe the utilities which are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

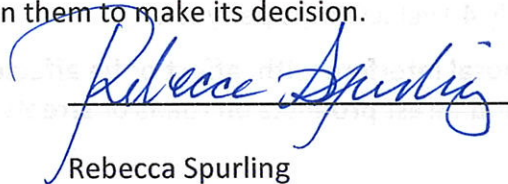
Electrical power is required for the process equipment, pumping facilities, lighting and heating. Electrical service is already located at the facility and provided by Puget Sound Energy.

Natural gas is required to operate new process equipment associated with the CPU Project. Natural gas service is already located at the facility and provided by Cascade Natural Gas (CNG). As part of the overall construction of the project, natural-gas operated equipment will be connected to the refinery's existing natural gas pipeline. Construction activities adjacent to the refinery may be needed to accommodate requirements by CNG to reliably supply natural gas at the required rate and pressure for customers.

**C. SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:



Name of signee:

Rebecca Spurling

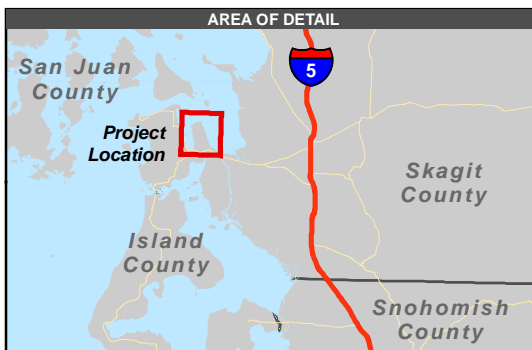
Position and Agency/Organization:

Lead Environmental Engineer  
Tesoro Refinery & Marketing Company LLC

Date Submitted:

June 22, 2015





- - - New 3" Natural Gas Line
- Project Areas
- East March Point Wetland Mitigation Site

Source: NAIP Imagery (10/2013)

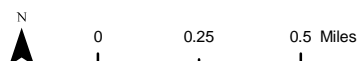


Figure 1  
**Vicinity Map**  
 Clean Products Upgrade Project

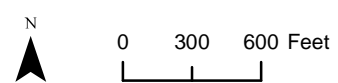




Source: NAIP Imagery (10/2013)

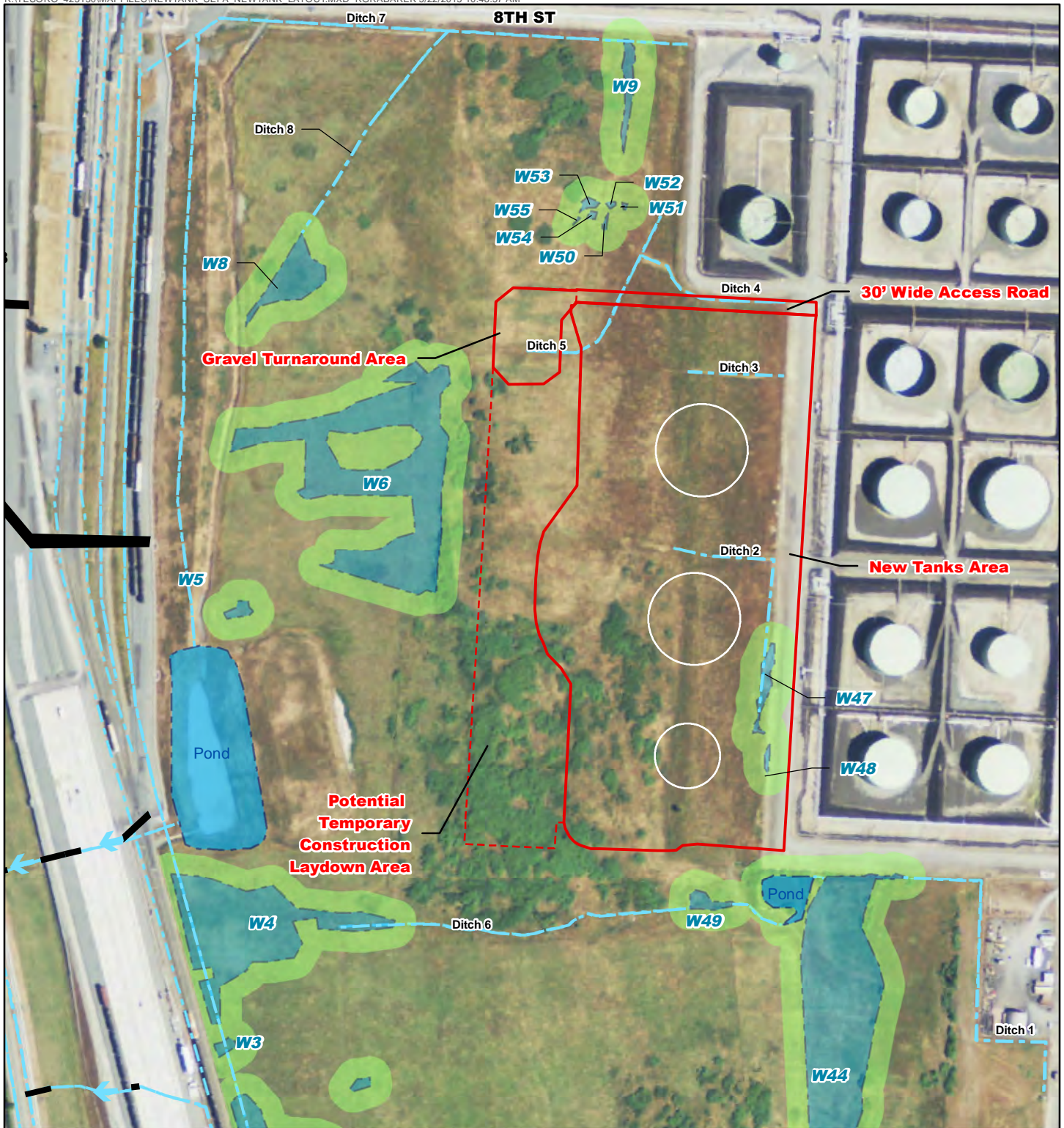
- ◆ Eagle Nest Site
- Point Wetland
- Drainage Ditch
- Culvert
- - - New 3" Natural Gas Line
- ▭ Project Areas
- - - 200-Foot Shoreline Buffer
- Delineated and Approximate Wetlands
- - - East March Point Wetland (Estimated)
- - - Estimated Wetland Boundary
- Approximate Wetland Boundary - NWI
- Wetland Buffer (50ft, Category IV)
- Wetland Buffer (150ft, Category III)
- East March Point Wetland Mitigation Site

Notes:  
 1. Contours shown are at 5' intervals  
 2. The proposed improvements will add approximately 18 acres of impervious surface. Impervious surface added at New Tanks Area and VCU (MVEC System) only.



**Figure 2**  
**Project Overview and Topographic Map**  
 Clean Products Upgrade Project





Source: NAIP Imagery (10/2013)



- Drainage Ditch
- Culvert
- Delineated and Approximate Wetlands
- Wetland Buffer (50ft, Category IV)
- Project Area

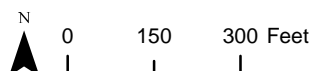


Figure 3  
**New Tanks Area Layout**  
*Clean Products Upgrade Project*

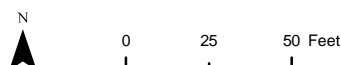




--- 3-inch Natural Gas Line

Project Area

Note: Dock Safety Unit (DSU) is part of the Marine Vapor Emission Control (MVEC) System



Source: Google (2015).

Figure 4  
**Dock Safety Unit (DSU)**  
*Clean Products Upgrade Project*



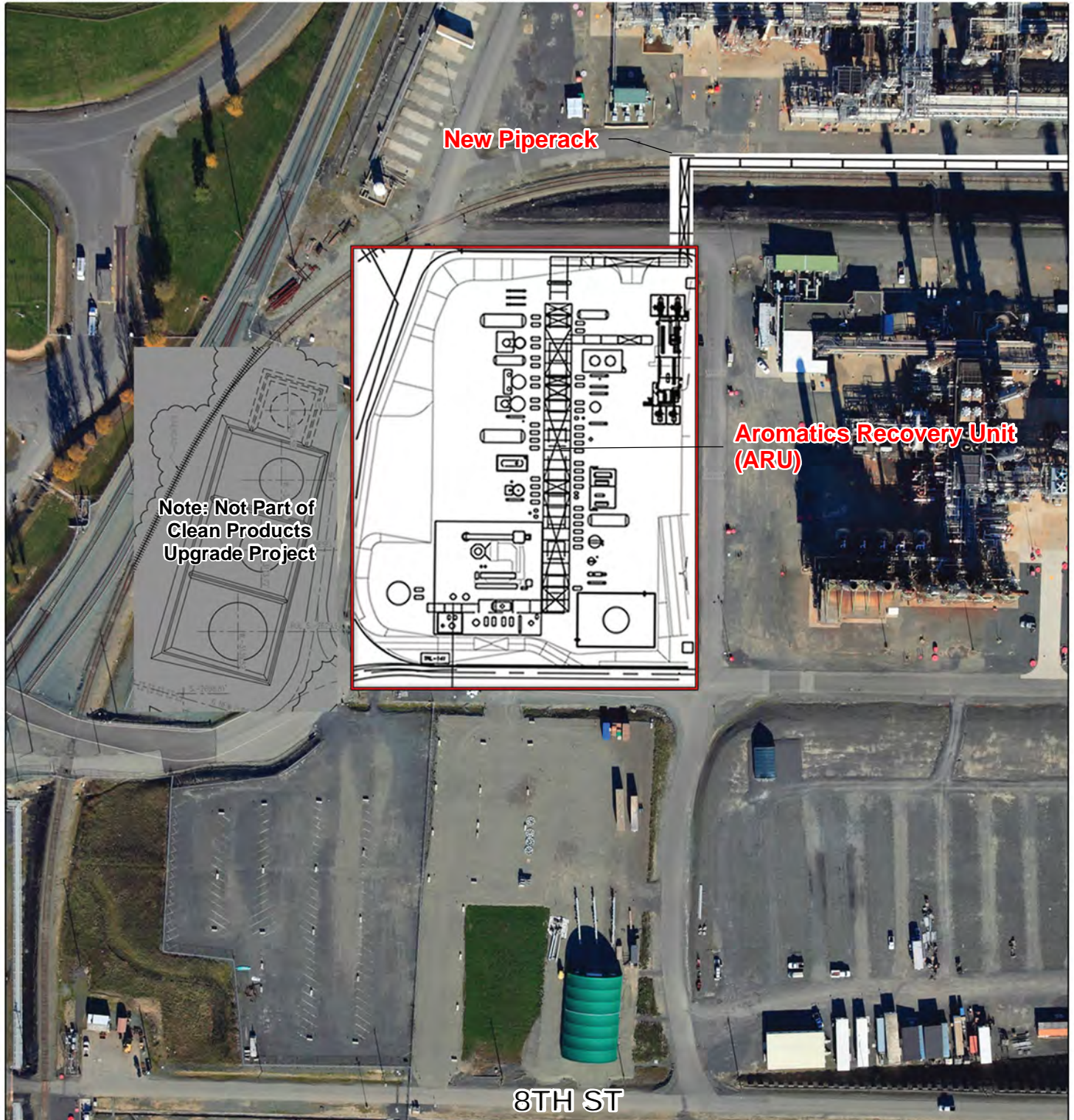


 Project Area



Figure 5  
Isomerization (Isom) Unit and  
Naphtha Hydrotreater (NHT) Expansion  
Clean Products Upgrade Project



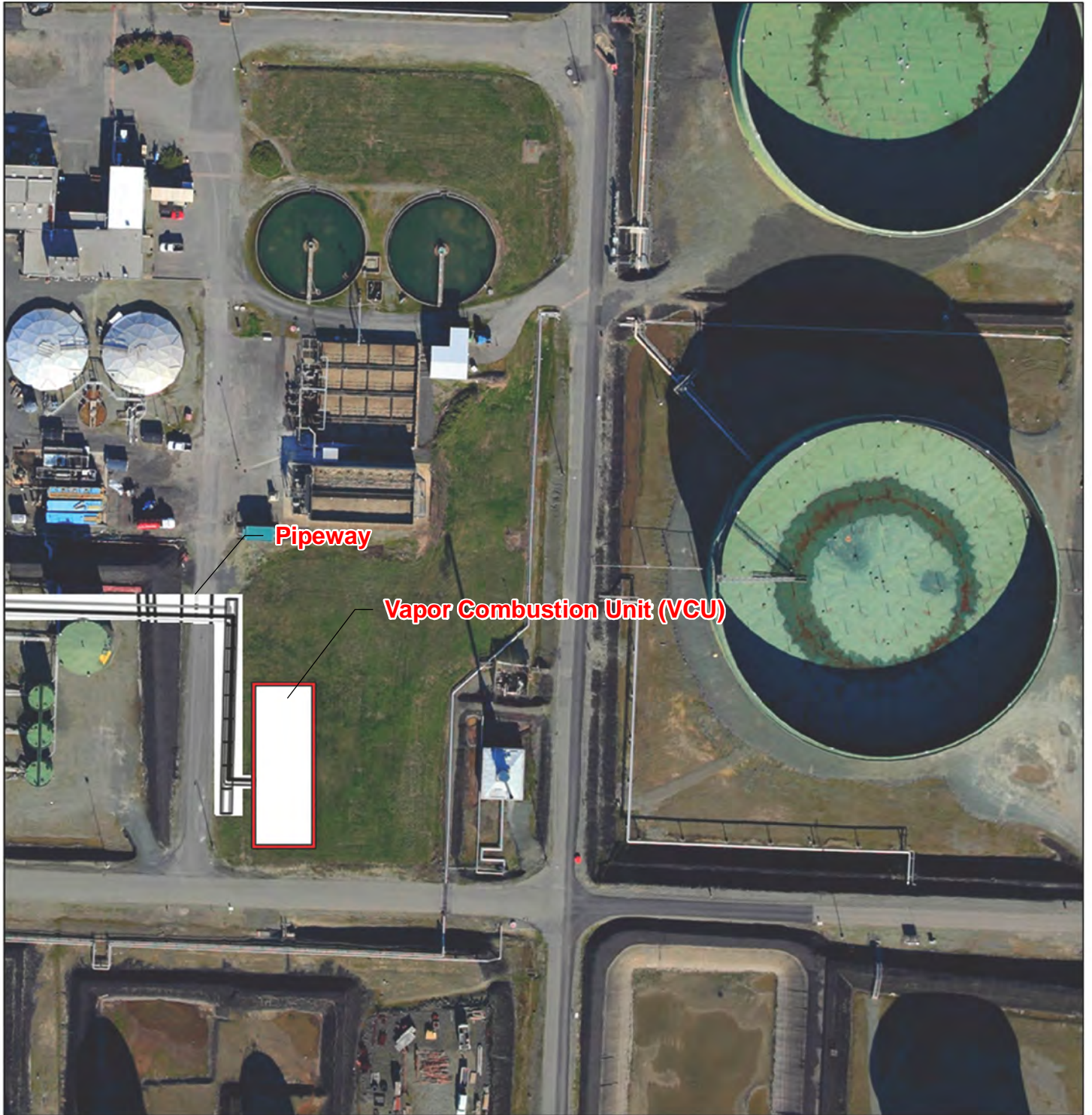


Project Area



Figure 6  
**Aromatics Recovery Unit (ARU)**  
*Clean Products Upgrade Project*





 Project Area

Note: Vapor Combustion Unit (VCU) is part of the Marine Vapor Emission Control (MVEC) System



Figure 7  
**Vapor Combustion Unit (VCU)**  
*Clean Products Upgrade Project*

**Attachment A**

**USACE Jurisdictional Determination of Wetland and Ditches, June 2015**



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
SEATTLE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 3755  
SEATTLE, WASHINGTON 98124-3755

**JUN - 1 2015**

Regulatory Branch

Ms. Rebecca Spurling  
Tesoro Refining and Marketing Co., LLC  
P.O. Box 700  
Anacortes, Washington 98221

Reference: NWS-2015-167  
Tesoro Refining  
and Marketing

Dear Ms. Spurling:

On April 17, 2015, we inspected the property at 10200 West March Point Road, near Anacortes, Skagit County, Washington in response to your request for verification of the boundaries of the wetlands and ditches in the review area. The U.S. Army Corps of Engineers has determined that Wetlands 47 and 48 and Ditches 2, 3, 4, and 5, as shown on the enclosed drawing dated May 19, 2015, are not waters of the United States. As such, work that would occur within these areas does not require Department of the Army authorization under Section 404 of the Clean Water Act. Please note that other waters and wetlands that may occur on this property outside the review area are not the subject of this determination. If you propose to do any work in the areas identified to be waters of the U.S., you should contact our office prior to commencing work to determine permit requirements.


Other state and local regulations may still apply to these wetlands. For example, the Washington State Department of Ecology (Ecology) may regulate these wetlands. The enclosed Ecology *Focus* sheet explains how Ecology regulates this type of wetlands. You should contact Ecology's Federal Permit Coordinator at (360) 407-6068 or [ecyrefedpermits@ecy.wa.gov](mailto:ecyrefedpermits@ecy.wa.gov) for more information on how to obtain State approval for your project. We are sending a copy of this letter to Ecology and to the Environmental Protection Agency's Aquatic Resources Unit.

This approved jurisdictional determination is valid for a period of five years from the date of this letter unless new information warrants revisions of the determination. A copy of this jurisdictional determination, dated May 19, 2015 can be found on our website at [www.nws.usace.army.mil](http://www.nws.usace.army.mil) select "Regulatory Branch, Permit Information" and then "Jurisdictional Determinations". If you object to this determination, you may request an administrative appeal under our regulations (33 Code of Federal Regulations, Part 331) as

described in the enclosed *Appeal Process Fact Sheet* and the *Notification of Administrative Appeal Options and Process and Request for Appeal* form.

A copy of this letter with drawings will be furnished to Mr. Hans Ehlert of CH2M Hill at 1100 112<sup>th</sup> Avenue Northeast, Suite 500, Bellevue, Washington 98004. If you have any questions, please contact Mr. Randel Perry at [randel.j.perry@usace.army.mil](mailto:randel.j.perry@usace.army.mil) or by phone at (360) 734-3156.

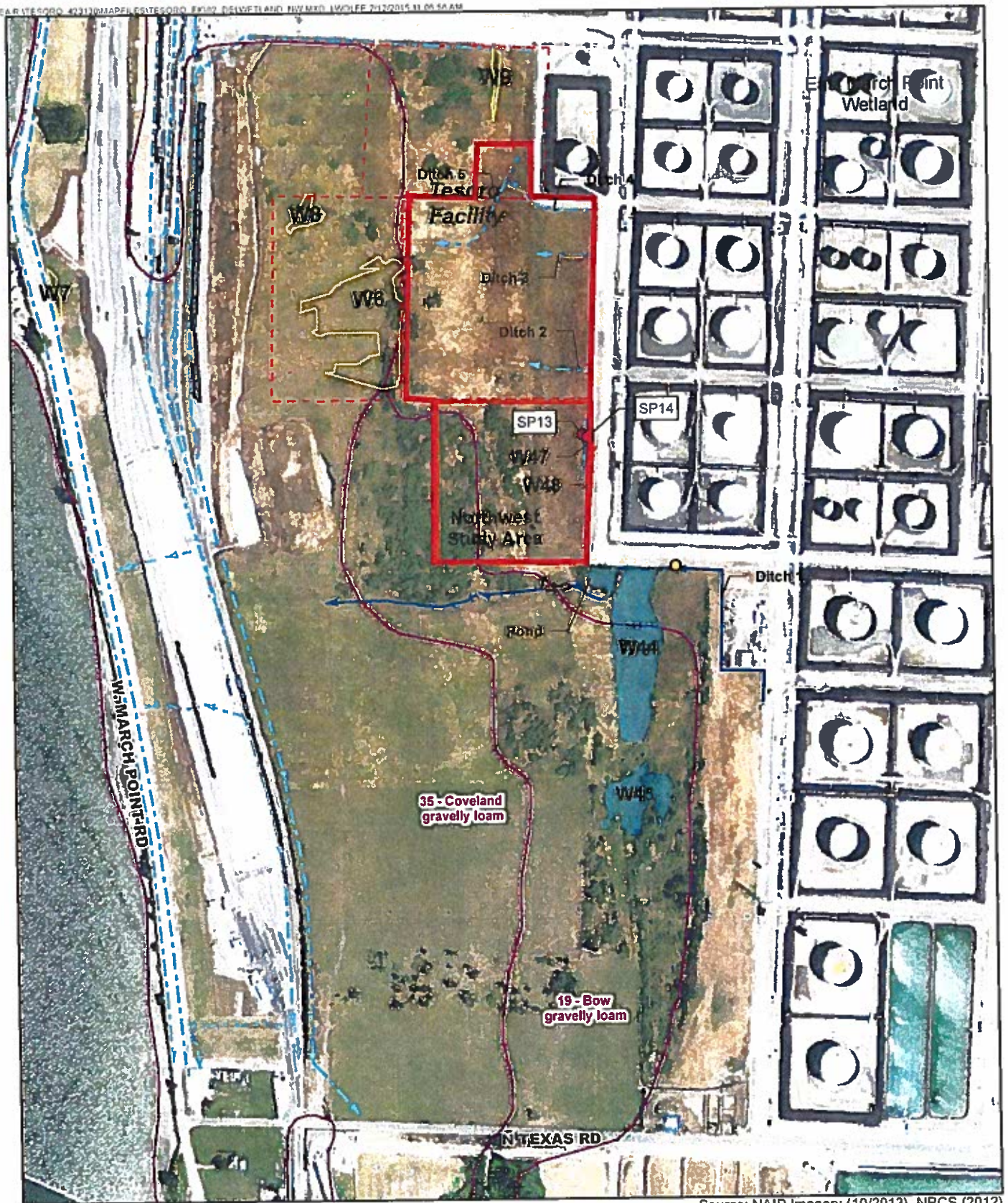
Sincerely,

A handwritten signature in cursive script that reads "Kristina G. Tong".

Kristina G. Tong, Acting Chief  
Special Programs Section  
Regulatory Branch

Enclosures





Source: NAIP Imagery (10/2013), NRCS (2012)

Corps Ref# NWS-2015-167

19 May 2015

Delineated Wetlands and Ditches within Northwest Study Area

- Culvert
  - Sample Point
  - Drainage
  - Potential USACE Jurisdictional Ditch
  - Wetland (CH2M HILL, 2014)
  - Approximate Wetlands (URS, 2006)
  - East March Point Wetland (Estimated)
  - Estimated Wetland Boundary
  - Approximate Wetland Boundary (NW1)
  - Study Area
  - Other Study Areas
- N  
1 inch = 500 feet

