



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182  
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**SUBJECT: NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL  
IMPACT REPORT**

**PROJECT TITLE: TESORO REFINING & MARKETING COMPANY, LLC  
LOS ANGELES REFINERY INTEGRATION AND COMPLIANCE  
PROJECT**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and will prepare a Draft Environmental Impact Report (EIR) for the project identified above. The Notice of Preparation (NOP) serves two purposes: to solicit information on the scope of the environmental analysis for the proposed project and notify the public that the SCAQMD will prepare a Draft EIR to further assess potential adverse environmental impacts that may result from implementing the proposed project.

This letter, the attached NOP, and the attached Initial Study are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary. The project's description, location, and potential environmental impacts are described in the NOP and the attached Initial Study.

Copies of the NOP and Initial Study (NOP/IS), references, and other supporting material can be obtained at the SCAQMD's Public Information Center located at SCAQMD Headquarters: 21865 Copley Drive, Diamond Bar, CA 91765. Copies of these documents can also be obtained by calling (909) 396-2039. The NOP/IS is available by accessing the SCAQMD's CEQA website at <http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2014>. Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Mike Krause at the address shown above, or sent by FAX to (909) 396-3324 or by email to [mkrause@aqmd.gov](mailto:mkrause@aqmd.gov). Comments must be received no later than 5:00 p.m. on October 10, 2014. In any written correspondence, please include the name, email address, and phone number of the contact person for your organization.

**Project Applicant:** Tesoro Refining & Marketing Company, LLC

**Date:** September 9, 2014

**Signature:**

A handwritten signature in blue ink that reads "Michael Krause". The signature is written over a horizontal line.

Michael Krause  
Program Supervisor  
Planning, Rules, and Area Sources

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**21865 Copley Drive, Diamond Bar, California 91765-4182**  
**NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT**

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**Project Title:**

Tesoro Los Angeles Refinery Integration and Compliance Project

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**Project Location:**

Wilmington Operations - 2101 East Pacific Coast Highway, Wilmington, Los Angeles County, California, 90744.  
Carson Operations – 2350 East 223rd Street, Carson, California, 90749

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**Description of Nature, Purpose, and Beneficiaries of Project:**

Tesoro proposes to integrate the Tesoro Wilmington Operations with the Tesoro Carson Operations (former BP Refinery). The proposed project includes the following modifications to the Wilmington Operations: (1) modifications to the existing Hydrocracker Unit; (2) a new Propane Sales Treating Unit; (3) modifications to the existing Catalytic Reformer Unit 3; (4) modifications to the existing Hydrotreater Units 1, 2, and 4; (5) a new Ammonium Thiosulfate Plant; (6) a new Sulfuric Acid Regeneration Plant; (7) replacement of two existing 80,000 barrel crude tanks with two new 300,000 barrel crude storage tanks; (8) connecting an existing tank to the vapor recovery system; and (9) increasing the throughput of two existing tanks. The proposed project includes the following modifications to the Carson Operations: (1) modifications to the existing Coker Unit to comply with SCAQMD Rule 1114 – Coker Venting; (2) modifications to the existing No. 2 Coker; (3) modifications to the existing Vacuum Units Nos. 51 and 52; (4) modifications to the existing Fluid Catalytic Cracking Unit; (5) new Wet Jet Treater; (6) modifications to the existing Hydrocracker Unit; (7) modifications to the existing Light Hydrotreating Unit; (8) modifications to the existing Naphtha Hydrodesulfurization Unit; (9) modifications to the Naphtha Isomerization Unit; (10) modifications to the existing Alkylation Unit; (11) modifications to the Mid Barrel Distillate Treater; (12) modifications to the existing steam system; and (13) six new 500,000 barrel crude storage tanks. The proposed project also includes the following modifications to equipment that supports operations at both locations: (1) modifications to existing storage tanks at both locations; (2) new interconnecting pipelines between the Wilmington and Carson Operations; and (3) new electrical connections from the Watson Cogen facility located at the Carson Operations to the Wilmington Operations. In addition, modifications to existing Liquid Petroleum Gas Rail Unloading facilities at the Carson Operations are also proposed. The proposed project will be designed to comply with the federally mandated Tier 3 gasoline specifications and with State and local regulations mandating emission reductions. The proposed project is expected to substantially reduce emissions of greenhouse gases, sulfur oxide, nitrogen oxide, carbon monoxide, and particulate matter emissions by shutting down the Fluid Catalytic Cracking Unit (FCCU) at the Wilmington Operations and relinquishing all relevant air quality permits for this equipment to the South Coast Air Quality Management District (SCAQMD). All new and modified sources will be required to comply with Best Available Control Technology (BACT) requirements in SCAQMD Rule 1303 – Requirements.

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**Lead Agency:**

South Coast Air Quality Management District

**Division:**

Planning, Rule Development and Area Sources

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**Notice of Preparation and Initial Study, References, and all Supporting Documentation are Available at:**

SCAQMD Headquarters  
21865 Copley Drive  
Diamond Bar, CA 91765

Or by Calling:  
(909) 396-2039

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**Notice of Preparation and Initial Study are also available by accessing:**

<http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2014>

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**Scheduled Scoping Meeting Date:**

A CEQA scoping meeting will be held for the proposed project on September 24, 2014, at the Carson Community Center from 5:30 to 8:30 pm. The Carson Community Center is located at 801 E Carson St, Carson, CA 90745

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**The Notice of Preparation is provided through the following:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Los Angeles Times and Daily Breeze (September 10, 2014) | <input checked="" type="checkbox"/> SCAQMD Website      |
| <input checked="" type="checkbox"/> SCAQMD Public Information Center                        | <input checked="" type="checkbox"/> Interested Parties  |
|   | <input checked="" type="checkbox"/> SCAQMD Mailing List |
- 

**NOP/IS 30-day Public Review Period:** September 10, 2014 through October 10, 2014

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**CEQA Contact Person:**

Michael Krause

**Phone Number:**

(909) 396-2706

**E-Mail Address**

mkrause@aqmd.gov

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**Initial Study for:  
Tesoro Los Angeles Refinery  
Integration and Compliance Project**

**September 2014**

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Submitted to:  
**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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## **CHAPTER 1**

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### **PROJECT DESCRIPTION**

Introduction  
Agency Authority  
Project Location  
Project Description  
Project Construction Schedule

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## 1.0 INTRODUCTION

The Tesoro Refining & Marketing Company LLC (Tesoro) is proposing the Los Angeles Refinery Integration and Compliance Project (proposed project). In June 2013, Tesoro purchased the adjacent BP West Coast Products LLC (BP) Carson Refinery, which, as part of the proposed project will be more fully integrated with the Tesoro Los Angeles Refinery – Wilmington Operations to form the Tesoro Los Angeles Refinery (Refinery). The Refinery includes: (1) the Wilmington Operations located at 2101 East Pacific Coast Highway in the Wilmington District of the City of Los Angeles; and (2) the Carson Operations, which is the former BP Carson Refinery located at 2350 East 223<sup>rd</sup> Street in the City of Carson. The proposed project will be designed to better integrate the Wilmington Operations and Carson Operations. In addition, the proposed project will be designed to comply with the federally mandated Tier 3 gasoline specifications and with State and local regulations mandating emission reductions. The Los Angeles Refinery Integration and Compliance Project is expected to substantially reduce greenhouse gases (GHG), sulfur oxide (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and particulate matter (PM) emissions by shutting down the Fluid Catalytic Cracking Unit (FCCU) at the Wilmington Operations and relinquishing all relevant FCCU permits to the South Coast Air Quality Management District (SCAQMD), and by reconfiguring the combined Refinery complex, which is expected to improve the gasoline to distillate (G/D) production ratio from the integrated Refinery in order to more expeditiously respond and adjust to ongoing changes in market demand for various types of petroleum products. Additionally, heat recovery will be optimized by installing new heat exchangers and modifying specified units to further minimize GHG and other emissions. All new and modified sources will be required to comply with Best Available Control Technology (BACT) requirements in SCAQMD Rule 1303.

The proposed project will not have an impact on crude oil and feedstock throughput and the crude oil and feedstock will not be changed as part of the proposed project. Crude oil and oil feedstocks are obtained from a variety of sources based on factors such as product availability and market conditions. Feedstocks include, but are not limited to, intermediate gas oil, transmix (a mixture of pipeline products; such as gasoline, jet and diesel) and internally recycled oil. Modifications will be made to recover diesel and jet fuel boiling point range material, also known as distillate, from gas oil that is currently fed to the FCCUs at both Wilmington and Carson Operations. In addition, facilities will be added to remove impurities such as sulfur, nitrogen compounds, and organic acids from distillates. The modifications will be designed so that the combined Refinery operates within the existing capacity of the Sulfur Recovery Plants (SRPs). There will be no modifications at any of the marine terminals associated with the Tesoro Los Angeles Refinery.

On April 23, 2014, the SCAQMD release a Notice of intent to adopt a Draft Negative Declaration for the Tesoro Storage Tank Replacement and Modification project. The tank replacement modification project was considered to be a separate project from the Tesoro Refinery Integration and Compliance Project because it could go forward with or without the currently proposed project, that is, neither project relies on the other project

to be implemented. However, because of the timing of construction and implementation of the two projects, it was decided to incorporate the Tesoro Storage Tank Replacement and Modification project into the currently proposed project to provide a cohesive analysis of all environmental impacts from the two projects. As a result, the ND for the Tesoro Storage Tank Replacement and Modification project has been withdrawn and incorporated into the currently proposed project (see project description subsection 1.3.1.9). Therefore, no responses to comments will be provided on the Tesoro Storage Tank Replacement and Modification project.

## **1.1 AGENCY AUTHORITY**

The California Environmental Quality Act (CEQA), Public Resources Code §21000 et seq., requires that the environmental impacts of proposed “projects” be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. The proposed modifications constitute a “project” as defined by CEQA. To fulfill the purpose and intent of CEQA, the SCAQMD is the “lead agency” for this proposed project and has prepared a Notice of Preparation of an Environmental Impact Report (EIR) and Initial Study (NOP/IS) to address the potential environmental impacts associated with the proposed project at the Tesoro Los Angeles Refinery.

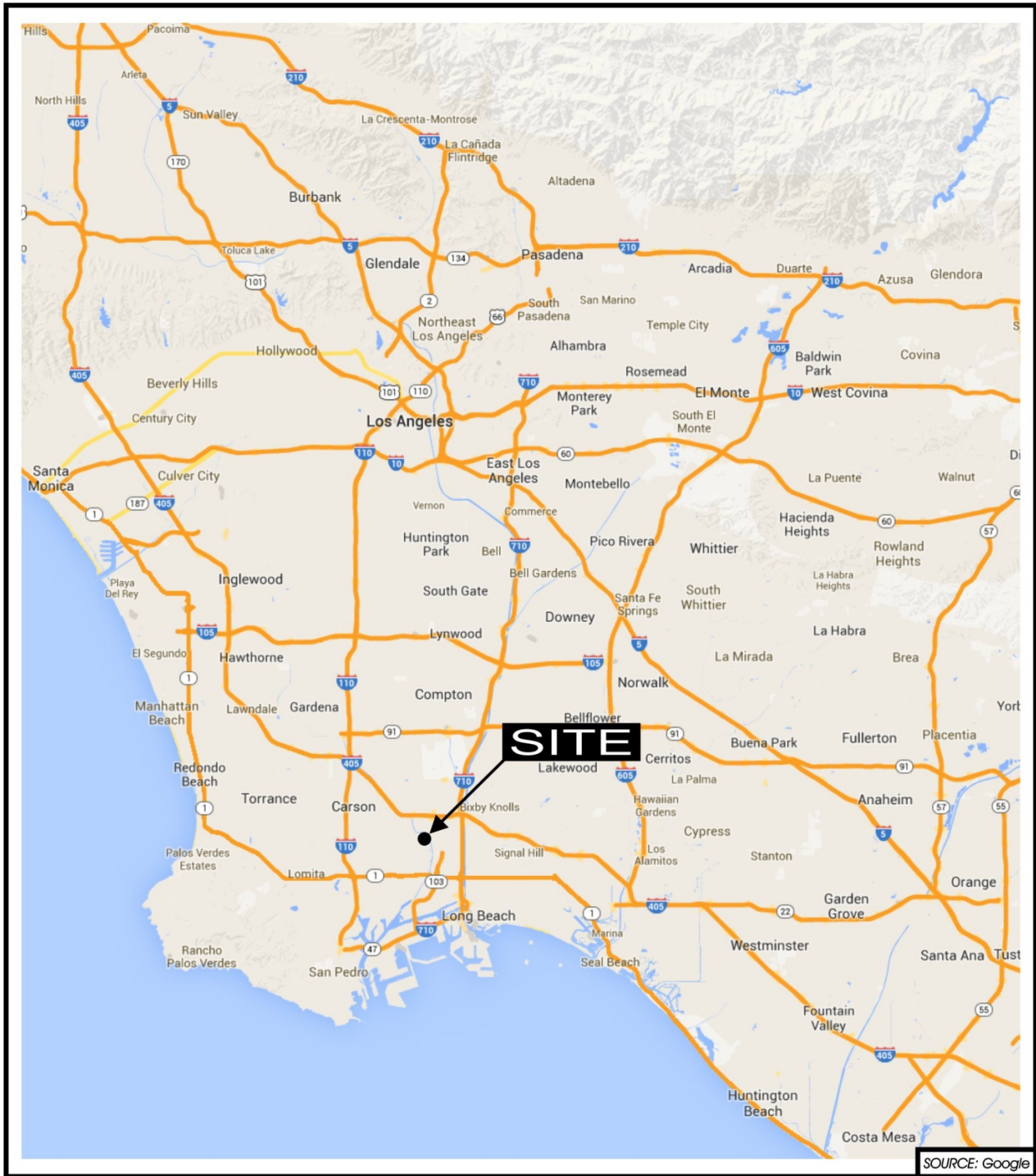
The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant adverse effect upon the environment (Public Resources Code §21067). The SCAQMD has the primary responsibility for supervising or approving the entire project as a whole and is the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)). The proposed project requires discretionary approval from the SCAQMD for modifications to existing stationary source equipment and installation of new stationary source equipment.

## **1.2 PROJECT LOCATION**

The proposed project will occur at both the Wilmington and Carson Operations of the Tesoro Los Angeles Refinery. Tesoro will integrate the recently purchased adjacent BP Carson Refinery (referred to as the Carson Operations) with the existing Wilmington Operations, to become a single entity owned and operated by Tesoro. The Refinery will be comprised of approximately 950 contiguous acres in size and operate within the Cities of Los Angeles (Wilmington District) and Carson.

The Wilmington Operations are located within Wilmington, a community under the jurisdiction of the City of Los Angeles, at 2101 East Pacific Coast Highway, Wilmington, Los Angeles County, California 90744. The Carson Operations are located at 2350 East 223<sup>rd</sup> Street, Carson, California, 90745. Figure 1-1 depicts the regional location of the Refinery and Figure 1-2 provides a detailed Site Location Map. Both new and modified equipment, as well as connecting piping, will be located within portions of the Refinery under both the City of Carson jurisdiction and the City of Los Angeles jurisdiction.

**CHAPTER 1: PROJECT DESCRIPTION**



**Environmental Audit, Inc.**

**FIGURE 1-1  
REGIONAL MAP  
TESORO LOS ANGELES REFINERY**



Project No. 2844  
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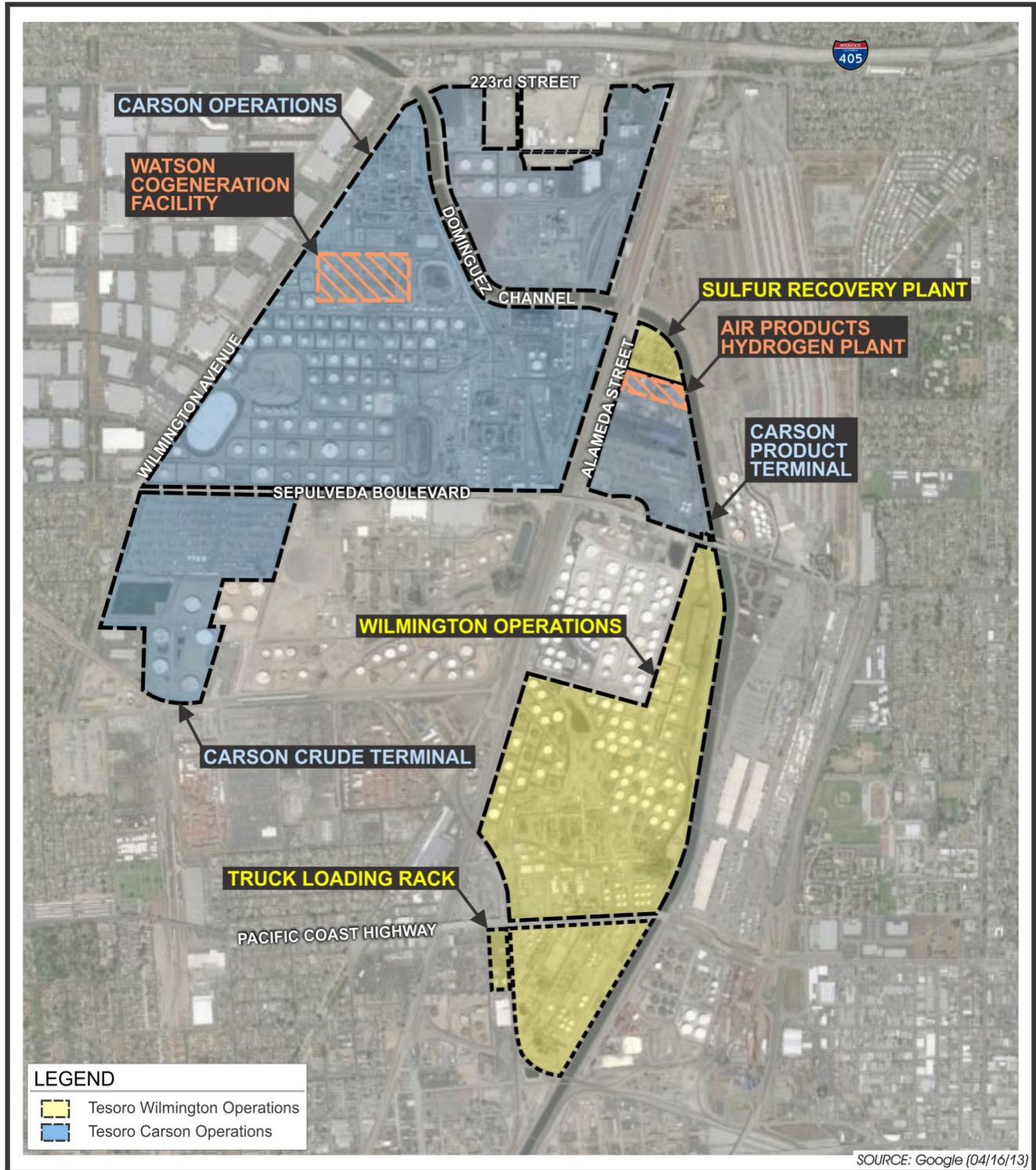


FIGURE 1-2  
SITE LOCATION MAP  
TESORO LOS ANGELES REFINERY

The Wilmington Operations are bounded to the north by Sepulveda Boulevard (as well as other tank farms and refinery activities), to the west by Alameda Street (as well as the Alameda Corridor and other tank farms), to the south by railroad tracks (as well as tank farms and metal recycling/scrap yards), and to the east by the Dominguez Channel (as well as other tank farms and rail yard activities) (see Figure 1-2). The Wilmington Operations are bisected by Pacific Coast Highway, with the larger portion of the Wilmington Operations to the north of Pacific Coast Highway and the smaller portion to the south. The closest residential area to the Wilmington Operations is about 200 feet southwest of the Truck Loading Rack (see Figure 1-2).

The main operating portions of the Wilmington Operations are located within the Wilmington-Harbor City Planning Area (City of Los Angeles), which permits heavy industrial uses including petroleum refining on the Tesoro property (City of Los Angeles, 1999). The Wilmington-Harbor City Plan places no additional restrictions on refineries, and specifically allows for construction without regard to height limitations. The Refinery and all adjacent areas are zoned for heavy industrial use (M3-1).

The Carson Operations are bounded by Wilmington Avenue to the west, 223<sup>rd</sup> Avenue to the north, Alameda Street to the east, and Sepulveda Boulevard to the south. The Dominguez Channel flows through the Carson Operations, dividing the property into two sections: Northeastern and Southern. Several industrial/commercial facilities and the 405 Freeway border the Carson Operations to the north. The Alameda Corridor and other industrial facilities, including the Tesoro Coke Barn, the Air Products Hydrogen Plant, and the Tesoro Sulfur Recovery Plant, are located to the east of the Carson Operations. Commercial and residential areas are located to the west of the Carson Operations. The Phillips 66 Refinery and tank farms occupy the area located to the south of the Carson Operations.

The Carson Operations and all adjacent facilities and properties are zoned manufacturing heavy (MH) according to the City of Carson's Land Use element of its General Plan. The closest residential area to the Carson Operations is approximately 250 feet southwest of the Refinery on the southwest corner of the Sepulveda Boulevard/Wilmington Avenue intersection.

Additionally, the SRP (considered to be a portion of the Wilmington Operations) is located at 23208 South Alameda Street in the City of Carson (see Figure 1-2). The SRP is zoned MH according to the City of Carson's Land Use element of its General Plan. Adjacent land uses to the SRP also are heavy industrial and include other refineries, a hydrogen plant, undeveloped lots, and container storage areas.

### **1.3 OVERVIEW OF CURRENT OPERATIONS**

Currently, the Wilmington and Carson Operations function as two separate and distinct facilities with some limited integration. A block flow diagram of the current operations of the facilities is provided in Figure 1-3.

#### **1.3.1 CARSON OPERATIONS HISTORY AND CRUDE SUPPLY**

Petroleum operations began at the Carson Operations in 1923. Tesoro acquired the Refinery in 2013. Crude oil for Carson Operations is unloaded from tankers at Berth 121 or T-2 Terminals located in the Port of Long Beach and then transferred via pipeline and stored at Port of Long Beach Terminals or the Carson Crude Terminal. No crude oil is transported to the Carson Operations via rail. Crude oil is sent via pipeline from the terminals to Carson Operations for further storage in any of nine Refinery crude storage tanks and then processed in the Crude Units. Crude oil, including California crude oil, can also be delivered via pipeline from other onshore locations. The Carson Operations storage tanks that store crude oil range from 80,000 to 460,000 barrel (bbl) capacity, and the crude oil is transferred from the Carson Operations storage tanks to the Crude Units. Crude oil is processed in Crude Units #1, #2 and #4 where it is heated and distilled into various hydrocarbon components which are further processed in downstream Carson Operations units. The Carson Operations also receive, process, and transport other petroleum products (crude oil not included) to and from the Carson Operations by ship, truck, and railcar. These petroleum products include residuum, gas oil, diesel, gasoline, naphtha, and LPG. Additionally, the Carson Operations has the Watson Cogeneration Plant that currently produces excess power, beyond the Carson Operations needs, and sells the excess power to Southern California Edison.

#### **1.3.2 WILMINGTON OPERATIONS HISTORY AND CRUDE SUPPLY**

Petroleum operations began at the Wilmington Operations in 1923. Tesoro acquired the Wilmington Operations in 2007. Crude oil for the Wilmington Operations is delivered via ship using the pipeline from the Tesoro Marine Terminal at the Port of Long Beach Berths 84A and 86. Crude oil, including California crude oils, can also be delivered via pipeline from other onshore locations. No crude oil is transported to the Wilmington Operations via rail. The Wilmington Operations currently utilize 20 storage tanks to store crude oil and other heavy petroleum liquids (18 have a capacity of 80,000 barrel (bbl) and two have a capacity of 125,000 bbl). Crude oil is processed in the Crude Unit where it is heated and distilled into various hydrocarbon components, which are further processed in downstream Wilmington Operations units. The Wilmington Operations also receive, process, and transport other petroleum products (crude oil not included) to and from the Wilmington Operations by ship, truck, and railcar. These petroleum products include residuum, gas oil, diesel, gasoline, naphtha, and LPG.



CHAPTER 1: PROJECT DESCRIPTION

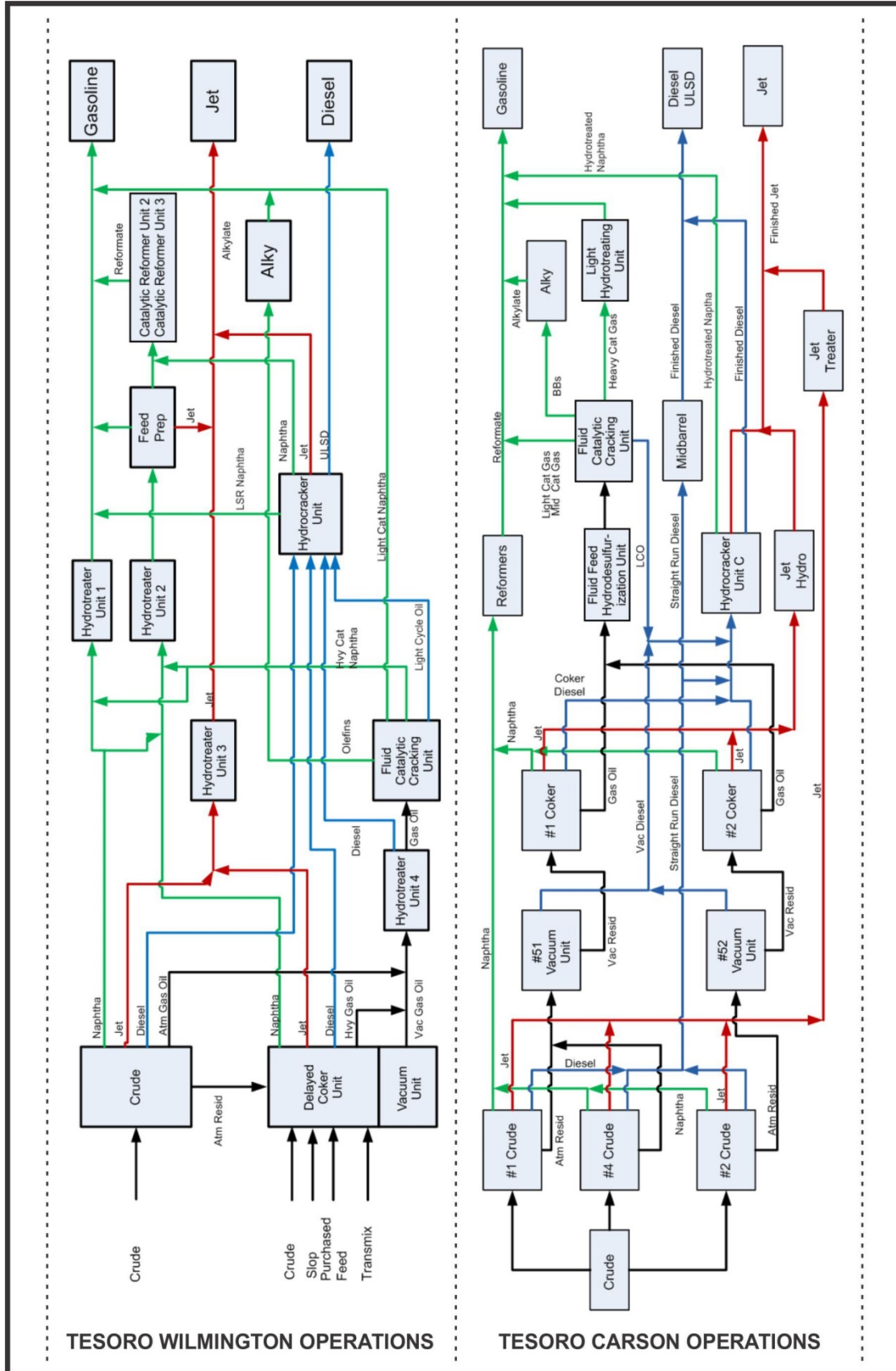


FIGURE 1-3  
EXISTING BLOCK FLOW DIAGRAM

Environmental Audit, Inc.  
EA

Project No. 2844  
N:\2844\Block Flow Diagrams\Existing Block Flow (rev.3).cdr

### **1.3.3 TESORO LOS ANGELES REFINERY**

The Tesoro Los Angeles Refinery consists of two adjacent facilities, Carson Operations and Wilmington Operations, that operate as one refinery. The Carson and Wilmington Operations have in the past and continue to produce a variety of products including unleaded gasoline, jet fuel, diesel fuel, fuel oil, petroleum gases, petroleum coke and sulfur. The Carson Operations also produces polypropylene and calcined coke. Elemental sulfur and petroleum coke are produced as by-products of the refining process. Major processing units at both the Carson and Wilmington Operations include the Crude Units, the Vacuum Units, the Delayed Coking Units, hydrotreating units, reforming units, the FCC Units, the Alkylation Unit, hydrogen plants, the Sulfur Recovery Plants, and the Cogeneration Plants. The major differences between the Carson and Wilmington Operations is that the Carson Operations is a larger operation with three crude, two vacuum and two coker units whereas the Wilmington Operations only has one crude, one vacuum, and one coker unit.

### **1.3.4 CURRENT LOS ANGELES REFINERY INTEGRATION**

Currently Carson and Wilmington Operations are connected via Tesoro and third party pipelines that enable the transfer of intermediate and finished products between the two facilities. The Refinery optimizes crude oil and other refinery feedstock processing to produce the mixture of refined products that are marketed from the Los Angeles Refinery. Unit turnarounds are aligned between the Carson and Wilmington Operations to minimize economic and local area impacts from shutdowns. Hydrogen use is balanced and managed across the Los Angeles Refinery for hydrotreating purposes and output of clean fuel products. Crude oil, intermediate feedstocks and products are transferred between Carson and Wilmington Operations via pipeline, as required, to optimize Refinery production to meet market demand. The staffs of the Carson and Wilmington Operations have been merged and contractors staff have been integrated to serve the combined operations.

## **1.4 PROJECT DESCRIPTION**

The crude oil and feedstock processing capability at the integrated Refinery will not change as a result of the proposed project. In order to increase the crude throughput of the Refinery, there would need to be debottlenecking modifications to the units that initially process the crude, such as the Crude Units or the Delayed Coking Unit and no such modifications are included as part of the proposed project. The Carson and Wilmington Operations currently obtain crude oil and feedstock from a variety of world-wide sources; in general, these sources are not expected to change as a result of the proposed project. Feedstocks include, but are not limited to, intermediate gas oil, transmix (a mixture of pipeline products; such as gasoline, jet, and diesel) and internally recycled oil. Modifications will be made to recover diesel and jet fuel boiling point range material, also known as distillate, from gas oil that is currently fed to the FCCUs at both Wilmington and Carson Operations. In addition, facilities will be added to remove impurities such as sulfur, nitrogen compounds, and organic acids from distillates in order

to make on-specification products. The modifications will be designed so that the combined Refinery operates within the existing capacity of the SRPs. Following project completion, the FCCU at the Wilmington Refinery will be shut down and the Refinery will be integrated as one operating Refinery. Figure 1-4 shows a block flow diagram of the integrated Refinery operations following the proposed project. The following subsections describe in more detail proposed project modifications and new equipment at both the Wilmington and Carson Operations. It is possible that some minor engineering design changes to the proposed project may occur between the circulation of the NOP/IS and circulation of the Draft Environmental Impact report. Any changes are expected to reduce the scope of the project and, therefore, would continue to be within the scope of the preliminary environmental analysis in Chapter 2 of this NOP/IS and will be fully analyzed in the Draft EIR.

### **1.4.1 WILMINGTON OPERATIONS**

The Tesoro Los Angeles Refinery Integration and Compliance Project is expected to substantially reduce emissions at the integrated Refinery by shutting down the FCCU at the Wilmington Operations. Reconfiguring the combined Refinery complex is expected to improve the Gasoline to Distillate (G/D) production ratio and is anticipated to result in minor increases in air pollutant emissions. However, the net effect on overall emissions from the proposed project is expected to be emissions reductions, primarily associated with the shutdown of the FCCU, as well as shutdown of other equipment at the Refinery. Additionally, equipment production efficiency and heat recovery will be optimized for new and modified units, as specified in the following discussions, to further reduce overall emissions and optimize energy utilization. Proposed new equipment and modifications to existing equipment for the Wilmington Operations are shown in Figure 1-5 and are described further in the following subsections.

#### **1.4.1.1 FCCU Shutdown**

An FCCU cracks or converts heavy hydrocarbons into lighter, gasoline range hydrocarbons in the presence of fine particles of catalyst that are circulated throughout the process. Following project completion, the Wilmington FCCU will be shut down, the equipment will be permanently removed from service, and Tesoro will relinquish all relevant FCCU permits to the SCAQMD. Substantial emissions reductions will be realized from shutting down the following emissions sources that constitute the entire FCCU totaling 559.3 million British Thermal Units per hour (MMBtu/Hr):

- FCCU regenerator (FCCU coke burn)
- CO Boiler (300 MMBtu/Hr)
- H-2 Steam Superheater (37.4 MMBtu/Hr)
- H-3 Fresh Feed Heater (94.7 MMBtu/Hr)

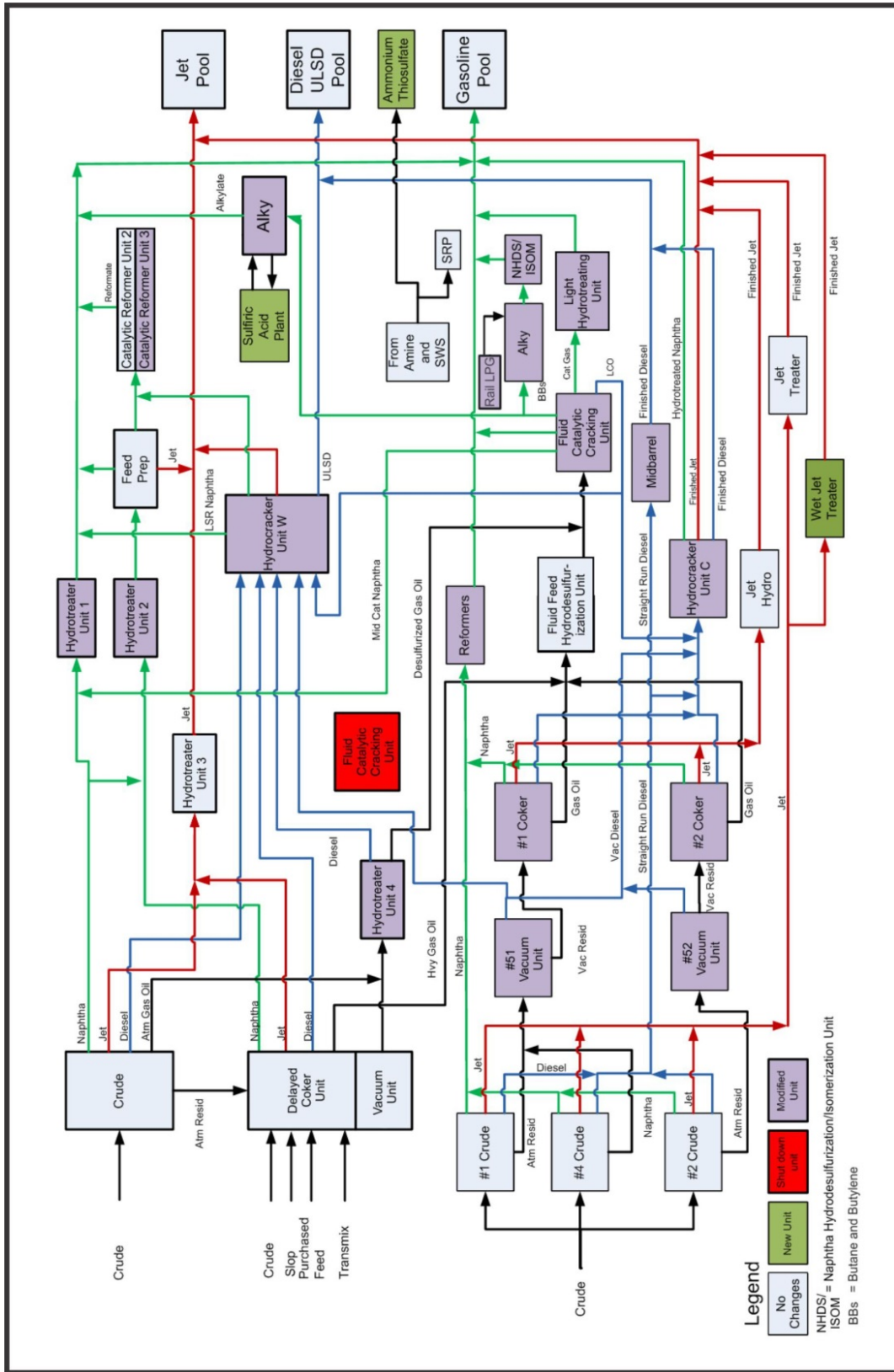


FIGURE 1-4  
 POST-PROJECT BLOCK FLOW DIAGRAM  
 TESORO LOS ANGELES REFINERY

Environmental Audit, Inc.

Project No. 2844  
 N:\2844\Block Flow Diagrams\Proposed Block Flow (rev.5).cdr

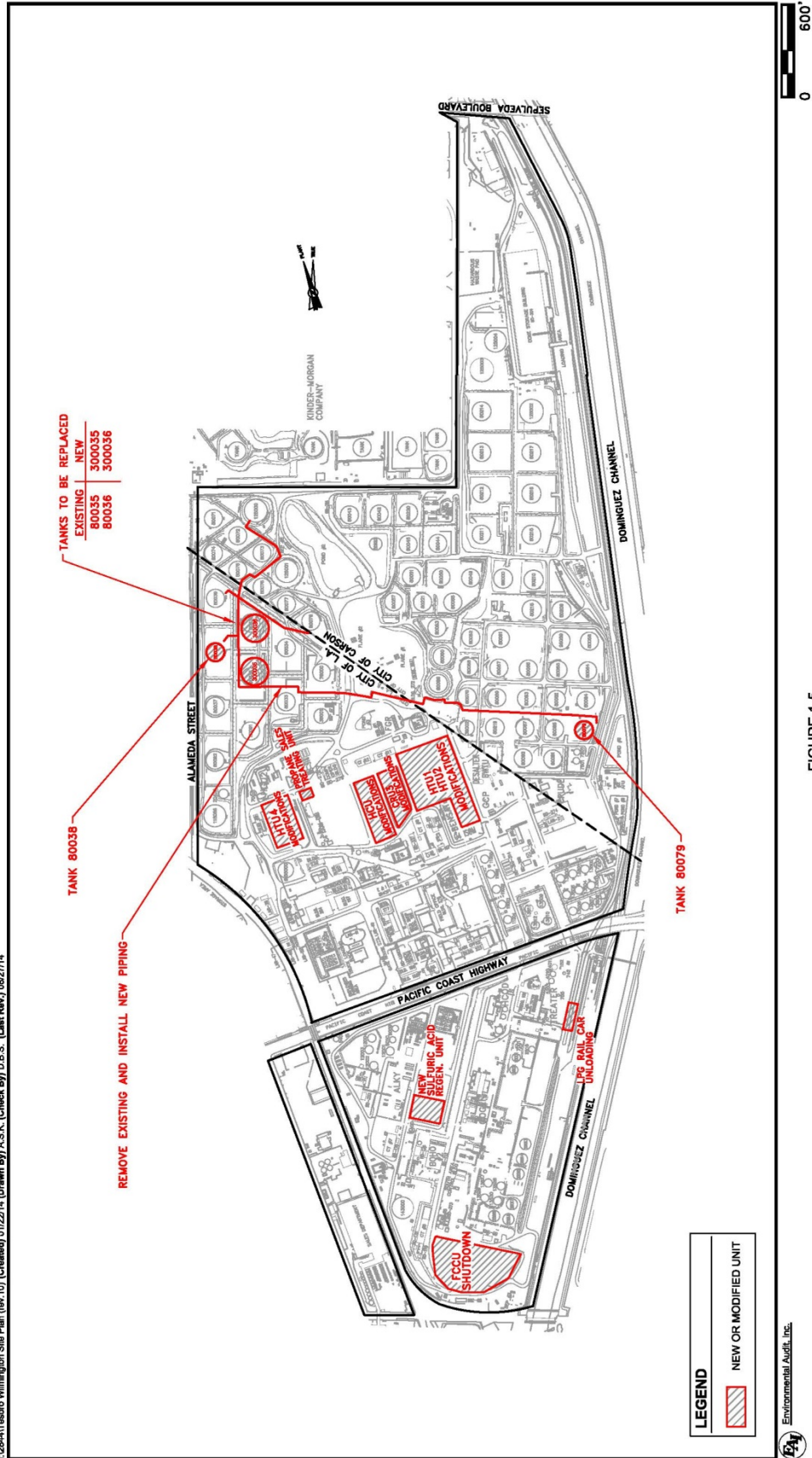


FIGURE 1-5  
 TESORO LOS ANGELES REFINERY  
 WILMINGTON OPERATIONS MODIFICATIONS

I:\28441\Tesoro Wilmington Site Plan (rev.10) [Created] 01/22/14 (Drawn By) A.S.K. (Check By) D.B.S. (Last Rev.) 08/27/14

Project No. 2844

- H-4 Hot Oil Loop Reboiler (127.2 MMBtu/Hr)
- H-5 Fresh Feed Heater (44 MMBtu/Hr)
- B-1 Startup Heater (84 MMBtu/Hr)
- All FCCU fugitive emission components

#### **1.4.1.2 HCU Modification**

The Wilmington Hydrocracker Unit (HCU (W)) cracks or converts mid-distillate and heavy hydrocarbons to lighter gasoline, jet, and diesel range material in the presence of catalyst, heat, and hydrogen. The process incorporates a hydrotreater which reduces the sulfur content of the diesel. While the HCU (W) capacity would be increased approximately 15 percent, the overall integrated Refinery capacity would remain unchanged. The reactor and fractionation sections will be modified to increase the production of ultra-low sulfur diesel and gasoline. The HCU (W) modification will include installing or modifying as many as five heat exchangers to provide improved heat integration, installing three new electrically driven pumps, and associated piping and instrumentation. The proposed project currently includes increasing the permitted firing duty of up to three heaters by a total of 50 million Btu/Hr.

To recover propane for the Propane Sales Treating Unit (PSTU) described below, the HCU (W) fractionation section will also be modified by installing two new water cooled exchangers, one knockout drum, and associated piping and instrumentation. An existing reflux pump and five heat exchangers in the fractionation section will be removed.

#### **1.4.1.3 CRU-3 Modification**

The Wilmington Operations Catalytic Reformer Unit 3 (CRU-3) converts low octane hydrocarbons into higher octane gasoline blending components using catalyst and heat. The CRU-3 fractionation section will be modified to enable recovery of Hydrocracker propane from the refinery fuel gas system. The modifications to CRU-3 will include installing one new depropanizer tower that is larger than the existing tower, as many as three heat exchangers, as many as four electrically driven pumps, and associated piping and instrumentation.

#### **1.4.1.4 Propane Sales Treating Unit (PSTU)**

A new PSTU will be constructed at the Wilmington Operations. The PSTU conditions liquid propane for sale using absorbers and dryers to meet sales specifications. The PSTU will treat up to approximately 2,000 BPD and will include eight vessels and four pumps that will be installed to purify recovered propane from the HCU (W) and CRU-3. The PSTU will be located east of HTU-4.

#### **1.4.1.5 HTU-1 and 2 Modifications**

The Wilmington Operations Hydrotreater Units 1 (HTU)-1 and HTU-2 Naphtha Hydrotreaters are process units that reduce impurities such as sulfur from various naphtha product streams. The HTU-1 will be modified to hydrotreat approximately 20,000 BPD of FCCU gasoline to comply with the federally mandated Tier 3 gasoline specifications and to hydrotreat jet range components. The modifications to HTU-1 will include modifying or installing as many as five heat exchangers, adding a pump and associated piping and instrumentation. Because the HTU-2 will continue to produce the same types of feedstock that it currently produces, its feedstock will be separated from HTU-1's feedstock. The HTU-2 feed separation modifications will include repurposing an existing diesel salt dryer to be used as a feed surge drum, installing as many as two electrically driven pumps, and associated piping and instrumentation.

The proposed modifications to HTU-1 will also allow it to switch into jet hydrotreater service, treating approximately 12,000 BPD of jet fuel to remove sulfur impurities. The modifications will include installing one new stripping steam nozzle on the stabilizer, one coalescer, one salt dryer, and condensate pot, and associated piping and instrumentation.

#### **1.4.1.6 HTU-4 Modification**

The Wilmington Operations Hydrotreater Unit No. 4 (HTU-4) HTU-4 is a process unit that uses catalyst and hydrogen to reduce aromatic compounds and impurities such as sulfur in the FCC feed. HTU-4 will be modified to fully utilize the existing hydrotreating capacity to produce ultra-low sulfur diesel. There will also be modifications to recover jet fuel, and added heat integration equipment to reduce energy consumption by producing steam, reboiling two strippers and preheating boiler feed water. HTU-4 will process either gas oil or high sulfur diesel. The proposed modification to the HTU-4 will allow the Refinery to minimize motor fuels production disruptions during both planned and unplanned outages. Other modifications to HTU-4 include adding new nozzles on the fractionator, installing a new surge drum, a salt dryer, a coalescer, as many as four new electrically driven pumps and nine heat exchangers, and associated piping and instrumentation.

#### **1.4.1.7 New Ammonium Thiosulfate Plant**

A new Ammonium Thiosulfate Plant will be constructed at the Wilmington Operations SRP (see Figure 1-6) and will reduce the sulfur and ammonia content of the sour water stripper overhead vapors. Although permitted as a separate facility, the SRP is and has been a part of the Wilmington Operations. It is physically located in the City of Carson so the location of the new Ammonium Thiosulfate Plant is shown on the site plan for the Carson Operations (see Figure 1-6). The new Ammonium Thiosulfate Plant will be sized for approximately 250 tons/day of 60 percent ammonium thiosulfate (a fertilizer) and will convert hydrogen sulfide and ammonia from sour water stripper overhead gas streams into liquid fertilizer. The ammonia and hydrogen sulfide are currently stripped from the sour water in the existing sour water strippers and sent to the Sulfur Recovery Plants. Instead of sending this ammonia and sulfur to the sour water strippers, it will be sent to







the new Ammonium Thiosulfate Plant to produce fertilizer as a new product from the Refinery. The new Ammonium Thiosulfate Plant will include one air cooler, storage tanks, two drums, two filters, three scrubbers, a natural gas fired furnace, three heat exchangers, ten electrically driven pumps, one air blower, and associated piping and instrumentation.

#### **1.4.1.8 New Sulfuric Acid Regeneration Plant**

The proposed new Sulfuric Acid Regeneration Plant (SARP) will be constructed in Wilmington and will remove impurities from and recycle the Wilmington and Carson Operations spent sulfuric acid to produce fresh sulfuric acid. The SARP is sized for an approximate throughput of 400 tons/day of sulfuric acid production and will include three tanks, as many as eight electrically driven pumps, a natural gas fired 42 MM Btu/Hr Decomposition furnace, a 5 MM Btu/Hr Converter heater, a natural gas fired 20 MM Btu/Hr Process Air Heater, a waste heat steam generator, as many as four blowers, as many as eight heat exchangers, four towers, one reactor, one stripper, three scrubbers, one electrically driven compressor, three drums, and associated piping and instrumentation. The fresh sulfuric acid will be sent back to Wilmington and Carson Operations for reuse. Spent sulfuric acid is currently transported off-site for recycling at the Rhodia Sulfuric Acid Plant located at 20720 S. Wilmington Avenue in Carson, California. Installing the Sulfuric Acid Regeneration Plant will eliminate approximately 6,000 acid transport truck miles per month from public roadways compared to current operations. Instead of routing trucks to and from the Wilmington Operations to Rhodia, the trucks will be routed to and from the Carson Operations to the Wilmington Operations, a much shorter trip.

#### **1.4.1.9 Wilmington Replacement Crude Tanks**

Two new 300,000 barrel internal floating roof storage tanks (Tanks 300035 and 300036) will replace two existing 80,000 barrel fixed-roof storage tanks (Tanks 80035 and 80036) in the north tank area of Wilmington Operations. The two existing tanks currently store light and heavy crude oils as well as light and heavy gas oils. The new larger tanks will allow marine vessels to unload without undue delay, thereby reducing the time vessels are required to wait at anchorage until sufficient tankage is available for vessel discharge. This project will reduce the amount of time that vessels spend within the port and increase the amount of crude oil that can be stored, but will not increase annual Refinery crude oil throughput. In order to increase the crude oil throughput at the Refinery, there would need to be a modification to the units that initially process the crude oil, such as the Crude Units or the Delayed Coking Unit and no such modifications are included as part of the proposed project. This proposed project does not require any modifications to the Wilmington Operations Marine Terminal in the Port of Long Beach. The two new tanks are proposed to store light and heavy crude oils as well as light and heavy gas oils, in support of continuous operations. The scope of this part of the proposed project will include demolishing two existing storage tanks, installing two new larger tanks in the same location as the tanks being removed, replacing 5,000 feet of 12-inch diameter piping with 24-inch diameter piping at Wilmington, and modifying one existing tank (Tank 80038) by connecting it to a vapor recovery system. Tank 80038 and one

additional tank (Tank 80079) will require change of service permit modifications and annual throughput increases for each tank. The increase in annual throughput for each tank has no effect on the annual Refinery crude oil throughput.

## **1.4.2 CARSON OPERATIONS**

In addition to the modifications at the Wilmington Operations, the proposed Tesoro Los Angeles Refinery Integration and Compliance Project also includes modifications at the Carson operations, resulting in a combined Refinery complex and improving the G/D production ratio. Additionally, equipment energy efficiency and heat recovery will be optimized for new or modified units, resulting in lower overall emissions. Proposed new equipment and modifications to existing equipment at the Carson Operations are shown in Figure 1-6 and described in the following subsections.

### **1.4.2.1 SCAQMD Rule 1114 Compliance – Coker Venting**

The coker thermally cracks hydrocarbons in an insulated vessel, referred to as a coke drum. The cracked lighter product rises to the top of the coke drum and is drawn off. The heavier product remains and forms petroleum coke, a solid coal-like substance. Coke builds up in the coker and is removed by using a high pressure water jet. SCAQMD Rule 1114 requires the coke drum pressure to be reduced below two pounds per square inch gauge (psig) before opening the drum to the atmosphere. The proposed project includes modifying both No. 1 and No. 2 Cokers at the Carson Operations to comply with SCAQMD Rule 1114 by the required compliance deadlines. Compliance with Rule 1114 will require installation of additional equipment, such as vapor eductors and associated piping and instrumentation changes, to vent coke drum vapors to existing vapor recovery systems. This will enable the Refinery to comply with the Rule 1114 requirements and to keep the overall coke drum cycle time unchanged.

### **1.4.2.2 Nos. 1 and 2 Coker Bottom Head Modifications**

Currently, the bottom heads of the coke drums in Nos. 1 and 2 Cokers are opened manually to remove the petroleum coke, requiring a worker to physically open the valves. The bottom heads of the coke drums will be upgraded with remotely operated valves. This is a safety project that will allow remote operation of the valves to enhance safety during the de-heading process to remove coke at the end of the coking cycle.

### **1.4.2.3 No. 51 Vacuum Unit Modifications**

The Vacuum Unit is a separation process that uses distillation conducted under vacuum (less than atmospheric pressure) to lower the boiling temperature of a liquid and allow removal of light hydrocarbons without thermal cracking. The No. 51 Vacuum Unit will be modified to allow increased diesel production by reducing vacuum gas oil production by up to 8,000 BPD. The No. 51 Vacuum Unit modifications will include modifying the feed heater's Title V described duty from 300 to 360 MMBtu/Hr, installing one new ten-inch nozzle on the vacuum tower, as many as four new exchangers, two coalescers, two strainers, as many as two new electrically driven pumps, and associated piping and

instrumentation. No substantial heater modifications are required to achieve a firing rate of 360 MMBtu/Hr; however, burner tips may be replaced with a different design.

### **1.4.2.4 No. 52 Vacuum Unit Modifications**

Similar to No. 51 Vacuum Unit, No. 52 Vacuum Unit is a separation process that uses distillation conducted under vacuum to lower the boiling temperature of a liquid and allow removal of light hydrocarbons without thermal cracking. The No. 52 Vacuum Unit will be modified, which will allow an increase in light gas oil production by decreasing vacuum gas oil production by approximately 2,000 BPD. The No. 52 Vacuum Unit modifications will include installing one new six-inch nozzle on the vacuum tower, as many as two new heat exchangers, two strainers, as many as two new electrically driven pumps, and associated piping and instrumentation.

### **1.4.2.5 FCCU Modifications**

The FCCU cracks or converts heavy hydrocarbons into lighter, gasoline range hydrocarbons in the presence of fine particles of catalyst that are circulated throughout the process. Because of the shutdown of the FCCU at Wilmington Operations, the Carson Operations' FCCU will be modified to accept a portion of the Wilmington gas oil feed. The throughput capability of the Carson FCCU will remain unchanged. A new feed surge drum will be installed upstream of the Carson Operations' FCCU No. 2 Depropanizer tower to smooth out feed rate swings. No. 2 Depropanizer is part of the refinery overhead gas recovery system. Modification to the Carson Operations' FCCU will enable recovery of approximately 800 BPD of propane from a stream that is currently sent to the fuel gas system. The FCCU modifications will include installing a feed surge drum, as many as two pumps and two heat exchangers, and associated piping and instrumentation. New piping will be routed between the Wilmington Operations and the Carson Operations' FCCU.

### **1.4.2.6 New Wet Jet Treater**

One new 50,000 BPD Wet Jet Treater will be installed at Carson Operations to remove mercaptans and to reduce the total acid number (TAN), or organic acid content, in jet fuel. The Wet Jet Treater sweetens jet fuel by converting mercaptans to disulfides, and reacting organic acid with caustic making naphthenic salts which are removed to reduce TAN. The Wet Jet Treater includes one mercaptan removal reactor, one TAN removal reactor, two product separators, one spent caustic loading facility, and as many as six associated electrically driven pumps, two salt dryers, two clay filters, and associated piping and instrumentation. Feed and fresh caustic will be routed to the new Wet Jet Treater and spent caustic and treated jet fuel will be routed to existing storage tanks. The spent caustic flow rate will be approximately three gallons per minute (gpm). Approximately one additional railcar load per week of spent caustic will be generated and recycled within the Carson Operations or shipped to the Gulf Coast for recycling. A decision on the final recycling location of caustic will be evaluated in the EIR.

#### **1.4.2.7 HCU Modification**

The HCU capacity will be increased by approximately 10 to 20 percent. The existing Carson Operations Hydrocracker (HCU (C)) cracks or converts mid-distillate and heavy hydrocarbons to lighter gasoline, jet, and diesel range material in the presence of catalyst, heat, and hydrogen. The process incorporates a hydrotreater which reduces the sulfur content. The HCU (C) will be modified to enable it to process the distillate recovered from the Nos. 51 and 52 Vacuum Units described above in Subsections 1.4.2.3 and 1.4.2.4, respectively. The existing reactor feed heater will be modified with new ultra-low NO<sub>x</sub> burners to reduce NO<sub>x</sub> emissions. The new burners will not increase the existing heater duty. The existing reactor heater outlet piping will be upgraded with higher alloy metallurgy.

Processing the recovered distillate feed will require increased hydrogen gas usage to comply with existing low sulfur diesel product specifications. The increased hydrogen gas capacity will be provided by increasing the recycle gas compressor speed. This portion of the proposed project will not result in an overall increase in hydrogen demand because hydrogen that is currently used by the FCCU (W) would no longer be required due to the shutdown of the FCCU (W), which eliminates the need to hydrotreat associated FCCU (W) products. Therefore, this portion of the proposed project will not require changes to hydrogen generation equipment at either of the refineries or by an offsite supplier.

The HCU (C) energy utilization efficiency will be improved by installing steam generators. The HCU (C) modification will include installing as many as two steam generators, an air cooler, as many as two electrically driven pumps, and associated piping and instrumentation.

#### **1.4.2.8 LHU Modifications**

The existing Carson Operations Light Hydrotreating Unit (LHU) is a process unit that removes impurities such as sulfur in various naphtha product streams. The LHU will be modified to more effectively remove sulfur from FCCU gasoline to comply with the federally mandated Tier 3 gasoline sulfur specifications. The LHU will process a higher sulfur feed material derived from existing fractionation equipment. The proposed modifications will include installing one new stripping steam nozzle on the stabilizer, as many as five new heat exchangers, one coalescer, one salt dryer, a condensate pot, and associated piping and instrumentation.

#### **1.4.2.9 Naphtha HDS Unit Modification**

The existing Carson Operations Naphtha Hydrodesulfurization (HDS) Unit is a process unit that reduces impurities such as sulfur in various naphtha product streams. The (HDS) will be modified with the installation of new equipment to allow removal of contaminants from unit feed and sulfur from pentanes. The existing Reactor Feed Heater will be retrofitted with new ultra-low NO<sub>x</sub> burners to reduce emissions. The new burners will not increase the existing heater duty. The modifications will include installing the

following new equipment: a reactor, a tower, a caustic scrubber, 2 knockout drums, a product coalescer, an air cooler, an accumulator, a condensate pot, as many as 11 new heat exchangers, four electrically driven pumps, and associated piping and instrumentation.

### **1.4.2.10 Naphtha Isomerization Unit Modifications**

The existing Carson Operations Naphtha Isomerization Unit upgrades a pentane/hexane rich stream to make a higher value blending component for gasoline. The Naphtha Isomerization Unit will be modified to recover propane and heavier material from the Unit off-gas. The Naphtha Isomerization Unit modifications include addition of an off gas treater, a sponge tower, two reactor effluent flash drums, a heat exchanger, a pump and associated piping and instrumentation.

### **1.4.2.11 Alkylation Modification**

The existing Carson Operations Alkylation Unit is a process unit that converts propylene (C3 olefins), butylenes (C4 olefins) into gasoline boiling range blendstock. Amylenes (C5 olefins) will be recovered from FCCU gasoline in an existing fractionation tower and converted to low vapor pressure gasoline in the modified Alkylation Unit. Unit capacity will remain unchanged. The modifications to process amylenes will include repurposing the Depentanizer column, replacing one existing four inch nozzle with an eight-inch nozzle on the olefin feed surge drum, installing as many as six heat exchangers, one filter/coalescer, one truck loading rack, two electrically driven pumps, and associated piping and instrumentation. The modifications to process propylene and butylene will include the installation of a propylene chiller and associated piping and instrumentation.

### **1.4.2.12 Mid Barrel Distillate Treater**

The existing Mid Barrel Unit incorporates a hydrotreater to remove sulfur from straight run diesel and converts it to ultra-low sulfur diesel. The Mid Barrel Unit will be modified to enable it to desulfurize heavy FCCU naphtha. Interconnecting piping to/from the LHU and Mid Barrel Distillate Treater will be installed. New bypass piping around a heater and the feed effluent heat exchanger will be installed.

### **1.4.2.13 Steam System Balance Modification**

The Carson Operations steam system demand will increase due to compliance with federally mandated Tier 3 gasoline specifications and amylene alkylation. The increased steam demand will be met by a combination of: installing waste heat steam generators, generating more steam from the existing Cogen Units, and reducing steam demand from existing steam turbines.

### **1.4.2.14 New Crude Tankage**

Up to six new 500,000 barrel floating roof crude oil storage tanks will be constructed adjacent to the Carson Crude Terminal. The new tanks will allow marine vessels to

unload crude oil without undue delay, thereby reducing the time vessels are required to wait at anchorage until sufficient tankage is available for vessel discharge. This project will reduce the amount of time marine vessels spend within the port, but will not increase Refinery crude oil throughput. This portion of the proposed project does not require any modifications to Marine Terminals in the Port of Long Beach. The scope of the work will include installing up to six new tanks, pipelines, as many as five electrically driven transfer pumps, and associated piping and instrumentation.

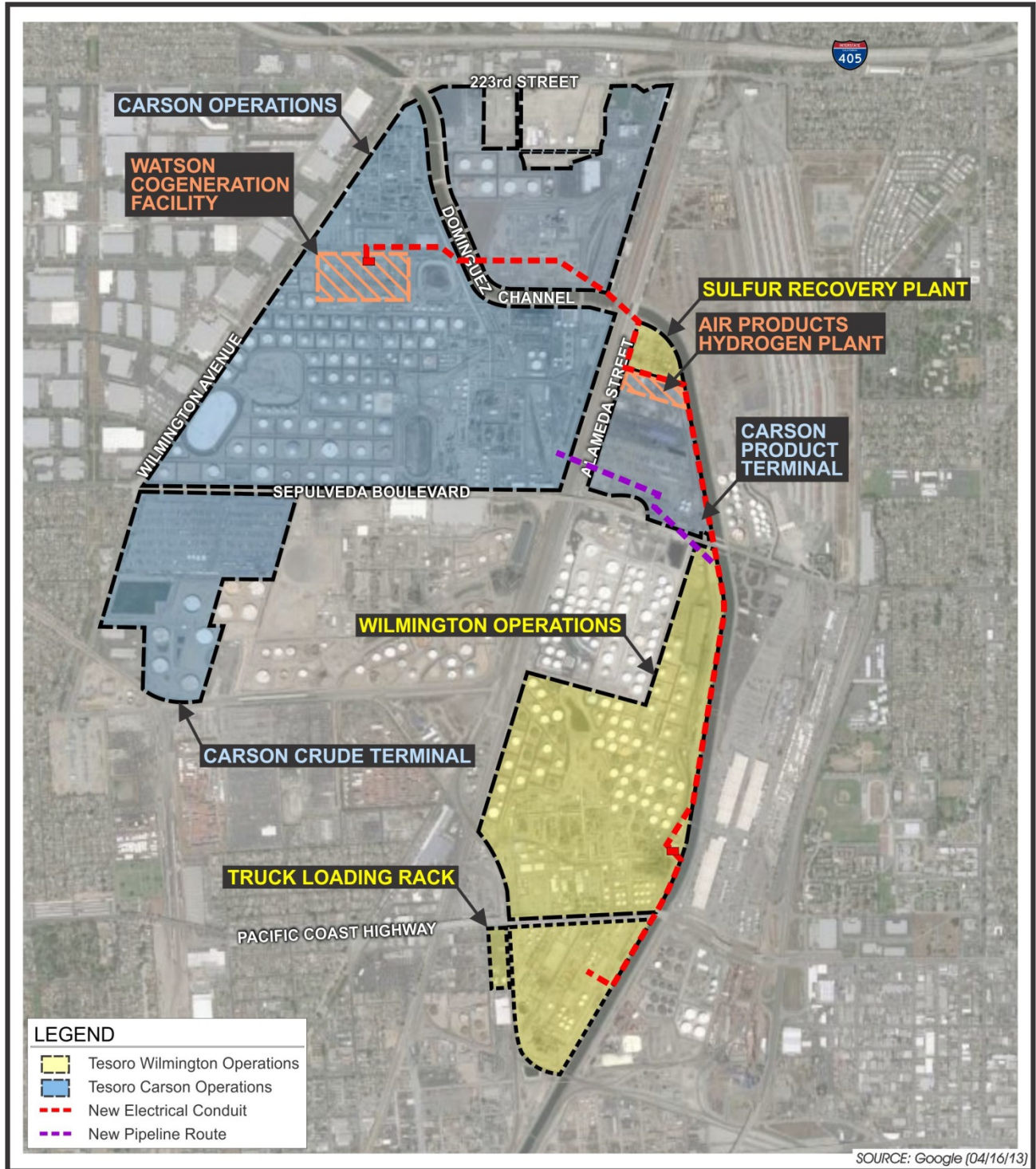
### **1.4.3 MODIFICATIONS TO SUPPORTING EQUIPMENT**

#### **1.4.3.1 Tankage**

The proposed project will require modifications to the intermediate and product storage to facilitate the transfers between Carson and Wilmington Operations and better integrate the Tesoro Los Angeles Refinery. The scope of the work will include installing as many as nine pipelines and twelve electrically driven transfer pumps. Up to ten storage tanks total at both Carson and Wilmington Operations may require change of service permit modifications and/or annual throughput increases. Change of service permit modifications that may be required include changing descriptions of commodities in tanks from specific LPG or blend stocks (e.g., propane, reformate, heavy cracked naphtha, alkylate, etc.) to more generic terms such as LPG and gasoline blend stocks. Additionally, tank throughputs will be evaluated to determine if increased throughput will be required to accommodate any of the transfers between the Carson and Wilmington Operations. The tank permit modifications will require all affected tanks to comply with current BACT standards for fugitive emissions.

#### **1.4.3.2 Interconnecting Piping**

The proposed project will require interconnecting pipelines between the Wilmington and Carson Operations. The pipelines will be comprised of a pipe bundle of seven to 15 pipelines ranging from four inches to 12 inches in diameter. The pipelines are proposed to exit the Carson Operations and be routed underneath South Alameda Street exiting near the Carson Operations Coke Barn where the pipes would then be routed above ground. The pipelines would then be routed underneath East Sepulveda Boulevard to connect to the Wilmington Operations. The pipes would then be routed above ground on pipe racks or ground level pipe support into the respective product and supply manifolds within the Refinery. The bundle will require a 54-inch bore using horizontal direction drilling (HDD) and HDD would be used to bore underneath (approximately 80 feet in depth) South Alameda Street and East Sepulveda Boulevard. The approximate locations of the pipelines are shown on Figure 1-7.



**EA** Environmental Audit, Inc.

**FIGURE 1-7**  
**PROPOSED ELECTRICAL CONDUIT AND PIPELINE ROUTE**  
**TESORO LOS ANGELES REFINERY**

Project No. 2844  
 N:\2844\Interconnections (rev.2).cdr



### **1.4.3.3 Electrical Intertie Connection to Wilmington**

Up to six new 69 kilovolt (Kv) electrical cables and 13.8 Kv cables will be routed underground and overhead from the Carson Watson Cogen facility located at the Carson Operations to the Sulfur Recovery Plant (see Figure 1-7) and Wilmington Operations. One new 69 Kv substation, and at least two new transformers with associated cabling, are proposed to be installed at the Watson Cogen facility. One new main substation with at least two transformers and associated switch gear and wiring will be installed in Wilmington. Containment dikes will be provided at all transformers within the Refinery. This portion of the proposed project will allow electricity generated at Carson Operations to be used at the Wilmington Operations.

### **1.4.3.4 Liquid Petroleum Gas (LPG) Rail Unloading**

LPG Rail Car Unloading facilities will be modified at either Carson or Wilmington Operations to allow increased deliveries of approximately 4,000 BPD of Alkylation Unit feedstocks (LPG including propane, propylene, butane, butylene, etc.). LPG Rail Unloading facilities will be used to transfer LPG to the Refinery to supplement a portion of the Alkylation Unit feed lost by the closure of the FCCU at the Wilmington Operations. The LPG Rail Unloading facilities are restricted by SCAQMD-permit to only receive LPG. The FCCU provides feed to the alkylation unit and feedstocks to the alkylation unit are important in the production of CARB-compliant gasoline. Therefore, Tesoro will replace a portion of the alkylation feed through delivery of appropriate feedstocks. A determination of the actual location of the LPG Rail Car Unloading facilities will be made prior to the release of the Draft Environmental Impact Report for the proposed project, which will also include as part of the overall analysis potential adverse environmental impacts from this portion of the proposed project. LPG handling at the Refinery may increase by approximately ten railcars per day. Increased production of alkylate is critical for blending clean-burning gasoline due to its properties, such as low benzene and sulfur content and high octane content. The scope of work will include installing as many as four electrically driven transfer pumps, as many as six railcar unloading arms, and associated piping and instrumentation.

Butane is currently received from rail cars into pressurized tanks for use in the refining process. In the past, during the high Reid Vapor Pressure (RVP) gasoline season, during winter months, October through February, the Refinery has imported up to 11,000 BPD of butane. The LPG rail loading modifications will allow the Refinery to import up to about 15,000 BPD of LPG, resulting in the increase of about 10 railcars per day at the Refinery. It is expected that these additional railcars would be added onto existing trains that visit the Refinery. Therefore, no increase in the number of rail trips is expected, but there would be an increase in the number of railcars transferred to/from the Refinery.

## **1.5 PROJECT CONSTRUCTION SCHEDULE**

Construction activities for the proposed project are expected to begin in the July 2015 and are expected to be completed by March 2017, based on preliminary project engineering. As shown in Figure 1-8, the preliminary construction schedule for each component of the



## CHAPTER 1: PROJECT DESCRIPTION

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proposed project varies. The construction activities for most of the components are expected to overlap from about December 2015 to March 2017. Construction work shifts are expected to last about ten hours per day during most portions of the construction schedule. During normal construction periods, one work shift per day is expected. During Refinery turnaround periods (when the Refinery is shutdown), two work shifts are expected and work may be conducted 24 hours per day. The preliminary project schedule will be refined as more detailed engineering is completed.

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## **CHAPTER 2**

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### **ENVIRONMENTAL CHECKLIST**

- Introduction
- General Information
- Potentially Significant Impact Areas
- Determination
- Environmental Checklist and Discussion
  - Aesthetics
  - Agriculture and Forestry Resources
  - Air Quality and Greenhouse Gas Emissions
  - Biological Resources
  - Cultural Resources
  - Energy
  - Geology and Soils
  - Hazards and Hazardous Materials
  - Hydrology and Water Quality
  - Land Use and Planning
  - Mineral Resources
  - Noise
  - Population and Housing
  - Public Services
  - Recreation
  - Solid and Hazardous Waste
  - Transportation and Traffic
  - Mandatory Findings of Significance
- References
- Acronyms

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## 2.1 INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

## 2.2 GENERAL INFORMATION

|  |  |
|--|--|
| Project Title:                                     | Tesoro Los Angeles Refinery Integration and Compliance Project   |
| Lead Agency Name:                                  | South Coast Air Quality Management District  |
| Lead Agency Address:                               | 21865 Copley Drive<br>Diamond Bar, CA 91765  |
| Lead Agency Contact Person and Phone Number:       | Michael Krause, Program Supervisor<br>(909) 396-2706   |
| Project Sponsor's Name:                            | Tesoro Refining & Marketing Company, LLC   |
| Project Sponsor's Address:                         | 2350 E. 223 <sup>rd</sup> Street<br>Carson, CA 90810   |
| Project Sponsor's Contact Person and Phone Number: | June Christman, Staff Engineer, Major Capital Synergy Project<br>(310) 847-3631  |
| General Plan Designation:                          | Heavy Industrial Uses; heavy manufacturing   |
| Zoning:  | M3-1 (Heavy Industrial); MH (heavy manufacturing)  |
| Description of Project:                            | Tesoro is proposing the Los Angeles Refinery Integration and Compliance Project to better integrate the Tesoro Wilmington Operations with the Carson Operations (formerly BP Refinery). The proposed project is also designed to comply with the federally mandated Tier 3 gasoline specifications, and with State and local regulations mandating pollution reductions. The proposed project is expected to substantially reduce greenhouse gases, sulfur oxide, nitrogen oxide, carbon monoxide, and particulate matter emissions primarily by shutting down the Fluid Catalytic Cracking Unit at the Wilmington Operations and relinquishing relevant permits to the South Coast Air Quality Management District and also by reconfiguring the combined refinery complex, which is expected to improve the gasoline to distillate production ratio. Additionally, energy equipment efficiency and heater recovery will be optimized for new and modified units to minimize emission increases. While certain changes will increase emissions, they are expected to be offset by emission decreases occurring at the Refinery as part of the proposed project. |
| Surrounding Land Uses and Setting:                 | Land uses in the vicinity of the Refinery include oil production facilities, refineries, hydrogen plants, coke handling facilities, automobile wrecking/dismantling facilities, and other industrial operations. The Wilmington Operations are bounded to the north by Sepulveda Boulevard, to the west by Alameda Street; to the south by railroad tracks and to the east by the Dominguez Channel. The Wilmington Operations are bisected by Pacific Coast Highway. The Carson Operations are bounded to the north by E. 223rd Street, to the west by Wilmington Avenue, to the east by the Dominguez Channel and Alameda Street, to the south by the Sepulveda Boulevard.   |
| Other Public Agencies Whose Approval is Required:  | City of Los Angeles<br>City of Carson<br>U.S. EPA<br>Alameda Corridor Transportation Authority   |

### 2.3 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be adversely affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics  | <input type="checkbox"/> Geology and Soils                          | <input type="checkbox"/> Population and Housing                        |
| <input type="checkbox"/> Agriculture and Forestry Resources                  | <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services                               |
| <input checked="" type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hydrology and Water Quality     | <input type="checkbox"/> Recreation                                    |
| <input type="checkbox"/> Biological Resources                                | <input type="checkbox"/> Land Use and Planning                      | <input checked="" type="checkbox"/> Solid and Hazardous Waste          |
| <input type="checkbox"/> Cultural Resources                                  | <input type="checkbox"/> Mineral Resources                          | <input checked="" type="checkbox"/> Transportation and Traffic         |
| <input type="checkbox"/> Energy  | <input checked="" type="checkbox"/> Noise                           | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

## 2.4 DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

**Date:** September 5, 2014

**Signature:**



---

Michael Krause  
Program Supervisor, CEQA  
Planning, Rules, and Area Sources

**Telephone:** (909) 396-2706

## 2.5 ENVIRONMENTAL CHECKLIST AND DISCUSSION

|  | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|--|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>I. AESTHETICS.</b> Would the project:   |                                |                                       |                                     |                                     |
| a) Have a substantial adverse effect on a scenic vista?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                    | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

### Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

### Discussion

**I. a) and b)** The nearest officially designated Scenic Highway to the Tesoro Los Angeles Refinery Integration and Compliance Project would be Route 2 (Angeles Crest Scenic Byway) near La Canada/Flintridge, in the northeastern portion of Los Angeles County (Caltrans, 2013). It is approximately 24 miles north from the Wilmington and Carson Operations to the most southern portion of Route 2. Therefore, the Refinery is not visible from Route 2 due to the distance as well as the presence of numerous large buildings of downtown Los Angeles, and the intervening topography (hills and mountains) between downtown Los Angeles and the beginning of Route 2 near La Canada/Flintridge.

The nearest roadway, which is eligible for State Scenic Highway Designation, to the Wilmington and Carson Operations is Route 1 (Pacific Coast Highway at State Route 19 – Lakewood



Boulevard, in Long Beach) in the southernmost portion of Los Angeles County. It is approximately five miles from the Refinery to the intersection of State Route 19, where Route 1 becomes eligible to become a State Scenic Highway. The Wilmington and Carson Operations are not visible from Route 1 at State Route 19 due to the distance, numerous structures, and topography between the two locations. There are no officially designated Scenic Highways or highways eligible for State Scenic Highway Designation in the vicinity of the Wilmington and Carson Operations. Because of the substantial distance between the proposed project and the aforementioned scenic highways, no significant adverse impacts to scenic highways are expected. In addition, there are no other scenic resources, such as trees, rock outcroppings, and historic buildings within the vicinity of the proposed project so no impacts to these resources would occur.

**I. c)** Construction activities at the Wilmington and Carson Operations are not expected to adversely impact views or other aesthetics resources since most of the construction activities, which include the operation of heavy equipment, are expected to occur in the operating portions of the existing refinery and industrial facilities, all within the existing boundaries of the Wilmington and Carson Operations. As a result, construction activities for the proposed project are not expected to be visible to most areas outside the facility, although some construction activities may be visible to the adjacent industrial areas, e.g., other refineries, railroad operations, truck terminal. Cranes would be required for equipment installation, some of which are expected to be about 150 feet tall and would be visible to surrounding properties. However, the cranes would be temporary, would be similar to the hundreds of other tall structures within the refinery, and would be removed after construction activities. No significant adverse aesthetic impacts during construction activities are expected.

The proposed project includes modifications and new equipment associated with the HCU, CRU3, PSTU, HTU-1, HTU-2, HTU-4, Ammonium Thiosulfate Plant, Sulfuric Acid Regeneration Plant, LPG Rail Loading and Unloading facilities, Nos. 51 and 52 Vacuum Units, FCCU Modifications, Wet Jet Treater, LHU, Naphtha HDS, Alkylation Unit, No. 3 Reformer, Crude Tanks, and above and below-ground piping. Modifications and new refinery units will occur within the operating portions of the existing refinery. Stacks and towers associated with the new and existing units and flares are generally the tallest structures at a refinery.

Tall structures associated with the proposed modifications include towers, heater stacks, contactors, scrubber stacks and vents, and new tanks are shown in Table 2-1. New structures at the Wilmington Operations would range in height from about 70 to 125 feet tall and will be located within the operating portions of the existing refinery. Other nearby existing structures within the Wilmington Operations that are not part of the proposed project range from 90 to 150 feet tall. New structures at the Carson Operations would range in height from about 40 to 120 feet tall. Other nearby existing structures within the Carson Operations that are not part of the proposed project range from about 50 to 180 feet tall. The ammonium thiosulfate plant would be constructed at the existing SRP facility (see Figure 1-4) and include the construction of an approximately 70-foot scrubber vent. Existing structures at the SRP are 170 feet tall and there are hundreds of existing stacks and towers visible at the two Operations. Although the proposed project includes some structures that are higher than existing adjacent units, the overall visual characteristics of the integrated Refinery are expected to be the same or similar to the existing

configuration at the two Operations. Further, installation of new or replacement of existing equipment at the facility, either inside or outside the existing structures, would not appreciably change the visual profile of the entire facility.

**TABLE 2-1**

**Approximate Height of Largest Project Components**

| Description                      | Location              | Height of Adjacent Structure <sup>1</sup> | Highest Project Component |                             |
|----------------------------------|-----------------------|---|---------------------------|-----------------------------|
|                                  |                       |   | Description               | Size                        |
| Ammonium Thiosulfate Plant       | Wilmington (SRP)      | 170 ft.                                   | Scrubber Vent             | 3 ft. dia. x 70 ft. tall    |
| Sulfuric Acid Regeneration Plant | Wilmington            | 150 ft.                                   | Scrubber Stack            | 4 ft. dia. x 125 ft. tall   |
| Wet Jet Treater                  | Carson                | 50 ft.                                    | Contactors                | 5 ft. dia. x 40 ft. tall    |
| Naphtha HDS                      | Carson                | 180 ft.                                   | Tower                     | 8.5 ft. dia. x 120 ft. tall |
| Crude Tanks                      | Carson Crude Terminal | 60 ft.                                    | 500,000 bbl Crude Tanks   | 240 ft. dia. x 60 ft. tall  |
| Crude Tanks                      | Wilmington            | 117 ft dia. x 42 ft tall <sup>2</sup>     | Replaced Crude Tank       | 180 ft. dia. x 72 ft. tall  |

<sup>1</sup> These pieces of existing equipment are not part of the proposed project, but are shown here for comparison purposes only.

<sup>2</sup> Existing crude tanks, which are 42 feet tall by 117 feet diameter tanks, will be replaced with 72 feet tall by 180 feet diameter new tanks.

The proposed project includes constructing six new crude oil storage tanks at the Carson Crude Terminal. While the Carson Crude Terminal is located within an existing heavy industrial area, a residential area is located about 850 feet from the proposed new crude oil storage tanks. The Carson Crude Terminal area is currently used for storage of truck containers and is fenced (with an approximately eight-foot high fence) so that views of the area are limited. Existing storage tanks are located to the north and south of the Carson Crude Terminal. The existing storage tanks north of the Carson Crude Terminal are part of the Carson Operations and are 41 to 58 feet in height. The existing storage tanks south of the Carson Crude Terminal are part of the Phillips 66 Refinery and are about 50 feet in height. The new tanks are expected to be approximately 60 feet in height. The existing fencing is expected to block some of the views of the new storage tanks from the residential area so that the general view of the Carson Operations from the residential areas would remain unchanged. In light of these considerations, the portion of the proposed project at the Carson Operations is not expected to substantially degrade the existing visual character or quality of the site and its surroundings.

The proposed project would also include replacing two existing 80,000 barrel crude oil tanks (Tanks 80035 and 80036) at the Wilmington Operations, which are approximately 42 feet high and 117 feet in diameter with two 300,000 barrel tanks (Tanks 300035 and 300036) at the same

location. Each new fixed-roof internal floating roof tank would be approximately 72 feet high and approximately 180 feet in diameter. The new piping will be located at ground level within the Wilmington Operations in the same location as the existing pipeline and will have no discernible difference in look as compared to existing pipeline, which is not visible from offsite.

The Wilmington Operations are surrounded by other industrial land uses. Land uses adjacent to the Wilmington Operations are all heavy industrial and include oil production facilities, refineries, hydrogen plants, coke handling facilities, and automobile wrecking/dismantling facilities. The closest residential area to the proposed project is located about 2,000 feet (approximately 0.4 mile) from the southwest of the Wilmington Operations with other heavy industrial facilities situated between the project site and residential properties. Other facilities within the boundary of the Wilmington Operations, such as scrubber stacks and flares, are at heights of approximately 150 to 200 feet and exceed the height of the replacement tanks to be installed as part of the proposed project so installation of the two new tanks at the Wilmington Operations is not expected to change the overall profile of the facility.

The views of the Wilmington Operations from adjacent properties are not expected to significantly change because the proposed project facilities will blend in with the existing site facilities and operations. The two new tanks at the Wilmington Operations are expected to be visible from Alameda Street, which traverses through an industrial area. As such, the views of the new tanks will be similar and consistent with views of the other industrial facilities in the area. The new tanks are not expected to be visible to the closest residential area because of the distance (2,000 feet or approximately 0.4 miles) and the fact that other structures (e.g., a 6-foot high cinder block wall and a truck distribution facility adjacent to the residential area, which is approximately 40 feet high) are located between the residential area and where the new tanks will be situated within the Wilmington Operations. The intervening structures obscure most of the Wilmington Operations equipment except for the upper portions of the 200-foot high flares in the area of the proposed new storage tanks. Only the storage tanks from the existing asphalt plant operated by another company and located adjacent to the residential area are visible from the residential area. For the aforementioned reasons, the views of the new tanks would be consistent with the other industrial facilities in the area. In light of these considerations, the portion of the proposed project at the Wilmington Operations is not expected to substantially degrade the existing visual character or quality of the site and its surroundings.

**I. d)** In general, construction activities for the proposed project are not anticipated to require additional lighting because they are scheduled to take place primarily during daylight hours. However, when daylight hours are limited (i.e., winter months), or during Refinery turnarounds (when construction activities could occur 24-hours per day), temporary lighting may be required. Since the proposed project would be located within the boundaries of the existing refinery, additional temporary lighting, if needed, is not expected to be discernible from the existing permanent night lighting already associated with refinery operations.

Most construction activities at the Carson Operations would occur within the existing boundaries of the refinery. The modifications to Nos. 51 and 52 Vacuum Unit would be located the closest to a residential area and would be located approximately 4,000 feet away. A number of existing

storage tanks and existing industrial structures would block construction light sources within the Carson Operations from residential areas.

The Carson Crude Terminal consists primarily of a truck container storage yard and is currently lighted, with light poles approximately 100 feet high. The closest light poles are located about 775 feet from the residential areas. The construction of the crude oil storage tanks at the Carson Crude Terminal would be located approximately 850 feet from residents in an area that is currently lighted at night. Construction activities are not expected to require additional lighting in this area as the area is already lighted for nighttime truck activities.

Construction activities at the Wilmington Operations would occur within the existing boundaries of the Refinery. The existing crude oil storage tanks and HTU-4, which would be modified as part of the proposed project, are located closer to a residential area (west of the Wilmington Operations) than any other portion of the proposed project, approximately 1,500 feet away. This area of the Wilmington Operations is already lighted for nighttime activities and construction activities are not expected to require additional light sources. The existing crude oil storage tanks are currently lighted and no new light sources are expected to be required for the construction of the replacement crude oil storage tanks at the Wilmington Operations. Further, a number of existing storage tanks and existing industrial structures would interfere with construction light sources between the HTU-4 and residential areas.

Lighting could also be required along the pipeline routes, if construction activities are required at night, to minimize traffic impacts. The proposed location of the new pipeline would cross under Alameda Street and Sepulveda Boulevard and is within a heavy industrial area. The closest residents to the pipeline construction area are over 2,500 feet east and separated by other industrial structures (e.g., storage tanks, rail and transportation related activities, commercial buildings, etc.). The streets in the vicinity of the pipeline construction activities are already lighted at night including, Alameda Street and Sepulveda Boulevard. Some of the existing nearby industrial uses, e.g., the Intermodal Container Transportation Facility (ICTF) operate 24 hours per day and are lighted at night during night time operations. Any temporary lighting would be required to point toward the interior to limit the potential for offsite glare in accordance with the City of Los Angeles Planning and Zoning Code §93.0117 and the City of Carson Municipal Code §9147.1.

New lighting may be provided as necessary in accordance with applicable safety standards on new structures constructed as a result of the proposed project. If installed, any new lighting is expected to be consistent with existing lighting at the refinery and, therefore, not noticeable outside the integrated Refinery boundaries. However, any new lights are not expected to create new light and glare impacts to areas adjacent to the integrated Refinery due to the industrial nature of the surrounding area and the fact that refineries and most other industrial facilities are typically lighted at night for safety reasons. Specifically, modified equipment that are part of the proposed project, would continue to use the existing lighting for that equipment, while installation of new equipment will require similar lighting requirements as the existing equipment, e.g., the new Sulfuric Acid Plan and PSTU will be located within the existing operating portions of the Wilmington Operations so that substantial new lighting is not expected to be required. The area of the proposed new crude oil tanks at the Carson Crude Terminal is

currently lighted and lighting associated with the tanks is not expected to differ from the existing lighting. Further, lighting for tanks, is minimal (i.e., less bright) and used for safety/security lighting only as workers do not generally work in the tank farm during the evening hours. Therefore, no significant adverse light and glare impacts are expected from implementing of the proposed project.

### **Conclusion**

Based on the above considerations, no significant adverse impacts to aesthetic resources are expected to occur as a result of construction and operational activities that would be undertaken in order to complete the proposed project. Since no potentially significant adverse impacts to aesthetic resources were identified, no further evaluation will be required in the EIR.

|  | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact                           |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| <b>II. AGRICULTURE AND FORESTRY RESOURCES.</b> Would the project:  |                                |                                       |                              |                                     |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?                        | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

**Significance Criteria**

Project-related impacts on agriculture and forestry resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).

- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

### **Discussion**

**II. a), b), c), and d)** The proposed project would not involve construction or operation outside of the existing boundaries of the integrated Refinery or other offsite industrial areas. The proposed project would be consistent with the heavy industrial zoning requirements for the integrated Refinery, including the Carson Crude Terminal. No agricultural or forestry resources or operations, including Williamson Act contracts, are located within or near the boundaries of the Wilmington or Carson Operations. No agriculture or forestry resources would be adversely affected by construction or operation activities from the proposed project because it would be implemented within the existing Refinery or other adjacent industrial areas (e.g., Alameda Corridor) and adjacent industrial areas that support Carson and Wilmington Operations. Therefore, the proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract.

Since the proposed project would occur within or adjacent to the boundaries of the Wilmington and Carson Operations, there are no provisions in the proposed project that would affect land use plans, policies, or regulations related to agricultural or forestry resources. Land use and other planning considerations are determined by local governments and no land use or planning requirements relative to agricultural resources will be altered by the proposed project. For these same reasons, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.

### **Conclusion**

Based on the above considerations, no significant adverse impacts to agricultural and forestry resources are expected to occur as a result of construction and operational activities that the Tesoro Refinery would undertake in order to complete the proposed project. Since no potentially significant adverse agricultural or forestry resources impacts were identified, no further evaluation will be required in the EIR.

|  | Potentially Significant Impact      | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|--|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.</b>  |                                     |                                       |                                     |                                     |
| Would the project:   |                                     |                                       |                                     |                                     |
| a) Conflict with or obstruct implementation of the applicable air quality plan?  | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute to an existing or projected air quality violation?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| d) Expose sensitive receptors to substantial pollutant concentrations?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| e) Create objectionable odors affecting a substantial number of people?  | <input type="checkbox"/>            | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |

**Significance Criteria**

To determine whether or not air quality criteria pollutants, greenhouse gas (GHG), and toxic emission impacts from implementing the proposed project are significant, impacts will be evaluated and compared to the criteria in Table 2-2. If the preliminary analysis of the proposed project shows that overall emissions have the potential to equal or exceed any of the thresholds in Table 2-2, these potential impacts will be further evaluated in the EIR.



**TABLE 2-2**  
**Air Quality and Greenhouse Gas (GHG) Significance Thresholds**

| <b>Mass Daily Thresholds<sup>(a)</sup></b>                                    |  |                                |
|---|--|--------------------------------|
| <b>Pollutant</b>  | <b>Construction<sup>(b)</sup></b>  | <b>Operation<sup>(c)</sup></b> |
| <b>NO<sub>x</sub></b>   | 100 lbs/day  | 55 lbs/day                     |
| <b>VOC</b>  | 75 lbs/day   | 55 lbs/day                     |
| <b>PM10</b>   | 150 lbs/day  | 150 lbs/day                    |
| <b>PM2.5</b>  | 55 lbs/day   | 55 lbs/day                     |
| <b>SO<sub>x</sub></b>   | 150 lbs/day  | 150 lbs/day                    |
| <b>CO</b>   | 550 lbs/day  | 550 lbs/day                    |
| <b>Lead</b>   | 3 lbs/day  | 3 lbs/day                      |
| <b>Toxic Air Contaminants, Odor, and GHG Thresholds</b>                       |  |                                |
| <b>TACs</b> (including carcinogens and non-carcinogens)                       | Maximum Incremental Cancer Risk $\geq$ 10 in 1 million<br>Chronic and Acute Hazard Index $\geq$ 1.0 (project increment)<br>Cancer Burden $\geq$ 0.5 excess cancer cases (in areas $\geq$ 1 in 1 million) |                                |
| <b>Odor</b>   | Project creates an odor nuisance pursuant to SCAQMD Rule 402   |                                |
| <b>GHG</b>  | 10,000MT/yr CO <sub>2</sub> eq for industrial facilities   |                                |
| <b>Ambient Air Quality for Criteria Pollutants<sup>(d)</sup></b>              |  |                                |
| <b>NO<sub>2</sub></b><br>1-hour average<br>annual average                     | In attainment; significant if project causes or contributes to an exceedance of any standard:<br>0.18 ppm (state)<br>0.03 ppm (state) and 0.0534 ppm (federal)   |                                |
| <b>PM10</b><br>24-hour<br>annual average                                      | 10.4 $\mu\text{g}/\text{m}^3$ (construction) <sup>(e)</sup> and 2.5 $\mu\text{g}/\text{m}^3$ (operation)<br>1.0 $\mu\text{g}/\text{m}^3$   |                                |
| <b>PM2.5</b><br>24-hour average   | 10.4 $\mu\text{g}/\text{m}^3$ (construction) <sup>(e)</sup> and 2.5 $\mu\text{g}/\text{m}^3$ (operation)   |                                |
| <b>SO<sub>2</sub></b><br>1-hour average<br>24-hour average                    | 0.255 ppm (state) and 0.075 ppm (federal – 99 <sup>th</sup> percentile)<br>0.04 ppm (state)  |                                |
| <b>Sulfate</b><br>24-hour average   | 25 $\mu\text{g}/\text{m}^3$ (state)  |                                |
| <b>CO</b><br>1-hour average<br>8-hour average                                 | In attainment; significant if project causes or contributes to an exceedance of any standard:<br>20 ppm (state) and 35 ppm (federal)<br>9.0 ppm (state/federal)  |                                |
| <b>Lead</b><br>30-day average<br>Rolling 3-month average<br>Quarterly average | 1.5 $\mu\text{g}/\text{m}^3$ (state)<br>0.15 $\mu\text{g}/\text{m}^3$ (federal)<br>1.5 $\mu\text{g}/\text{m}^3$ (federal)  |                                |

- a) Source: SCAQMD Air Quality Significance Thresholds, [www.aqmd.gov/ceqa/handbook/signthres.pdf](http://www.aqmd.gov/ceqa/handbook/signthres.pdf).
- b) Construction thresholds apply to both the SCAB and Coachella Valley (Salton Sea and Mojave Desert Air Basin)
- c) For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
- d) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
- e) Ambient air quality threshold based on SCAQMD Rule 403.

KEY: ppm = parts per million;  $\mu\text{g}/\text{m}^3$  = microgram per cubic meter; lbs/day = pounds per day; MT/yr CO<sub>2</sub>eq = metric tons per year of CO<sub>2</sub> equivalents, NO<sub>2</sub> = nitrogen dioxide,  $\geq$  greater than or equal to,  $>$  = greater than

## Discussion

**III. a) and f)** The 2012 Air Quality Management Plan (AQMP) demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the Southern California Association of Governments (SCAG), the agency that develops regional growth forecasts, and they are then used to develop future air quality forecasts for the 2012 AQMP. Development consistent with the growth projections in the City of Carson and City of Los Angeles General Plans is considered to be consistent with the 2012 AQMP. The City of Carson and City of Los Angeles General Plans designate the Wilmington and Carson Operations as heavy industrial so the proposed project is consistent with this land use. The proposed project would be consistent with the City of Carson and City of Los Angeles General Plans for the following reasons:

- As indicated in the Population and Housing and Transportation and Traffic sections, the estimated 700-800 construction workers are expected to be drawn from the existing labor pool in the southern California area.
- As indicated in the Population and Housing and Transportation and Traffic sections, the proposed project is not expected to require additional employees, so there would be no additional worker-related traffic generated during operation.
- Because the proposed project would not require additional workers during operations, it would not increase the demand for additional housing or recreational facilities.

Therefore, because the proposed project would not exceed growth projections in the City of Carson and City of Los Angeles General Plans and would not require a General Plan amendment, the proposed project would be considered consistent with the City of Carson and City of Los Angeles General Plans. Since the proposed project would be consistent with the City of Carson and City of Los Angeles General Plans, it would be consistent with the 2012 AQMP.

Additionally, the proposed project will be required to comply with applicable SCAQMD requirements for new stationary sources. Compliance with established rules ensures the integrity of the emission inventories in the 2012 AQMP. For example, new and modified emission sources associated with the proposed project would be subject to the SCAQMD Regulation XIII - New Source Review, will be required to be equipped with Best Available Control Technology (BACT), and will require Emission Reduction Credits (ERCs) to offset any emission increases greater than one pound per day. The proposed project will also be required to comply with prohibitory rules, such as SCAQMD Rule 403 - Fugitive Dust and stationary source rules such as Rule 1173 - Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants, as well as a number of other federal, state and local air quality rules and regulations. Finally, a portion of the proposed project is specifically designed to comply with federally mandated Tier 3 gasoline specifications.

Based on the analysis above, the proposed project is not expected to conflict with or obstruct implementation of the applicable air quality plan or diminish an existing air quality rule or future compliance requirement resulting in a significant increase in any air pollutants. Therefore, these topics will not be further analyzed in the EIR.

**III. b)** The proposed project has the potential to increase criteria pollutants and toxic air contaminants (TACs) emissions. To minimize potential emission increases, the proposed project will be required to comply with all relevant SCAQMD rules and regulations.

The SCAQMD makes significance determinations for construction impacts based on the maximum or peak daily emissions during the construction period, which provides a “worst-case” analysis of the construction emissions. Construction activities will not all occur at the same time but rather over time as depicted in Figure 1-6. Construction emissions are expected from the following equipment and processes:

- Onsite Construction Equipment (dump trucks, cranes, excavator, etc.);
- Onsite and Offsite Vehicle Emissions, including Delivery Trucks and Worker Vehicles;
- Onsite Fugitive Dust Associated with Site Construction Activities; and,
- Onsite and Offsite Fugitive Dust Associated with Travel on Unpaved and Paved Roads.

Construction activities are expected to occur in several locations throughout the Wilmington and Carson Operations (see Figures 1-3 and 1-4) and have the potential to generate emissions of CO, NO<sub>x</sub>, volatile organic compounds (VOCs), SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Construction activities include grading, setting foundations, equipment installation, tie-in connections to existing systems, pipeline/conduit construction, etc. Construction-related activities would generate emissions from worker vehicles, trucks, and construction equipment, as well as fugitive dust associated with grading and land disturbance. The air quality impacts associated with the construction phase of the proposed project are potentially significant and will be evaluated in the EIR.

The proposed project includes shutting down of the FCCU at the Wilmington Operations and relinquishing all relevant FCCU permits to the SCAQMD. The shutdown of the FCCU will result in emission reductions associated with the FCCU regenerator, CO Boiler, Steam Superheater, Fresh Feed Heater, Hot Oil Loop Reboiler, and fugitive emission components. The proposed project would also add emission sources to the Refinery including emissions from the PSTU, Ammonium Thiosulfate Plant, Sulfuric Acid Regeneration Plant, LPG Rail Loading and Unloading, Wet Jet Treater, new and modified storage tanks, as well as exhaust and fugitive emissions from heaters, pumps, valves, and flanges. The proposed project would also result in an increase in steam demand that would need to be supplied by combustion sources. The SCAQMD requires the installation of BACT pursuant to Rule 1303 for new, modified, and relocated emission sources within the South Coast Air Basin, which, generally, is expected to result in the lowest achievable emissions rate for affected equipment. Nonetheless, because of the scope of the proposed project, impacts on air quality during the operational phase are potentially significant and will be evaluated in the EIR.

The proposed project may also alter the transport of LPG from the Refinery by rail, as well as the transport of sulfuric acid and ammonium thiosulfate by truck. Potential emission impacts related to changes in transport will be evaluated in the EIR.

**III. c)** Because the proposed project has the potential to generate significant adverse project-specific construction and operational air quality impacts, it has the potential to generate significant adverse cumulative air quality impacts. Since the project-specific air quality impacts may be significant, they may contribute to impacts that are cumulatively considerable. Therefore, cumulative air quality impacts are potentially significant and will be evaluated in the EIR.

**III. d)** New emission sources are associated with the proposed project that could potentially be new sources of TAC emissions (e.g., combustion emissions, ammonia slip emissions, etc.). The proposed project will be subject to the requirements of SCAQMD Rule 1401 - Toxic Air Contaminants. The cancer and non-cancer health risk impacts of the TAC emissions from new equipment at the Carson and Wilmington Operations, with particular focus on sensitive populations, including individuals at hospitals, nursing facilities, daycare centers, schools, and elderly intensive care facilities, as well as residential and off-site occupational areas, have the potential to exceed the significance threshold identified in Table 2-2 and, therefore, will be evaluated in the EIR. Although the shutdown of the FCCU at Wilmington Operations will result in the elimination of TAC emissions from this piece of equipment, this effect will also be evaluated in the EIR.

**III. e)** The proposed project is not expected to create significant objectionable odors, either during construction or during operations. Sulfur compounds (e.g., hydrogen sulfide) are the primary sources of odors at a refinery. Hydrogen sulfide (a gas) is typically generated at the Refinery as part of the process to remove sulfur impurities from crude oil. Hydrogen sulfide gas is treated in the Sulfur Recovery Units where it is converted to solid elemental sulfur, which has no odor. The proposed project is not expected to require modifications to the Sulfur Recovery Units or alter the handling and treatment of hydrogen sulfide. Natural gas will be the combustion fuel for all fired emission units for the proposed project. The sulfur content of natural gas is stringently regulated by SCAQMD Rule 431.1 and, therefore, contains only trace amounts of sulfur compounds. Further, objectionable odors are not expected since the natural gas supply system must be operated as a closed system to prevent safety hazards (e.g., potential fires). Finally, the Ammonium Thiosulfate Plant would be equipped with BACT to limit emissions, which would also minimize odors.

The Refinery maintains a 24-hour environmental surveillance effort where operators are trained to report odors so that the source can be identified and remedied promptly, which helps to minimize the frequency and magnitude of odor events. In addition, all new or modified components would be required to comply with BACT requirements as well as existing SCAQMD rules and regulations, including Rule 402 - Prohibition of Nuisances. As a result, no noticeable increases in odors are expected from the new equipment that is part of the proposed project for the reasons given above. Therefore, no significant odor impacts are expected from constructing and operating the proposed project. Potential odor impacts from the proposed project will not be further analyzed in the EIR.

**III. g) and h)** The proposed project will result in the shutdown of the FCCU at the Wilmington Operations. The shutdown of the FCCU would result in substantial GHG emission reductions currently associated with the FCCU regenerator, CO Boiler, Steam Superheater, Fresh Feed Heater, Hot Oil Loop Reboiler, Startup Heater and fugitive emission components. Therefore, the shutdown of the FCCU would eliminate GHG emissions, as well as criteria pollutant and TAC emissions, from this and ancillary combustion sources. The proposed project also includes the construction of additional combustion sources. The new combustion sources would generate new GHG emissions. Consequently, the overall effects of shutting down the FCCU and installing new equipment have the potential to exceed the GHG emissions significance threshold in Table 2-2 and will be evaluated in the EIR. The Refinery is subject to federal and state GHG emission regulations (e.g., Assembly Bill 32). Potential impacts relating to compliance with GHG plans and reduction regulations will be evaluated in the EIR.

### **Conclusion**

Based on the above considerations, construction and operation of the proposed project is not expected to: generate significant adverse impacts to the applicable air quality plan; conflict with or diminish an air quality rule or future compliance requirement, policy, or regulation adopted for the purpose of reducing emissions; or create objectionable odors.

Project-specific and cumulative adverse air quality impacts associated with increased emissions of air contaminants (criteria air pollutants, greenhouse gases, and toxic air contaminants) during the construction and operational activities of the proposed project will be evaluated in the EIR. Impacts to sensitive receptors will also be analyzed in the EIR.

|  | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact                           |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| <b>IV. BIOLOGICAL RESOURCES.</b>   |                                |                                       |                              |                                     |
| Would the project:   |                                |                                       |                              |                                     |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### Significance Criteria

The impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

### Discussion

**IV. a), b), c), and d)** The proposed project would be located in a heavy industrial area, entirely within the existing boundaries of the Wilmington and Carson Operations or within already developed existing industrial areas. The Wilmington and Carson Operations have been fully developed and are essentially void of vegetation with the exception of some decorative landscape vegetation near the administration buildings. Landscape plants and growth of vegetation onsite are limited to administration buildings for fire prevention purposes. Further, the Carson Crude Terminal is paved and currently used primarily for truck container storage and is devoid of vegetation, except for landscape vegetation along the perimeter of the property, which will not be impacted by the proposed project. The pipeline route will also be located within existing industrial properties and street/railroad rights-of-way which are already graded, paved and developed, and devoid of vegetation.

A review of the California Natural Diversity Data Base Map for the Long Beach Quadrangle available online did not reveal records of special status species at or in the near vicinity of the Refinery. Based on the disturbed nature of the site, the industrial nature of the proposed and existing activities at the Refinery, the industrial nature of the surrounding property, and records documenting the absence of special status species, no specific wildlife surveys were considered necessary and, thus, none were conducted. No native vegetation is located at the proposed project sites and these areas are currently used for refining operations. For these reasons, the proposed project is not expected to have a significant adverse effect, either directly or through habitat modifications, on any species identified as a special status species. Further, the proposed project would not have an adverse effect, either directly or indirectly or through habitat modifications, on any sensitive biological species, riparian habitat, or other sensitive natural habitat since no such habitat exists at the Refinery due to the developed and industrial nature of the site.

The proposed project would not result in the addition or elimination of water ponds that could be used by animals or migratory birds. Further, the proposed project would not adversely affect federally protected wetlands as defined in §404 of the Clean Water Act as no such wetlands are

located at or adjacent to the Refinery. The Dominguez Channel is a concrete lined flood control channel adjacent to the Refinery. The electrical conduit associated with the proposed project would cross the Dominguez Channel on an existing pipe bridge and on the existing Alameda Street bridge. No construction activities would occur within the Dominguez Channel. There are no significant plant or animal resources, locally designated species, natural communities, wetland habitats, or animal migration corridors that would be adversely affected by the proposed project. There are no rare, endangered, or threatened species at the Refinery or adjacent industrial areas as native vegetation has been removed. Because the area in and near the Refinery is devoid of native habitat, impacts to other, non-listed species are not expected. Therefore, the proposed project would have no direct or indirect impacts that could adversely affect: plant species or habitats, sensitive natural communities, wetlands, animal species or the habitats on which they rely, or the movement of native or migratory species.

**IV. e) and f)** The proposed project is not envisioned to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the proposed project as further discussed in Section X – Land Use and Planning. Additionally, the proposed project would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because all activities associated with the proposed project would occur within an existing heavy industrial area devoid of native habitat, which is not subject to a Habitat or Natural Community Conservation Plan.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that the proposed project would have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the project will have no effect on fish and wildlife under §753.5 (d), Title 14 of the California Code of Regulations.

### **Conclusion**

Based on the above considerations, no significant adverse impacts to biological resources are expected to occur as a result of construction and operational activities that the Refinery would undertake in order to implement the proposed project. Since no potentially significant adverse biological resources impacts were identified, no further evaluation will be required in the EIR.



|   | <b>Potentially<br/>Significant<br/>Impact</b> | <b>Less Than<br/>Significant<br/>With<br/>Mitigation</b> | <b>Less Than<br/>Significant<br/>Impact</b> | <b>No Impact</b>                    |
|---|---|--|---|-------------------------------------|
| <b>V. CULTURAL RESOURCES.</b> Would the project:  |   |  |   |                                     |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?      | <input type="checkbox"/>                      | <input type="checkbox"/>                                 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5? | <input type="checkbox"/>                      | <input type="checkbox"/>                                 | <input checked="" type="checkbox"/>         | <input type="checkbox"/>            |
| c) Directly or indirectly destroy a unique paleontological resource, site, or feature?                          | <input type="checkbox"/>                      | <input type="checkbox"/>                                 | <input checked="" type="checkbox"/>         | <input type="checkbox"/>            |
| d) Disturb any human remains, including those interred outside formal cemeteries?                               | <input type="checkbox"/>                      | <input type="checkbox"/>                                 | <input checked="" type="checkbox"/>         | <input type="checkbox"/>            |

**Significance Criteria**

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

**Discussion**

**V. a)** CEQA Guidelines state that “generally, a resource shall be considered ‘historically significant’ if the resource meets the criteria for listing in the California Register of Historical Resources including the following:

- a) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- b) Is associated with the lives of persons important in our past;
- c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

- d) Has yielded or may be likely to yield information important in prehistory or history” (CEQA Guidelines §15064.5).

Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places<sup>1</sup> unless they can be shown to be exceptionally important). The buildings, structures, and equipment associated with the proposed project are not listed on registers of historic resources, and do not meet any of the eligibility criteria presented above (e.g., associated with historically important events or people, embodying distinctive characteristics of a type, period, or method of construction), and would not be likely to yield historically important information. The only components of the proposed project that are being removed are old Refinery structures including columns, fans, towers, heat exchangers, pumps, etc. None of these structures meet the aforementioned historical significance criteria. Therefore, no significant adverse impacts to historic cultural resources are expected as a result of implementing the proposed project.

**V. b), c), and d)** All construction and operational activities that would occur as a result of the proposed project will occur within the existing Wilmington and Carson Operations and existing industrial areas. The proposed project would be consistent with the heavy industrial zoning.

Based on previous studies, the area near the Dominguez Channel was used by the Tongva/Gabrielino people. Cultural studies found a Tongva/Gabrielino village site and a large cemetery exposed in 1998 near the Carson Operations (former BP Refinery) (east of the Dominguez Channel) (SCAQMD, 2001). In 1999 construction activities at the Wilmington Operations uncovered human remains within the confines of the Refinery near the eastern property line, just north of Pacific Coast Highway and adjacent to the Dominguez Channel. The human remains were determined to be of Native American origin. Construction activities were suspended until all the remains were uncovered and a complete site investigation could be conducted. Additional site investigations did not uncover any additional human remains (Applied Earth Works, 1999). Since 2001 for the Carson Operations and 1999 for the Wilmington Operations, there have been a number of projects involving construction on site that have not uncovered archaeological or paleontological resources or human remains.

The entire active portions of the Wilmington and Carson Operations have been previously graded and developed. Proposed project activities will occur in areas of the integrated Refinery and Carson Crude Terminal where the ground surface has already been disturbed, within or adjacent to existing refining and other units, and this past disturbance reduces the likelihood that previously unknown cultural resources will be encountered. Further, the Refinery site does not contain known paleontological resources and thus the proposed project also is not expected to impact any sites of paleontological value.

The construction of the pipelines would occur in areas which have been previously graded and developed and which are located adjacent to existing pipelines. For example, a small portion of

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<sup>1</sup> The eligibility criteria of the California Register criteria are modeled on those of the eligibility criteria of the National Register of Historic Places.

the new pipelines would be constructed underneath Alameda Street and Sepulveda Boulevard and would be located near other existing pipelines. The pipelines would run above ground within the confines of the integrated Refinery. Therefore, cultural resources are not expected to be impacted during pipeline construction activities.

While the likelihood of encountering cultural resources is low, there is still a potential that additional buried archaeological resources may exist. Any such impact would be eliminated by using standard construction practices and complying with state law including Public Resources Code § 21083.2 and CEQA Guidelines § 15064.5, which require the following, in the event that unexpected sub-surface resources were encountered:

- Conduct a cultural resources orientation for construction workers involved in excavation activities. This orientation will show the workers how to identify the kinds of cultural resources that might be encountered, and what steps to take if this occurred;
- Monitoring of subsurface earth disturbance by a professional archaeologist and a Gabrielino/Tongva representative if cultural resources are exposed during construction;
- Provide the archaeological monitor with the authority to temporarily halt or redirect earth disturbance work in the vicinity of cultural resources exposed during construction, so the find can be evaluated and mitigated as appropriate; and,
- As required by State law in Public Resources Code §§ 5097.94 and 5097.98, prevent further disturbance if human remains are unearthed, until the County Coroner has made the necessary findings with respect to origin and disposition, and the Native American Heritage Commission has been notified if the remains are determined to be of Native American descent.

### **Conclusion**

Based upon the above considerations, no significant adverse impacts to cultural resources are expected to occur as a result of construction and operational activities that would be undertaken in order to complete the proposed project. Since no potentially significant adverse cultural resources impacts were identified, no further evaluation will be required in the EIR.

|   | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>VI. ENERGY.</b> Would the project:   |                                |                                       |                                     |                                     |
| a) Conflict with adopted energy conservation plans?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in the need for new or substantially altered power or natural gas utility systems?                      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Create any significant effects on local or regional energy supplies and on requirements for additional energy? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Create any significant effects on peak and base period demands for electricity and other forms of energy?      | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Comply with existing energy standards?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Significance Criteria**

The impacts to energy resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

**Discussion**

**VI. a) and e)** The proposed project is not expected to conflict with any adopted energy conservation plan or existing energy standard. There is no known energy conservation plan or existing energy standard that would apply to either of the existing Wilmington and Carson Operations or the proposed project as it primarily involves new and modified equipment that will allow the Refinery to operate more efficiently. The FCCU at Wilmington Operations will be shut down, reducing the energy requirements in this portion of the integrated Refinery. As explained in the following section, heat exchangers will be added to a number of units to increase overall energy efficiency. As concluded in the discussion in section VI. b), c), and d) below, the potential additional energy demand that may be needed to implement proposed project construction and operational activities is shown to be less than significant.

**VI. b), c), and d)** It is not expected that natural gas-fired or electrically-powered construction equipment would be used (with the exception of electric welders); thus, there would be no need for new or substantially altered power or natural gas utility systems during construction of the proposed project. Construction of the proposed project is estimated to require about 64,000 gallons of diesel fuel per year. In 2011, the Los Angeles region used 4,892 million gallons of gasoline (CEC, 2013a) and 281 million gallons of diesel (CEC, 2013b). The fuel associated with construction of the entire project represents less than one percent of the total annual demand in the Los Angeles region, and a negligible fraction of the total use of fuel in California. The construction activities are not expected to result in an increase in gasoline as the construction equipment is predominately diesel fueled. Therefore, less than significant adverse impacts on energy are expected during the construction period. Additionally, no permanent employees are anticipated to be needed to operate the Refinery once construction is completed, so no additional demand for gasoline fuel is expected.

Refinery fuel gas and natural gas required to operate new and modified equipment associated with the proposed project at the Wilmington and Carson Operations would continue to be supplied by the existing facility utility system and Southern California Gas Company. The FCCU at Wilmington Operations will be shutdown, reducing the energy requirements in this portion of the integrated Refinery. Heat exchangers will be added to a number of units to increase overall energy efficiency. Heat exchangers allow waste heat to be transferred from one location to another location where heat is required, thus acting to “reuse” already generated heat and increasing heat efficiency within the Refinery, as well as reducing the use of cooling water. To operate new and modified equipment, the proposed project is expected to increase natural gas consumption by approximately 2,628 million standard cubic feet per year (MMscf/yr). Southern California Gas Company delivered 2,834 million standard cubic feet per day (MMscf/d) (about 1,034,410 million standard cubic feet per year) to users in southern California in 2012 (CGEU, 2013). The additional yearly usage of natural gas required to operate the equipment associated with the proposed project would comprise approximately 0.003 percent of the total gas delivered to the region, which is considered to be less than significant. Since the natural gas demand for the integrated Refinery is expected to be less than significant, the proposed project will not result in the need for new or substantially altered natural gas utilities or adversely affect local or regional natural gas supplies. Similarly, the proposed project would not adversely affect peak or base period natural gas demand. Thus, less than significant adverse impacts on fuel gas and natural gas are expected during operation.

Relative to electricity supply, the Wilmington Operations are currently served by Los Angeles Department of Water and Power (LADWP) and the Carson Operations are served by Southern California Edison (SCE). Currently, the Wilmington and Carson Operations each operate separate onsite cogeneration units to generate electricity for operations at each site. The proposed project includes the construction of an electrical conduit from the Watson Cogen Unit located at the Carson Operations to the Wilmington Operations. The cogeneration units at the Wilmington Operations as well as the Watson cogen currently generate 385 megawatts (MW) of electricity. Current power production capacity by these cogeneration units would be sufficient to supply total electricity demand at the integrated Refinery. In addition, the Watson Cogen is

expected to have the capacity to generate more electricity than is needed by the integrated Refinery, which would continue to be sold back to SCE for use by others on the electrical grid.

The proposed project is expected to require an additional 19 megawatts (MW) of electricity to operate additional pumps, heaters, coolers and blowers. While electricity demand by the integrated Refinery is expected to increase, the additional electricity would come entirely from the existing cogeneration units (primarily Watson Cogen). While this additional use would not require the purchase of electricity from LADWP or SCE, it would reduce the amount of power available for distribution to the electrical grid. Since the integrated Refinery is expected to be completely self sufficient with regard to electricity generation, the proposed project will not result in the need for new or substantially altered electricity utilities or affect local or regional electricity supplies. The entire 19 MW of electricity expected to be required by the proposed project would come from onsite cogeneration units, so no increase in electricity is required from public utilities. Similarly, the proposed project would not adversely affect peak or base period electricity demand. Thus, less than significant adverse impacts on electricity generation and demand are expected during operation.

### **Conclusion**

Based on the above considerations, no significant adverse impacts to energy resources are expected to occur as a result of construction and operational activities that Tesoro would undertake in order to complete the proposed project. Similarly, the proposed project would not utilize non-renewable energy resources in a wasteful or inefficient manner. Therefore, since no potentially significant adverse energy impacts were identified, no further evaluation will be required in the EIR.

|   | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>VII. GEOLOGY AND SOILS.</b> Would the project:   |                                |                                       |                                     |                                     |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| • Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?            | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| • Strong seismic ground shaking?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| • Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Result in substantial soil erosion or the loss of topsoil?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Significance Criteria**

The impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

**Discussion**

**VII. a)** The proposed project is located within a seismically active region. The most significant potential geologic hazard is estimated to be seismic shaking from future earthquakes generated by active or potentially active faults in the region. Table 2-3 identifies those faults in the southern California region that could affect the proposed project in terms of potential for future seismic activity. Seismic records have been available for the last 200 years, with improved instrumental seismic records available for the past 50 years. Based on a review of earthquake data, most of the earthquake epicenters occur along the Whittier-Elsinore, San Andreas, Newport-Inglewood, Malibu-Santa Monica-Raymond Hills, Palos Verdes, Sierra Madre, San Fernando, Elysian Park-Montebello, and Torrance-Wilmington faults (see Jones and Hauksson, 1986). All these faults are elements of the San Andreas Fault system. Past experience indicates that there has not been any substantial damage, structural or otherwise to the Wilmington and Carson Operations as a result of earthquakes. Table 2-4 identifies the historic earthquakes over magnitude 4.5 in southern California, between 1915 and the present, along various faults in the region.

**Table 2-3**

**Major Active or Potentially Active Faults in Southern California**

| <b>Fault Zone</b>                | <b>Fault Length (Miles)</b> | <b>Maximum Credible Earthquake</b> | <b>Maximum Acceleration (G)</b> |
|----------------------------------|-----------------------------|------------------------------------|---------------------------------|
| Malibu-Santa Monica-Raymond Hill | 65                          | 7.5                                | 0.49                            |
| Newport-Inglewood                | 25                          | 7.0                                | 0.42                            |
| Northridge                       | 12                          | 6.7                                | 0.16                            |
| Palos Verdes                     | 20                          | 7.0                                | 0.24                            |
| San Andreas                      | 200+                        | 8.25                               | 0.21                            |
| San Jacinto                      | 112                         | 7.5                                | 0.11                            |
| San Fernando                     | 8                           | 6.8                                | 0.17                            |
| Sierra Madre                     | 55                          | 7.3                                | 0.23                            |
| Whittier-Elsinore                | 140                         | 7.1                                | 0.46                            |
| Elysian Park – Montebello        | 15                          | 7.1                                | 0.27                            |

G = acceleration of gravity.



**Table 2-4**  
**Significant Historical Earthquakes in Southern California**

| <b>Date</b> | <b>Location (epicenter)</b>     | <b>Magnitude</b> |
|-------------|---------------------------------|------------------|
| 1910        | Elsinore                        | 6.0              |
| 1915        | Imperial Valley                 | 6.3              |
| 1918        | San Jacinto                     | ~6.8             |
| 1923        | North San Jacinto Fault         | 6.3              |
| 1925        | Santa Barbara                   | 6.3              |
| 1927        | Lompoc                          | 7.1              |
| 1933        | Long Beach                      | 6.4              |
| 1937        | San Jacinto Fault               | 6.0              |
| 1940        | Imperial Valley                 | 6.9              |
| 1941        | Santa Barbara                   | 5.5              |
| 1941        | Torrance-Gardena                | 4.8              |
| 1942        | Fish Creek Mountains            | 6.6              |
| 1946        | Walker Pass                     | 6.0              |
| 1947        | Manix                           | 6.5              |
| 1948        | Desert Hot Springs              | 6.0              |
| 1952        | Kern County                     | 7.5              |
| 1952        | Bakersfield                     | 5.8              |
| 1954        | San Jacinto Fault               | 6.4              |
| 1966        | Parkfield                       | 6.0              |
| 1968        | Borrego Mountain                | 6.5              |
| 1970        | Lytle Creek                     | 5.2              |
| 1971        | San Fernando (Sylmar)           | 6.5              |
| 1973        | Point Mugu                      | 5.3              |
| 1978        | Santa Barbara                   | 5.1              |
| 1979        | Imperial Valley                 | 6.4              |
| 1980        | White Wash                      | 5.5              |
| 1982        | Anza Gap                        | 4.8              |
| 1986        | North Palm Springs              | 5.6              |
| 1987        | Whittier                        | 5.9              |
| 1987        | Elmore Ranch/Superstition Hills | 6.2              |
| 1988        | Tejon Ranch                     | 5.4              |
| 1988        | Pasadena                        | 5.0              |
| 1988        | Upland                          | 4.7              |
| 1989        | Montebello                      | 4.6              |
| 1989        | Newport Beach                   | 4.7              |
| 1990        | Upland                          | 5.4              |
| 1991        | Sierra Madre                    | 5.8              |
| 1992        | Joshua Tree                     | 6.1              |
| 1992        | Landers                         | 7.3              |
| 1992        | Big Bear                        | 6.4              |
| 1992        | Mojave (Garlock)                | 5.7              |
| 1994        | Northridge                      | 6.7              |
| 1995        | Ridgecrest                      | 5.4              |

**Table 2-4 (Concluded)**  
**Significant Historical Earthquakes in Southern California**

| Date  | Location (epicenter)              | Magnitude |
|-------|-----------------------------------|-----------|
| 1997  | Calico                            | 5.3       |
| 1999  | Hector Mine                       | 7.1       |
| 2002  | Laguna Salada                     | 5.7       |
| 2008  | Chino                             | 5.3       |
| 2009  | Northern Baja California          | 5.8       |
| 2010  | Sierra El Mayor (No. Baja Calif.) | 7.2       |
| 2014* | La Habra                          | 5.1       |

Source: SCEC, 2014.

\* Source: USGS, 2014 available at <http://comcat.cr.usgs.gov/earthquakes/eventpage/ci15481673#summary>

The fault zones in the region with potential for future activity that may affect the Refinery are described below. These faults have been identified under the Alquist-Priolo Earthquake Fault Zoning Act.

**Malibu-Santa Monica-Raymond Hills Fault Zone:** The Raymond Hills fault is part of the fault system that extends from the base of the San Gabriel Mountains westward to beyond the Malibu coast line. The fault has been relatively quiet, with no recorded seismic events in historic time (see SCEC, 2013, 2013a, 2013b, and 2013c); however, recent studies indicate movement can occur with a recurrence interval of from 740 years for the Santa Monica Mountains Thrust Fault up to 3,290 years for the Hollywood-Santa Monica-Malibu Coast system to rupture (see Dolan, 1995).

**The Newport-Inglewood Fault Zone:** The Newport-Inglewood fault is a major tectonic structure within the Los Angeles Basin. This fault is best described as a structural zone comprising a series of echelon and sub-parallel fault segments and folds. The faults of the Newport-Inglewood uplift in some cases exert considerable barrier influence upon the movement of subsurface water (see DWR, 1961). Offsetting of sediments along this fault usually is greater in deeper, older formations. Sediment displacement is less in younger formations. The Alquist-Priolo Act has designated this fault as an earthquake fault zone. The purpose of designating this area as an earthquake fault zone is to mitigate the hazards of fault rupture by prohibiting building structures across the trace of the fault.

This fault poses a seismic hazard to the Los Angeles area (see Topozada, et al., 1988, 1989), although no surface faulting has been associated with earthquakes along this structural zone during the past 200 years. Since this fault is located within the Los Angeles Metropolitan area, a major earthquake along this fault would produce more destruction than a magnitude 8.0 on the San Andreas fault. The largest instrumentally recorded event was the 1933 Long Beach earthquake, which occurred on the offshore portion of the Newport-Inglewood structural zone with a magnitude of 6.3. A maximum credible earthquake of magnitude 7.0 has been assigned to this fault zone (see Ziony, 1985).

**The Palos Verdes Fault Zone:** The Palos Verdes fault extends for about 50 miles from the Redondo submarine canyon in Santa Monica Bay to south of Lausen Knoll and is responsible for

the uplift of the Palos Verdes Peninsula. This fault is both a right-lateral strike-slip and reverse separation fault. The Gaffey anticline and syncline are reported to extend along the northwestern portion of the Palos Verdes hills. These folds plunge southeast and extend beneath recent alluvium east of the hills and into the San Pedro Harbor, where they may affect movement of ground water (see DWR, 1961). The probability of a moderate or major earthquake along the Palos Verdes fault is low compared to movements on either the Newport-Inglewood or San Andreas faults (see Los Angeles Harbor Department, 1980). However, this fault is capable of producing strong to intense ground motion and ground surface rupture. This fault zone has not been placed by the California State Mining and Geology Board into an Alquist-Priolo special studies zone.

**San Andreas Fault Zone:** The San Andreas fault is located on the north side of the San Gabriel Mountains trending east-southeast as it passes the Los Angeles Basin. This fault is recognized as the longest and most active fault in California. It is generally characterized as a right-lateral strike-slip fault which is comprised of numerous sub-parallel faults in a zone over two miles wide. There is a high probability that southern California will experience a magnitude 7.0 or greater earthquake along the San Andreas or San Jacinto fault zones, which could generate strong ground motion in the project area. There is a five to twelve percent probability of such an event occurring in southern California during any one of the next five years and a cumulative 47 percent chance of such an event occurring over a five year period (see Reich, 1992).

**San Fernando Fault:** The westernmost segment of the Sierra Madre fault system is the San Fernando segment. This segment extends for approximately 12 miles beginning at Big Tujunga Canyon on the east to the joint between the San Gabriel Mountains and the Santa Susana Mountains on the west (see Ehlig, 1975). The 1971 Sylmar earthquake occurred along this segment of the Sierra Madre fault system, resulting in a 6.4 magnitude fault. Dolan, et al. (1995) indicates the San Fernando fault segment is capable of producing a 6.8 magnitude fault every 455 years.

**Sierra Madre Fault System:** The Sierra Madre fault system extends for approximately 60 miles along the northern edge of the densely populated San Fernando and San Gabriel valleys (Dolan, et al., 1995) and includes all faults that have participated in the Quaternary uplift of the San Gabriel Mountains. The fault system is complex and appears to be broken into five or six segments each 10 to 15 miles in length (see Ehlig, 1975). The fault system is divided into three major faults by Dolan, et al. (1995), including the Sierra Madre, the Cucamonga and the Clamshell-Sawpit faults. The Sierra Madre fault is further divided into three minor fault segments the Azusa, the Altadena and the San Fernando fault segments. The Sierra Madre fault is capable of producing a 7.3 magnitude fault every 805 years (see Dolan, et al., 1995).

**Whittier-Elsinore Fault Zone:** The Whittier-Elsinore Fault is one of the more prominent structural features in the Los Angeles Basin. It extends from Turnbull Canyon near Whittier, southeast to the Santa Ana River, where it merges with the Elsinore fault. Yerkes (1972) indicated that vertical separation on the fault in the upper Miocene strata increases from approximately 2,000 feet at the Santa Ana River northwestward to approximately 14,000 feet in the Brea-Olinda oil field. Farther to the northwest, the vertical separation decreases to approximately 3,000 feet in the Whittier Narrows of the San Gabriel River.

The fault also has a major right-lateral strike slip component. Yerkes (1972) indicates streams along the fault have been deflected in a right-lateral sense from 4,000 to 5,000 feet. The fault is capable of producing a maximum credible earthquake event of about magnitude 7.0 every 500 to 700 years.

**Elysian Park-Montebello System:** The Elysian Park fault is a blind thrust fault system, i.e., not exposed at the surface, whose existence has been inferred from seismic and geological studies. The system as defined by Dolan, et al. (1995) comprises two distinct thrust fault systems: 1) an east-west-trending thrust ramp located beneath the Santa Monica Mountains; and 2) a west-northwest-trending system that extends from Elysian Park Hills through downtown Los Angeles and southeastward beneath the Puente Hills. The Elysian Park thrust is capable of producing a magnitude 7.1 earthquake every 1,475 years.

**Torrance-Wilmington Fault Zone:** The Torrance-Wilmington fault has been reported to be a potentially destructive, deeply buried fault, which underlies the Los Angeles Basin. Kerr (1988) has reported this fault as a low-angle reverse or thrust fault. This proposed fault could be interacting with the Palos Verdes hills at depth. Little is known about this fault, and its existence is inferred from the study of deep earthquakes. Although information is still too preliminary to be able to quantify the specific characteristics of this fault system, this fault appears to be responsible for many of the small to moderate earthquakes within Santa Monica Bay and easterly into the Los Angeles area. This fault itself should not cause surface rupture, only ground shaking in the event of an earthquake.

In addition to the known surface faults, shallow-dipping concealed "blind" thrust faults have been postulated to underlie portions of the Los Angeles Basin. Because there exist few data to define the potential extent of rupture planes associated with these concealed thrust faults, the maximum earthquake that they might generate is largely unknown.

No faults or fault-related features are known to exist at the Refinery. The closest fault zone to the Refinery is the Newport-Inglewood Fault Zone, which is located approximately 1.5 to 2.0 miles northeast of the Refinery. The proposed project is not located in any Alquist-Priolo Earthquake fault zone and is not expected to be subject to significant surface fault displacement. Therefore, no significant adverse impacts to the proposed project facilities are expected from seismically-induced ground rupture.

Based on the historical record, it is highly probable that earthquakes will affect the Los Angeles region in the future. Research shows that damaging earthquakes will occur on or near recognized faults which show evidence of recent geologic activity. The proximity of major faults to the Refinery increases the probability that an earthquake may impact the site. There is the potential for damage in the event of an earthquake. Impacts of an earthquake could include structural failure, spill, etc. The hazards of a release during an earthquake are addressed in Section VIII - Hazards and Hazardous Materials.

The new and modified equipment must be designed to comply with the California Building Code requirements since the proposed project is located in a seismically active area. The California Building Code is considered to be a standard safeguard against major structural failures and loss

of life. The code requires structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and, 3) resist major earthquakes without collapse, but with some structural and non-structural damage. The California Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The California Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the California Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

The new and modified equipment at the Refinery will require building permits, as applicable, for all new structures associated with the proposed project from the City of Los Angeles and the City of Carson. The Refinery must receive approval of all building plans and building permits to assure compliance with the latest Building Code adopted by each City prior to commencing construction activities. The issuance of building permits from the local authority will assure compliance with the California Building Code requirements which include requirements for building within seismic hazard zones. No significant adverse impacts from seismic hazards are expected since the proposed project will be required to comply with the California Building Codes, including those addressing seismic effects.

Thus, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death involving the rupture of an earthquake fault, seismic ground shaking, ground failure or landslides is not anticipated.

The topic of liquefaction is addressed in the discussion in VII. c) below.

**VII. b)** The proposed project is located within the confines of the existing Refinery. Concrete foundations presently support refinery structures and equipment. The proposed new and modified processing units for the proposed project will be constructed in areas within the existing Wilmington and Carson Operations. The proposed crude storage tanks would be constructed within the Carson Crude Terminal which is paved. The pipelines and electrical conduit would be placed within the confines of the existing Refinery or within the existing right-of-way of existing streets, all of which are industrial areas which are currently paved. Most of the roads in the Refinery, including all high traffic roads, have been paved. The major aspects of the proposed project are expected to be constructed in locations within the Refinery that have been previously graded or excavated for refining equipment. The locations of the proposed new and modified crude storage tanks have also been graded and paved, so soil erosion or loss of topsoil is not anticipated to occur.

Wind erosion during construction is not expected to occur to any appreciable extent, because construction contractors operating at any dust generating sites within the Wilmington and Carson Operations would be required to comply with the best available control measure (BACM) requirements of SCAQMD Rule 403 – Fugitive Dust. In general, fugitive dust must be controlled through a number of soil stabilizing measures such as watering the site, using

chemical soil stabilizers, re-vegetating inactive sites, et cetera. The proposed project involves the removal of existing equipment, the installation of new equipment, and the modification of existing equipment, at a site that was previously graded within the existing Refinery. However, additional grading and excavation is expected to be required to provide stable foundations for the new and modified equipment. Potential air quality impacts related to grading and excavation are addressed elsewhere in this document (as part of construction air quality impacts discussion in Section III.).

Further, the Wilmington and Carson Operations have prepared Storm Water Pollution Prevention Plans (SWPPP) in order to comply with National Pollution Discharge Elimination System (NPDES) standards, and compliance with the SWPPP will continue during and after completion of the proposed project. The SWPPP includes best management practices to control dust and mud transport during rain events to prevent solids and sediment transport into the storm drains and onto streets.

**VII. c)** Liquefaction would most likely occur in unconsolidated granular sediments that are water saturated less than 30 feet below ground surface (see Tinsley et al., 1985). Based on the latest seismic hazards maps developed under the Seismic Hazards Mapping Act, the Wilmington and Carson Operations are located in an area of historic (or has the potential for) liquefaction (California Division of Mines and Geology, Map of Seismic Hazard Zones, Long Beach Quadrangle, March 25, 1999). Therefore, because of the type of soil present at the Refinery, there is a potential for liquefaction and expansion induced impacts since the appropriate parameters for liquefaction exist at the site.

However, the California Building Code has more stringent requirements when there is a potential for liquefaction and soil expansion. Since new and modified equipment will be of different sizes and configurations compared to existing equipment, a geotechnical engineering investigation would be required for the proposed project. Building permits for all project components would be required by either the City of Carson or City of Los Angeles. As part of the building permit approval process, the Cities of Los Angeles and Carson would review and approve the geotechnical designs and ensure that the designs comply with California Building Code requirements to minimize the potential impacts associated with liquefaction and expansive soils. Issuance of building permits will not occur until the Cities of Los Angeles and Carson have reviewed and approved the geotechnical engineering investigation for the proposed project.

Subsidence is not anticipated to be a problem since only minor excavation and grading would occur at a site that has been previously excavated and graded. Further, the proposed project would not involve drilling or removal of underground products (e.g., water, crude oil, et cetera) that could produce subsidence effects. Additionally, the affected area is not envisioned to be prone to landslides or have unique geologic features since the Wilmington and Carson Operations are located in heavy industrial areas where such features have already been altered or removed and the area is flat and, therefore, not prone to landslides.

For these reasons, implementation of the proposed project would not be expected to alter or make worse any existing potential for subsidence, liquefaction, et cetera.

**VII. d) and e)** Expansive soils have not been detected within the Wilmington and Carson Operations and the Refinery has not experienced damage due to expansive soils. Since the proposed project would occur within the confines of the Wilmington and Carson Operations, which are located in industrial zones, as explained in VII. c), it is expected that people or property would not be exposed to new impacts related to expansive soils. The Wilmington and Carson Operations currently have existing wastewater treatment systems that collect and treat wastewater generated at the Refinery. Treated wastewater is then discharged to a local sewer system in accordance with Industrial Wastewater Discharge Permits. The Refinery does not use septic tanks or alternative wastewater disposal systems. The proposed project would not change the existing wastewater treatment systems. For this reason, the proposed project would not require installation of a septic tank or alternative wastewater disposal system. Thus, implementation of the proposed project would not adversely affect soils associated with a septic system or alternative wastewater disposal system.

### **Conclusion**

Based on the above considerations, no significant adverse impacts to geology and soils are expected to occur as a result of construction and operational activities associated with the proposed project. Since no potentially significant adverse geology and soils impacts were identified, no further evaluation will be required in the EIR.

|  | Potentially Significant Impact      | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|--|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>VIII. HAZARDS AND HAZARDOUS MATERIALS.</b> Would the project:   |                                     |                                       |                                     |                                     |
| a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/>            | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Significantly increased fire hazard in areas with flammable materials?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |



### Significance Criteria

The impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

### Discussion

**VIII. a) and b)** Though hazard analyses have been previously completed for the existing equipment at the Wilmington and Carson Operations, the proposed project may alter the existing hazards setting. The Wilmington and Carson Operations use a number of hazardous materials at each site to manufacture petroleum products. The major types of public safety risks consist of impacts from toxic substance releases, fires, and explosions. Toxic substances handled by the Refinery include hydrogen sulfide and ammonia. Flammable materials handled by the Refinery include propane and butane, and petroleum products like crude oil, gasoline, fuel oils, and diesel. Shipping, handling, storing, and disposing of hazardous materials inherently poses a certain risk of a release to the environment.

Some of the new units that are proposed to be installed, such as the new Wet Jet Treater, Sulfuric Acid Regenerator, ATS, etc., may increase the potential for exposure to toxic hazards in the event of an accidental release from one the new units. The proposed project could also increase the potential for fires and explosions associated with additional storage/use of flammable materials such as crude oil, feedstock, or petroleum products. In addition, the proposed project may result in changes to the quantities of hazardous materials that will need to be transported to or from the Refinery (e.g., LPG, sulfuric acid, spent caustic, etc.) and the hazards associated with the transport of these materials will be evaluated in the EIR.

Increases in potential hazards associated with the implementation of the proposed project could potentially alter the probability for upset and accident conditions that could cause a release of hazardous materials into the environment. The potential effects of an accidental release of the additional hazardous materials being stored, used, and transported as part of implementing the proposed project will be evaluated in the EIR.

**VIII. c)** The Wilmington and Carson Operations are not located within one-quarter mile of an existing or proposed school site. The proposed Project is not expected to impact school sites from handling hazardous materials or wastes. Hazardous emissions impacts on schools, as well

as other sensitive receptors, will be evaluated as part of the air quality analysis section of the EIR.

**VIII. d)** Government Code §65962.5 refers to the "Hazardous Waste and Substances Site List," which is a list of facilities that may be subject to the Resource Conservation and Recovery Act (RCRA) corrective action program. The Wilmington Operations are not included on the list prepared by the Department of Toxic Substances Control (DTSC) pursuant to Government Code §65962.5. Nonetheless, the Wilmington Operations are included on a list of RCRA-permitted sites that require corrective action as identified by DTSC. Furthermore, the Wilmington Operations are subject to corrective action under the Spill Cleanup Program (SCP) formerly "Spills, Leaks, Investigation & Cleanup (SLIC) Program" administered by the Regional Water Quality Control Board (RWQCB) pursuant to California Water Code §13304. In order to provide full public disclosure per CEQA (Public Resources Code §21092.6) with regard to corrective actions required by local agency, the following information is provided:

Applicant: Tesoro (Wilmington Operations)  
Address: 2101 E. Pacific Coast Highway, Wilmington, CA 90744  
Phone: (310) 522-6000  
Address of Site: 2101 E. Pacific Coast Highway, Wilmington, CA 90744  
Local Agency: Wilmington, City of Los Angeles  
Assessor's Book: Parcel numbers 7315-014-008, 7315-017-005, 7428-007-003  
List: Corrective Action  
SCP Case No: SCP T10000002352

The Carson Operations is listed on the RCRA database as a State Equivalent of Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) site (CALSITE) and as a leaking underground storage tank (LUST) site. Hazardous wastes from the facility are managed in accordance with applicable federal, state, and local rules and regulations. The Carson Operations is included on a list prepared pursuant to Government Code §65962.5. CEQA (Public Resources Code §21092.6) requires the following information for sites which are listed pursuant to Government Code §65962.5:

Applicant: Tesoro Carson Operations (former BP Carson Refinery)  
Address: 2350 E. 223<sup>rd</sup> Street, Carson, CA 90810  
Phone: (310) 816-8100  
Address of Site: 1801 East Sepulveda Boulevard, Carson, CA 90749  
Local Agency: City of Carson  
Assessor's Book: 7315-006-003  
List: LUFT/SLIC  
Case No: R-20190/0224

Given the heavily industrialized nature of the Wilmington and Carson Operations and the fact that refining activities, petroleum storage, and distribution have been conducted at the site for over 75 years, construction activities associated with the proposed project such as grading, excavating, and trenching could potentially uncover contaminated soils. The location of the proposed new crude oil storage tanks at the Carson Crude Terminal is a former oil reservoir that

has been closed and remediated pursuant to Regional Water Quality Control Board guidance. Construction activities associated with the crude oil tanks could require the removal of a large amount of contaminated soil, up to 151,000 cubic yards. The handling, processing, transportation and disposal of the contaminated soils will be subject to multiple hazardous waste regulations such as Title 22 of the California Code of Regulations and other local and federal rules. Title 22 has multiple requirements for hazardous waste handling, transport, and disposal, such as requirements to use approved disposal and treatment facilities, to use certified hazardous waste transporters, and to have manifests for tracking the hazardous materials. Contaminated soils also must be handled and disposed in accordance with SCAQMD's Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil, and the Refinery's Soils Handling Plan. Contaminated soil would be stored at a temporary holding location within the Refinery before transport to an appropriate disposal or treatment facility. Because of the large volume of contaminated soil that may be removed due to the proposed project, the project impacts related to soil contamination are potentially significant and will be evaluated in the EIR.

**VIII. e)** The Tesoro Refinery is not located within an airport land use plan or within two miles of a public or private use airport. Therefore, the proposed project would not be expected to result in a safety hazard for people residing or working in the area of the Wilmington and Carson Operations, on any airport, or on an airport land use plan.

**VIII. f)** The proposed project is located within the existing Refinery and industrial properties. The existing emergency response procedures include detailed requirements for specific actions for employees to take (including evacuation and spill control), individuals to be notified, and agencies to call when assistance is required. The proposed project would require updating and revising the existing emergency response plans to address emergency response activities that will be associated with new and modified equipment at the integrated Refinery. Tesoro already uses and stores, processes, and transports crude oil and refined products at the Wilmington and Carson Operations, so the current emergency response procedures are specific to the use of crude oil. Emergency responses related to the proposed project would include accidental releases, spills, and fires associated with hazardous materials. Based on existing requirements for developing and revising emergency response plans, the proposed project would not impair implementation or physically interfere with an adopted emergency response plan or evacuation plan. Evacuation plans generally require employees to head towards the employee parking areas and away from the operating portions of the Refinery. The emergency response plans at the Refinery would be reviewed and updated to reflect the proposed project modifications, new units, and new and modified crude oil tanks. The emergency response plans are expected to be limited to the integrated Tesoro Refinery as the proposed project is not expected to affect in any way emergency response plans at other industrial facilities in the local area. Therefore, no significant adverse impacts to emergency response or evacuations plans are expected.

**VIII. g)** The proposed project will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees because the proposed project is located in an urbanized, industrial area and no wildlands are located in the immediate or surrounding areas of the Wilmington and Carson Operations. Also, no substantial or native vegetation exists within the operational portions of the Refinery, and for safety reasons, no vegetation is located within the existing areas where the new and modified equipment will be sited. For these reasons, the

proposed project would not expose people or structures to wildland fires. Therefore, no significant adverse impacts resulting from wildland fire hazards are expected from the proposed project.

**VIII. h)** The Wilmington and Carson Operations use a number of hazardous materials to manufacture petroleum products. The major types of public safety risks consist of impacts from the transportation, release, fire, and explosion of flammable substances. Examples of toxic substances handled by the Refinery include hydrogen sulfide and ammonia. Regulated flammable materials like propane and butane, and petroleum products like gasoline, fuel oils, and diesel are also used, processed, produced and/or stored onsite.

The primary hazards associated with refining are fire hazards and subsequent exposure to thermal radiation. Thermal radiation is the heat generated by a fire and the potential impacts associated with exposure. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.

The Refinery operators have prepared a Risk Management Plan (RMP) for hazardous materials (butane, pentane, hydrogen sulfide, and ammonia) that are currently used at the Refinery. For the Tesoro Wilmington Operations, the City of Los Angeles Fire Department administers this program through the California Accidental Release Prevention (CalARP) program. For the Tesoro Carson operations, the County of Los Angeles Fire Department administers the CalARP program. Modifications under the RMP and CalARP are required for covered processes if there is a major change to the process requiring a new process analysis. New RMPs are expected to be required because there would be new hazards associated with new equipment and modified equipment may handle more or different types of hazardous materials. As part of the review of the proposed project under the RMP and CalARP programs, a process hazard analysis will be conducted to verify the materials and engineering adequacy of the proposed modifications. In addition, a review of the project changes is required to ensure that no unexpected or adverse interactions with existing systems would occur. Such reviews are required as part of the RMP, CalARP, and Process Safety Management programs for covered processes.

The proposed project includes changes to a number of existing units, including the HCU at Wilmington, CRU-3, HTU-1, HTU-2, HTU-4, LPG Rail Loading and Unloading facility, Nos. 51 and 52 Vacuum Units, FCCU modifications, HCU, LHU, Naphtha HDS, Alkylation Unit, and existing storage tanks. In addition, new units would be added to the Refinery including a new PSTU, Ammonium Thiosulfate Plant, Sulfuric Acid Regeneration Plant, Wet Jet Treater, new crude oil storage tanks, and new pipelines. All of these modifications have the potential to introduce new hazards to the Refinery.

New safety systems would also be included as part of the proposed project. For example, the new crude oil storage tanks to be constructed as part of the proposed project will be constructed with connections to both foam- and water-based fire extinguishing systems. Centralized foam generation systems would deliver foam to the tanks in the event of a fire. Foam would cover the tank and fire, extinguishing flames by eliminating the presence of oxygen. In addition, the tanks would also be served by fire protection systems to minimize heat generated in the event of a fire.

Despite installation of the above-described safety features, the proposed project has the potential to introduce new hazards to the integrated Refinery. Because the proposed project has the potential to generate new fire hazard impacts, this topic will be evaluated in the EIR.

### **Conclusion**

Based on the above considerations, the potential hazards and hazardous materials impacts related to the operations at the integrated Refinery, the transport of hazardous materials, and the potential excavation of contaminated soils associated with the proposed project are potentially significant. Therefore, hazards and hazardous material impacts will be further evaluated in the EIR.

|  | Potentially Significant Impact      | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|--|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>IX. HYDROLOGY AND WATER QUALITY.</b> Would the project:   |                                     |                                       |                                     |                                     |
| a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

|  | Potentially Significant Impact      | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|--|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| f) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?                               | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/>            | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| h) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| i) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?              | <input type="checkbox"/>            | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**Significance Criteria**

Potential impacts on water resources will be considered significant if any of the following criteria apply:

**Water Quality:**

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of NPDES permit requirements.

- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

**Water Demand:**

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for water by more than five million gallons per day.

**Discussion**

**IX. a), g), and i)** Wastewater Generation: The potential for wastewater generation and water quality impacts associated with construction activities at the Refinery was determined to be less than significant because construction activities are not expected to generate any additional wastewater as there will be no changes to any refinery units during construction activities. Water may be used for dust suppression but would not be used in sufficient quantities to generate wastewater discharge because the area will be sufficiently wetted without generating runoff. The current volumes of wastewater generated by the existing Wilmington and Carson Operations would not be expected to change during the construction activities.

Wastewater streams from the Wilmington and Carson Operations include process wastewater, boiler blowdown, sanitary wastewater, and surface runoff. Process wastewater and surface water streams are treated by the Refinery's existing wastewater treatment facilities prior to discharge to the Los Angeles County Sanitation District (LACSD) sewer system; the sanitary wastewater stream is discharged directly to the sewer without prior treatment. Wastewater is treated and sampled in compliance with the LACSD Industrial Wastewater Discharge Permit. The LACSD places limitations on wastewater parameters such as oil and grease contents, pH levels, temperature, heavy metals, organic compounds and so forth. Wastewater that complies with the LACSD permit requirements is discharged to the LACSD sewer system. Wastewater that does not comply is returned to the wastewater treatment system for further treatment.

Operational activities are expected to require approximately 370,000 gallons per day of additional water use. Most of the additional increase in water use is associated with cooling water, which will evaporate. The proposed project is not expected to generate additional wastewater discharge as the shutdown of the FCCU is expected to result in a reduction in wastewater generation. Future discharges of wastewater from the integrated Refinery will continue to be required to comply with the LACSD Industrial Wastewater Discharge permit, so the proposed project is not expected to violate any water quality standards, waste discharge



requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality.

**IX. b) and h)** Water Demand: Water is primarily provided to the Wilmington Operations by an existing onsite water well (e.g., groundwater) and supplemental water is supplied by the LADWP, as necessary. The Carson Operations obtains its water from a combination of sources including: (1) purchased water from the California Water Services via various well sources; (2) water from Wilmington Operations-owned wells; and (3) reclaimed water.

Construction activities associated with the proposed project would require water for dust suppression during grading to prepare the construction site for the placement of foundations. In addition, the new and modified crude oil storage tanks and the new pipelines will require water for hydrotesting during construction.

Preliminary analysis of water demand from new or modified equipment associated with operation of the proposed project indicates that there may be an increase in water demand at the integrated Refinery of approximately 370,000 gallons per day. The SCAQMD significance criteria states that impacts are considered significant if the existing water supply does not have the capacity to meet the increased demands of the project or the project would use more than 262,820 gallons per day of potable water. Therefore, impacts to ground water supplies and water demand from implementing the Tesoro Integration and Compliance Project are potentially significant, and will be further evaluated in the EIR.

**IX. c) and d)** Surface Water Runoff: The Wilmington and Carson Operations are located adjacent to the Dominguez Channel and approximately 1.5 miles west of the Los Angeles River. The Los Angeles River and the Dominguez Channel are the major drainages that flow into the Los Angeles-Long Beach Harbor complex. The Los Angeles River drains an 832-square mile watershed basin into the Long Beach Harbor. The Los Angeles River watershed is controlled by a series of dams and an improved river channel with a design flow capacity of 146,000 cubic feet per second.

The Dominguez Channel originates in the area of the Los Angeles International Airport and flows southward into the East Channel of the Los Angeles Harbor. The Dominguez Channel, an 8.5-mile long structure, drains approximately 80 square miles west of the Los Angeles River drainage basin. Permitted discharges from industrial sources are a substantial percentage of the persistent flows in the Dominguez Channel. The Tesoro Refinery does not routinely discharge into the Dominguez Channel.

The proposed project is not expected to increase impermeable surfaces at the integrated Refinery. New units and modifications to existing units would occur within existing paved areas. The proposed new crude oil storage tanks will be located in an area currently paved and used for truck container storage. The modified storage tanks will be located within the general footprint of the existing storage tanks, which are also paved. Therefore, the proposed project is not expected to result in an increase in impermeable surfaces that would increase storm water runoff from the integrated Refinery.

At both the Wilmington and Carson Operations, storm water runoff within process unit areas is handled by the existing wastewater system and sent to an on-site wastewater treatment system prior to discharge to the LACSD system. Storm water runoff from outside the process unit areas is collected, treated as necessary, and discharged pursuant to the existing NPDES permits. The Wilmington and Carson Operations have separate NPDES permits. The proposed project would not require any changes or modifications to the existing NPDES permits at either the Wilmington or Carson Operations. The collection and treatment of storm water runoff is not expected to be modified as part of the proposed project. The proposed project is not expected to result in an increase in storm water runoff, therefore, this topic will not be evaluated further in the EIR.

**IX. e)** The proposed project is expected to involve construction and modification activities located within existing industrial facilities and would not include the construction of any new housing or construction of new housing within a 100- or 500-year flood hazard area. The Refinery is not located within a 100-year flood zone and would not expose people or property to any known water-related flood hazards. Further, because the proposed project would occur at existing industrial facilities, it does not have the potential to impede or redirect flood flows to a greater extent than is currently the case. The proposed project is not located within a flood zone and therefore, would not expose people or property to a significant risk of loss, injury or death related to flood hazards. Based on the topography and/or site elevations of the Wilmington and Carson Operations in relation to the ocean, the proposed project is not expected to result in an increased risk of flood. Therefore, no significant adverse impacts associated with flooding are expected from the proposed project.

**IX. f)** The proposed project is located near the Ports of Long Beach and Los Angeles, but at a sufficient distance from the shore to avoid potential impacts from tsunamis or seiches. The Tesoro Refinery is located north of the Ports of Los Angeles and Long Beach. The construction of breakwaters offshore, combined with the distance of the integrated Refinery from the water, is expected to further minimize the potential flooding impacts from a tsunami or seiche so that no significant flooding impacts from these phenomena are expected. Finally, the Refinery is located in a relatively flat area, therefore, the proposed project is not susceptible to mudflows (e.g., hillside or slope areas) so that no significant impacts from mudflows would be expected as a result of the proposed project and will not be further evaluated in the EIR.

## **Conclusion**

Based on the above considerations, the proposed project is not expected to create significant adverse wastewater or water quality impacts, surface runoff impacts, or flood hazard impacts. As a result, these topics will not be analyzed further in the EIR. Potentially significant adverse water demand impacts may occur as a result of construction and operational activities that the integrated Refinery would undertake in order to complete the proposed project. Since potentially significant adverse water demand impacts were identified, those impacts will be further evaluated in the EIR.

|  | <b>Potentially<br/>Significant<br/>Impact</b> | <b>Less Than<br/>Significant<br/>With<br/>Mitigation</b> | <b>Less Than<br/>Significant<br/>Impact</b> | <b>No Impact</b>                    |
|--|---|--|---|-------------------------------------|
| <b>X. LAND USE AND PLANNING.</b>   |   |  |   |                                     |
| Would the project:   |   |  |   |                                     |
| a) Physically divide an established community?   | <input type="checkbox"/>                      | <input type="checkbox"/>                                 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/>                      | <input type="checkbox"/>                                 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/> |

**Significance Criteria**

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

**Discussion**

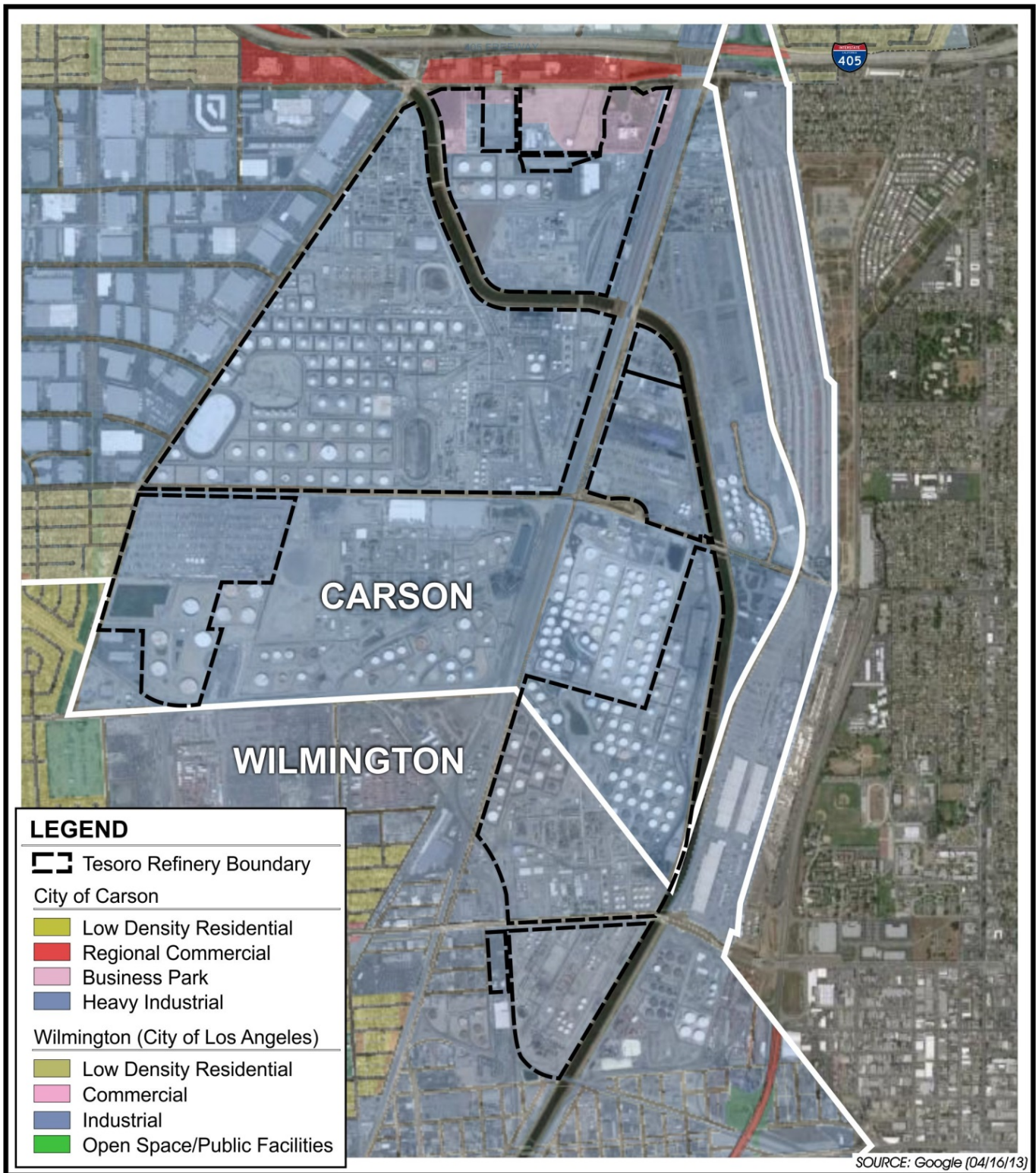
**X. a)** The construction and operation of the proposed project will occur primarily within the confines of the existing Wilmington and Carson Operations. Because portions of the two existing Operations are adjacent to each other, separated only by Alameda Street, equipment to fully integrate the two refineries, e.g., the interconnecting piping and Electrical Intertie Connection, would still occur primarily within the confines of both refineries. However, the interconnecting piping would be routed underneath Alameda Street and Sepulveda Boulevard and the electrical conduit would be routed underground and over Alameda Street. As a result, no component of the proposed project would result in physically dividing any established communities, but will continue the use of the site as a Refinery.

**X. b)** Land use and other planning considerations are determined by local governments. Local land uses in the vicinity of the Tesoro Refinery are shown in Figure 2-1. The proposed project will occur primarily within the confines of the existing Refinery, interconnecting piping would be routed underneath Alameda Street and Sepulveda Boulevard, and the electrical conduit would be routed underground and over Alameda Street. All land uses in the vicinity of the proposed project are existing industrial areas, which are zoned for heavy industrial use (see Figure 2-1). The proposed project is consistent with the heavy industrial land use designation of the Refinery and no land use or planning requirements will be altered by adoption of the proposed project. Therefore, present or planned land uses in the region will not be affected as a result of the proposed project. Further, there is no habitat conservation or natural community conservation plans located within or adjacent to the existing Refinery. Based upon the above considerations,

significant adverse land use planning impacts are not expected from the implementation of the proposed project.

**Conclusion**

Based on the above considerations, no significant adverse impacts to land use and planning are expected to occur as a result of construction and operational activities that the integrated Refinery would undertake in order to complete the proposed project. Since no potentially significant adverse land use and planning impacts were identified, no further evaluation will be required in the EIR.



Environmental Audit, Inc.

0 2,000'



**FIGURE 2-1  
LAND USE MAP  
TESORO LOS ANGELES REFINERY**

|   | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>With<br>Mitigation | Less Than<br>Significant<br>Impact | No Impact                           |
|---|--------------------------------------|--|------------------------------------|-------------------------------------|
| <b>XI. MINERAL RESOURCES.</b> Would the project:  |                                      |  |                                    |                                     |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

**Significance Criteria**

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

**Discussion**

**XI. a) and b)** Construction and operation of the proposed project would occur entirely within the boundaries of the existing refinery and adjacent industrial areas all of which are zoned heavy industrial (see Figure 2-1). The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) keeps records of oil wells and oil fields in California. According to the DOGGR online data (<http://maps.conservation.ca.gov/doms/doms-app.html>), there are no oil wells (active or abandoned) located within the confines of the proposed project. The nearest oil and gas wells are located adjacent to the southwestern property line and are either idle or abandoned wells in the Wilmington Oil Field. Thus, the proposed project would not affect the availability of known mineral resources.

There are no provisions of the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the State of California such as aggregate, coal, clay, shale, etc., or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

## **Conclusion**

Based on the above considerations, no significant adverse impacts to mineral resources are expected to occur as a result of construction and operational activities that the integrated Refinery would undertake in order to complete the proposed project. Since no potentially significant adverse mineral resources impacts were identified, no further evaluation will be required in the EIR.

|   | Potentially Significant Impact      | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact                           |
|---|-------------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| <b>XII. NOISE.</b> Would the project result in:   |                                     |                                       |                              |                                     |
| a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>     | <input type="checkbox"/>            |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>     | <input type="checkbox"/>            |
| c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>     | <input type="checkbox"/>            |
| d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

**Significance Criteria**

Noise impacts will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

**Discussion**

**XII. a), b), and c)** The existing noise environment at the Tesoro Refinery is dominated by refinery equipment, other heavy industrial activities, and traffic. Construction activities for the proposed project are expected to generate noise associated with the use of heavy construction equipment and construction-related traffic. The types of construction equipment that will be



used at the Refinery include, but are not limited to, welding machines, trucks, cranes, compressors, loaders, concrete pumps, graders, pavers, and pipe boring machines. The estimated noise level during installation of various equipment is expected to average about 80 decibels (dBA) at 50 feet from the center of construction activity. Most of the construction noise sources will be located at or near ground level, so the noise levels are expected to attenuate over distance. Nonetheless, the potential construction noise impacts may be significant.

Once constructed, the proposed project is expected to result in an increase in noise generating equipment. The proposed project includes modifications to existing equipment and construction of new refinery units. A number of the Refinery modifications include replacing columns, accumulators, drums, heat exchangers, and condensers, e.g., FCCU, CRU, HCU, and HTU modifications. These modifications do not involve equipment that is expected to result in substantial increases to existing noise levels because the same basic process will continue to occur. The proposed new equipment at the Refinery includes a new Diesel Hydrotreater, PSTU, Ammonium Thiosulfate Plant, Sulfuric Acid Regeneration Plant, Wet Jet Treater, and crude oil storage tanks. The new equipment will include new noise sources from ancillary equipment such as pumps, heaters, compressors, and blowers. The additional noise sources and noise levels would be similar to noise from existing equipment within the existing Wilmington and Carson Operations. In addition, the proposed project would result in the shutdown of the FCCU at Wilmington eliminating noise sources associated with that unit. Nonetheless, operational noise impacts are potentially significant and will be evaluated in the EIR.

**XII. d)** The Refinery is not located within an airport land use plan, and the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airplanes.

### **Conclusion**

Based on the above considerations, potentially significant adverse impacts to noise are expected to occur as a result of construction and operational activities that the integrated Refinery would undertake in order to complete the proposed project. Since potentially significant adverse noise impacts were identified, those impacts will be further evaluated in the EIR.

|   | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>With<br>Mitigation | Less Than<br>Significant<br>Impact | No Impact                           |
|---|--------------------------------------|--|------------------------------------|-------------------------------------|
| <b>XIII. POPULATION AND HOUSING.</b>  |                                      |  |                                    |                                     |
| Would the project:  |                                      |  |                                    |                                     |
| a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

**Significance Criteria**

The impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

**Discussion**

**XIII. a)** Construction and operational activities associated with the proposed project are not expected to involve the relocation of individuals, impact housing or commercial facilities, or change the distribution of the population because the proposed project will occur completely within existing industrial facilities and no housing is located within the industrial areas. An estimated 700-800 construction workers are expected to be needed during peak construction activities and most of the workers are expected to come from the large labor pool in southern California. No increase in the permanent number of workers at the Tesoro Los Angeles Refinery is expected following the construction phase. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing the proposed project. As a result, the proposed project is not anticipated to generate any significant adverse effects, either direct or indirect, on population growth or distribution within the district.

**XIII. b)** The proposed project includes modifications and/or changes to integrate two existing refineries, which are located in an industrial setting. All construction workers are expected to be drawn from the large local southern California labor pool and operation of the proposed project would not require additional workers, as discussed in item XIII. a) above. As a result, the proposed project is not expected to result in the creation of any industry that would affect

population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the district.

**Conclusion**

Based on the above considerations, no significant adverse impacts to population and housing are expected to occur as a result of construction and operational activities that the Tesoro Refinery would undertake in order to complete the proposed project. Since no potentially significant adverse population and housing impacts were identified, no further evaluation will be required in the EIR.

|  | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>With<br>Mitigation | Less Than<br>Significant<br>Impact | No Impact                           |
|--|--------------------------------------|--|------------------------------------|-------------------------------------|
| <b>XIV. PUBLIC SERVICES.</b> Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: |                                      |  |                                    |                                     |
| a) Fire protection?  | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Police protection?  | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| c) Schools?  | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| d) Other public facilities?  | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

**Significance Criteria**

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

**Discussion**

**XIV. a)** To respond to emergency situations, both the Wilmington and Carson Operations maintain on-site fire departments, which are supplemented by the resources of public fire departments. Both Operations are supported by the Los Angeles County Fire Department (LACFD) and City of Los Angeles Fire Department (City Fire). There are four LACFD stations (all located within the City of Carson) and one City Fire station in Wilmington that serve the proposed project area. The station number and address of each of these five stations are provided in the following bullet points:

- LACFD Station 10 located at 1860 E. Del Amo Boulevard,
- LACFD Station 36 located at 223<sup>rd</sup> Street,
- LACFD Station 116 located at 755 E. Victoria Street,
- LACFD Station 127 located at 2049 E. 223<sup>rd</sup> Street, and
- City Fire Station 38 located at 124 East "I" Street.

During construction, safeguards, monitoring for hazards with equipment designed to detect sources of flammable gases and vapors, written procedures, training, and authorization of equipment used on-site will be in place. These safety features are expected to minimize potential accidental fire hazards, thus, construction activities are not expected to result in an increased need for fire response services or affect service ratios or other performance objectives.

Compliance with state and local fire codes is expected to minimize the need for additional fire protection services. In addition, the both Operations maintain their own emergency response teams to respond to emergencies. Each Operation maintains fully trained 24-hour emergency response teams, fire-fighting equipment including fire engines and foam pumper trucks or trailers, and manual and automatic fire suppression systems for flammable and combustible materials. Further, Refinery staff are trained in accordance with industry standards, and on-site fire training exercises with the LACFD and City Fire staff are routinely conducted.

Both the Wilmington and Carson Operations, including the Carson Crude Terminal, are surrounded by fences and entry is restricted to specified gates. Fire-fighting and emergency response personnel and equipment will continue to be maintained and operated at the integrated Refinery. Close coordination with local fire departments and emergency services will be maintained. The proposed project is not expected to increase the need or demand for additional services from the fire department above current levels because onsite firefighting and emergency response capabilities and personnel will be maintained and are expected to be able to continue to respond to potential emergencies in the future, while maintaining acceptable service ratios, response times, or other performance objectives.

**XIV. b)** The Los Angeles City Police Department and the Los Angeles County Sheriff's Department are the responding agencies for law enforcement needs in the vicinity of the Wilmington and Carson Operations. Because the sheriff and police departments typically have units that are in the field, response times to the Refinery currently vary depending on the location of the nearest unit.

The existing Wilmington and Carson Operations have security departments that provide 24-hour protective services for people and property within the fenced boundaries of each facility. As part of their regular duties, the security departments would monitor construction activities associated with the proposed project since construction would occur within the confines of the Wilmington and Carson Operations' boundaries. Along with the existing work force, entry and exit of the construction work force would be similarly monitored. Once construction is completed, the proposed project would not expect to result in changes to integrated Refinery staffing within the security department compared to staffing at the existing Operations. Thus, no additional or altered police protection would be required for the proposed project once it becomes operational.

**XIV. c) and d)** As noted in the previous "Population and Housing" (Section XIII.) discussion, the proposed project is not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate all construction activities. Therefore, during construction there would be no increase in the local population so no adverse impacts would be expected to local schools or other public facilities. Similarly, once the proposed project becomes operational, the integrated Refinery is not expected to require

additional permanent staffing to operate new equipment, so an increase in the local population that could adversely affect local schools or other public facilities is not expected.

Besides permitting the equipment or altering permit conditions by the SCAQMD and City building permits, there would be no need for other types of government services. Permitting agencies are currently equipped with the resources necessary to provide permits and environmental review of the proposed project. Thus, the proposed project would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. There would be no increase in population and, therefore, there would be no need for physically altered government facilities.

### **Conclusion**

Based on the above considerations, no significant adverse impacts to public services that could adversely affect acceptable service ratios, response times, or other performance objectives are expected to occur as a result of construction and operational activities that the Tesoro Refinery would undertake in order to complete the proposed project. Since no potentially significant adverse public services impacts were identified, no further evaluation will be required in the EIR.

|   | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>With<br>Mitigation | Less Than<br>Significant<br>Impact | No Impact                           |
|---|--------------------------------------|--|------------------------------------|-------------------------------------|
| <b>XV. RECREATION.</b>  |                                      |  |                                    |                                     |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?  | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

**Significance Criteria**

The impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

**XV. a) and b)** Parks in the vicinity of the Wilmington and Carson Operations include Silverado, Hudson, and Admiral Kidd Parks in Long Beach; East Wilmington Vest Pocket, East Wilmington Greenbelt, and Banning Parks in Wilmington; and Calas and Friendship Mini-Park in Carson.

As noted in the previous “Population and Housing” (Section XIII.) discussion, the existing labor pool in southern California is sufficient to fulfill the labor requirements for the construction of the proposed project. The operation of the proposed project would not require additional permanent workers to be hired at the Refinery and, therefore, there would be no significant changes in population densities or distribution resulting from the proposed project and, thus, no increase in the use of existing neighborhood and regional parks or other recreational facilities.

As noted in the previous “Land Use and Planning” (Section X.) discussion, there are no provisions in the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project.

Because the proposed project is limited to the confines of the existing industrial facilities and will not result in additional employees during operation, the proposed project would not increase

the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

### **Conclusion**

Based upon the above considerations, no significant adverse impacts to recreation are expected to occur as a result of construction and operational activities that the Tesoro Refinery would undertake in order to complete the proposed project. Since no potentially significant adverse recreation impacts were identified, no further evaluation will be required in the EIR.



|  | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>With<br>Mitigation | Less Than<br>Significant<br>Impact | No Impact                |
|--|--------------------------------------|--|------------------------------------|--------------------------|
| <b>XVI. SOLID AND HAZARDOUS WASTE.</b> Would the project:  |                                      |  |                                    |                          |
| a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input checked="" type="checkbox"/>  | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input type="checkbox"/> |
| b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?                | <input checked="" type="checkbox"/>  | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input type="checkbox"/> |

**Significance Criteria**

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

**Discussion**

**XVI. a) and b)** The potential for solid/hazardous waste impacts associated with the proposed project at the Wilmington and Carson Operations was determined to be potentially significant for the following reasons. Construction activities associated with the proposed project will increase the amount of solid waste generated and disposed. Demolition activities are expected to generate waste from the removal of the existing equipment that is proposed to be replaced. However, this equipment is expected to be either reused at another site outside of the district or recycled for metal content.

The six new storage tanks to be constructed at the Carson Crude Terminal as part of the proposed project are expected to require excavation approaching 151,000 CY of soil. The soil to be excavated will come from an area of the Refinery that has been historically utilized for petroleum storage increasing the potential of uncovering contaminated soils during grading and excavation. The handling, processing, transportation, and disposal of any excavated soils containing high concentrations of certain hazardous substances, such as heavy metals and hydrocarbons, would be subject to applicable hazardous waste regulations (i.e., Title 22 of the California Code of Regulations and other local and federal rules). Title 22, Division 4.5 - Environmental Health Standards for the Management of Hazardous Waste has multiple requirements for hazardous waste characterization, handling, transport, and disposal, such as requirements to use approved disposal and treatment facilities, to use certified hazardous waste transporters, and to have manifests for tracking the hazardous materials. If discovered, contaminated excavated soil would be properly characterized to determine an appropriate offsite processing method(s). These methods may include recycling of the soil if it is considered a non-

hazardous waste, off-site treatment to reduce the contaminant concentrations to non-hazardous levels so that the treated soil could be used as landfill cover, or disposal as a hazardous waste at a permitted hazardous waste facility.

Other construction-related waste such as shipping packing materials, depending on the classification of the waste, would likely need to be disposed of at a Class II (industrial) or Class III (municipal) landfill. A Class II landfill can handle wastes that exhibit a level of contamination not considered hazardous, but that are required by the State of California to be managed for disposal to a permitted Class II landfill. For this reason, Class II landfills are specially designed with liners to reduce the risks of groundwater contamination from industrial wastes, also known as California-regulated waste. Similarly, a Class III landfill can handle non-hazardous or municipal waste. Municipal waste is typically generated through day-to-day activities and does not present the hazardous characteristics of hazardous, industrial, or radioactive wastes.

There are 32 active Class III landfills within the SCAQMD's jurisdiction, many of which have liners that can handle both Class II and Class III wastes. According to the Final Program EIR for the 2012 AQMP (SCAQMD, 2012), total Class III landfill waste disposal capacity in the district is approximately 116,796 tons per day.

There are no hazardous waste landfills within the Southern California area. If contaminated soil is encountered it must be disposed of at a permitted hazardous waste disposal facility. One such facility in California is the Clean Harbors (formerly Safety-Kleen) facility in Buttonwillow (Kern County). Hazardous waste also can be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada and USPCI, Inc., in Murray, Utah.

In summary, the amount of solid or hazardous waste that may be generated during construction activities is potentially substantial. Due to the volume and type of soil to be removed from the proposed project site during construction, impacts on solid and hazardous waste are potentially significant. For this reason, the construction impacts of the proposed project on solid and hazardous waste will be further evaluated in the EIR.

The operation of the new and modified equipment associated with the proposed project has the potential to generate additional or new solid waste streams, e.g., caustic from the wet jet treater, catalyst from the NHDS at Carson, and additional tank sludge. The operational impacts on solid and hazardous waste will be evaluated in the EIR.

## **Conclusion**

Based on the above considerations, potentially significant adverse solid and hazardous waste impacts could occur as a result of construction and operational activities that the Refinery would undertake in order to complete the proposed project. Since potentially significant adverse solid and hazardous waste impacts were identified, further evaluation will be required in the EIR.

|   | Potentially Significant Impact      | Less Than Significant With Mitigation | Less Than Significant Impact        | No Impact                           |
|---|-------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>XVII. TRANSPORTATION AND TRAFFIC.</b> Would the project:   |                                     |                                       |                                     |                                     |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?  | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access?   | <input type="checkbox"/>            | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?  | <input type="checkbox"/>            | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## Significance Criteria

The impacts on transportation and traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Waterborne, rail car, or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees.
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.
- Increase customer traffic by more than 700 visits per day.

## Discussion

**XVII. a) and b)** The proposed project will increase traffic in the local area associated with construction workers, construction equipment, and the delivery of construction materials. The proposed project is expected to require an estimated 700 to 800 construction workers during the peak construction phase. Therefore, the traffic impacts associated with the proposed project during the construction phase are potentially significant and will be analyzed in the EIR.

Once construction of the proposed project is completed, the existing work force at the Refinery is not expected to increase or substantially change the volume of traffic. No increase in permanent workers is expected so no increase in worker traffic is expected. Construction of the Sulfuric Acid Regeneration Plant will decrease traffic in the area because spent sulfuric acid is currently transported off-site for recycling. Installing the Sulfuric Acid Regeneration Plant will eliminate

approximately 6,000 acid transport truck trip miles per month that are currently used to transport spent and regenerated sulfuric acid to and from Wilmington Operations. In addition, catalyst in various units (hydrotreater catalyst) will need to be changed once every three to ten years. As a result, the proposed project may result in a maximum increase in trucks of one per day since the delivery of all project-related materials is infrequent. Therefore, the operation-related traffic is not expected to change so no significant impacts on traffic during operation of the proposed project is expected. Traffic impacts during operation, therefore, will not be further evaluated in the EIR.

In the past parking for the construction workers has typically been provided within the confines of the existing Wilmington and Carson Operations. Portions of the proposed project at the Refinery are expected to adversely affect onsite parking that is currently used for contractor parking. Therefore, additional parking will be required during the construction phase and Tesoro is currently investigating the feasibility of off-site parking and transporting workers to the site. Therefore, the proposed project may result in significant parking impacts during the construction phase, which will be evaluated in the EIR. Once construction is complete, no increase in permanent workers is expected. As a result, operational parking impacts will not be further evaluated in the EIR.

**XVII. c)** The proposed project includes modifications to existing equipment and installation of new equipment associated with the existing Refinery. The proposed modifications and new structures will be similar in height and appearance to the existing industrial structures. The maximum height of a new structure is approximately 125 feet. Other facilities at the Refinery, e.g., flares, are at heights up to approximately 200 feet, which exceeds the heights of the proposed project equipment and are far below the height at which air traffic exists. For these reasons, the proposed project would not be expected to result in a change to air traffic patterns. Since the proposed modifications and new structures will not be greater than 250 feet in height and are not expected to result in a change to air traffic patterns, notification to the Federal Aviation Administration pursuant to Advisory Circular AC 70/7460-2K is not required. Further, since the Refinery is located approximately four miles west of the nearest airport, Long Beach Airport, the Refinery is located outside of the normal flight pattern of the Long Beach Airport. In addition, the proposed project will not involve the delivery of materials via air cargo, so no increase in air traffic is expected.

**XVII. d) and e)** The proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the site because the proposed project does not include the construction of roadways on-site or off-site that could include design hazards. Emergency access at the Refinery would not be adversely affected by the proposed project because no on-site roadways would be altered as a result of the proposed project and Tesoro would continue to maintain the existing emergency access road and gates to the Refinery. As discussed in topic VIII. f), the proposed project would not significantly adversely affect emergency response plans at the integrated Refinery, therefore, no changes related to emergency response routes are expected as a result of the proposed project.

**XVII. f)** The proposed project will be constructed within the confines of the existing Refinery and industrial areas and the need for an additional 700 to 800 constructions worker during peak

construction periods and is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks). Construction workers typically drive their own vehicles to construction sites, which will not have any effects on other transportation modes. Once construction is completed, construction workers will no longer be needed. Further, operation of the proposed project is not expected to require any additional workers. Therefore, operation of the proposed project is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

### **Conclusion**

Based on the above considerations, no significant adverse impacts to transportation/traffic are expected to occur as a result of operational activities at the Refinery due to implementation of the proposed project. Since no potentially significant adverse operational transportation/traffic impacts were identified, no further evaluation will be required in the EIR. The traffic and parking impacts associated with construction activities for the proposed project are potentially significant; therefore, these impacts will be further evaluated in the EIR.

|  | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>With<br>Mitigation | Less Than<br>Significant<br>Impact | No Impact                           |
|--|--------------------------------------|--|------------------------------------|-------------------------------------|
| <b>XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.</b>  |                                      |  |                                    |                                     |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/>             | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)  | <input checked="" type="checkbox"/>  | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input type="checkbox"/>            |
| c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?   | <input checked="" type="checkbox"/>  | <input type="checkbox"/>                       | <input type="checkbox"/>           | <input type="checkbox"/>            |

**Discussion**

**XVIII. a)** As shown in Section IV – Biological Resources and Section V – Cultural Resources of this environmental checklist evaluation, the proposed project is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The affected sites are part of an existing Refinery and industrial facilities, which have been previously disturbed and graded, such that the proposed project is not expected to degrade any biologically or culturally sensitive areas, so that no significant adverse biological or cultural resources impacts are expected.

**XVIII. b) and c)** The proposed project has the potential to result in air quality impacts (including criteria pollutants, toxic air contaminants, and greenhouse gas emissions), hazards and

hazardous materials impacts, water demand impacts, noise, solid and hazardous waste, and traffic from the construction of the proposed project and has the potential to result in cumulative impacts in these areas. The potential cumulative impacts will be analyzed, as necessary, in the EIR. Potential adverse air quality and hazards and hazardous materials impacts could also adversely affect humans, either directly or indirectly. Potential adverse effects on humans will be included in the air quality and hazards and hazardous materials analyses.

### **Conclusion**

Based on the review of the environmental impacts associated with the proposed Tesoro Los Angeles Refinery Integration and Compliance Project, the SCAQMD has concluded that the proposed project may result in significant adverse environmental impacts in the areas of air quality, hazards and hazardous materials impacts, hydrology and water quality impacts, noise, solid and hazardous waste, and traffic from the construction of the proposed project (including parking). Therefore, the preparation of an EIR is required.



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**ACRONYMS**

| <b>Abbreviation</b> | <b>Description</b>   |
|---------------------|--|
| AQMP                | Air Quality Management Plan  |
| ATS                 | Ammonium Thiosulfate Plant   |
| BACM                | Best Available Control Measure   |
| BACT                | Best Available Control Technology  |
| bbl                 | barrel or 42 gallons   |
| bbl/d               | barrels per day  |
| BP                  | British Petroleum  |
| BPD                 | barrels per day  |
| Carson Operations   | Tesoro Los Angeles Refinery – Carson Operations                                      |
| CERCLIS             | Comprehensive Environmental Response, Compensation, and Liability Information System |
| CEQA                | California Environmental Quality Act   |
| CO                  | carbon monoxide  |
| CRU                 | Catalytic Reformer Unit 3  |
| CY                  | cubic yards  |
| dBA                 | A weighted noise level measurement in decibels                                       |
| DCU                 | Delayed Coker Unit   |
| DTSC                | Department of Toxic Substances Control   |
| EIR                 | Environmental Impact Report  |
| ERCs                | Emission Reduction Credits   |
| ERPG                | Emergency Response Planning Guideline  |
| FCCU                | fluid catalytic cracking unit  |
| G                   | acceleration of gravity  |
| GHGs                | Greenhouse Gases   |
| gpm                 | gallons per minute   |
| G/D                 | gasoline to distillate   |
| HCU                 | hydrocracking unit   |
| HDD                 | horizontal direction drilling  |
| HTU                 | Hydrotreater Unit  |
| Kv                  | kilovolt   |
| LACSD               | Los Angeles County Sanitation Districts  |
| LADWP               | Los Angeles Department of Water and Power  |
| lbs/day             | pounds per day   |
| LGB                 | Long Beach Airport   |
| LHU                 | Light Hydrotreating Unit   |
| LOS                 | Level of Service   |
| LPG                 | Liquid Petroleum Gas   |
| LUST                | leaking underground storage tank   |
| MH                  | manufacturing heavy  |
| MMBtu/hr            | million British Thermal Units per hour   |
| MMscf/d             | million standard cubic feet per day  |
| MMscf/yr            | million standard cubic feet per year   |
| MW                  | megawatt   |

|                  |   |
|------------------|---|
| M3-1             | heavy industrial use                                    |
| NOP/IS           | Notice of Preparation and Initial Study                 |
| NOx              | Nitrogen oxide  |
| NPDES            | National Pollution Discharge Elimination System         |
| OSHA             | Occupational Safety and Health Administration           |
| PM10             | particulate matter less than 10 microns in diameter     |
| PM2.5            | particulate matter less than 2.5 microns in diameter    |
| PM               | particulate matter                                      |
| ppmv             | parts per million volume                                |
| proposed project | Los Angeles Refinery Integration and Compliance Project |
| psig             | per square inch gauge                                   |
| PSTU             | Propane Sales Treating Unit                             |
| RCRA             | Resource Conservation and Recovery Act                  |
| Refinery         | Tesoro Los Angeles Refinery                             |
| RVP              | Reid vapor pressure                                     |
| RWQCB            | California Regional Water Quality Control Board         |
| SARP             | Sulfuric Acid Regeneration Plant                        |
| SCAG             | Southern California Association of Governments          |
| SCAQMD           | South Coast Air Quality Management District             |
| SCE              | Southern California Edison                              |
| SCP              | Spill Cleanup Program                                   |
| SHU              | Selective Hydrotreating Unit                            |
| SLIC             | Spills, Leaks, Investigation and Cleanup                |
| SOx              | sulfur oxide  |
| SRPs             | Sulfur Recovery Plants                                  |
| SWPPP            | Storm Water Pollution Prevention Plan                   |
| TACs             | toxic air contaminants                                  |
| TAN              | total acid number                                       |
| Tesoro           | Tesoro Refining & Marketing Company, LLC                |
| VOC              | Volatile Organic Compound                               |

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