

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FINAL NEGATIVE DECLARATION FOR: CONOCOPHILLIPS LOS ANGELES REFINERY TANK REPLACEMENT PROJECT

SCH No. 2008051097

July 2008

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PREFACE

This document constitutes the Final Negative Declaration (ND) for the ConocoPhillips Los Angeles Refinery Tank Replacement Project. The Draft ND was circulated for a 30-day public review and comment period (May 22, 2008 through June 20, 2008). One comment letter was received during the public comment period. Those comments were reviewed and evaluated and are included in Appendix C of this Final ND, along with responses to those comments.

Minor modifications have been made to the Draft ND such that it is now a Final ND. The SCAQMD has evaluated all modifications to the proposed project and concluded that none of the modifications alter any conclusions reached in the Draft ND, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft ND pursuant to CEQA Guidelines §15073.5. Therefore, this document is now a Final ND. Additions to the text of the ND are denoted using italics. Text that has been eliminated is shown using ~~strike-outs~~.

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CHAPTER 1

PROJECT DESCRIPTION

Introduction
Agency Authority
Project Location
Overview of Current Operations
Proposed Project Description
Required Permits

1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

The ConocoPhillips Los Angeles Refinery (Refinery) is proposing to remove seven existing petroleum storage tanks, and replace them with six new tanks, four at the Carson Plant and two new tanks at the Wilmington Plant. The existing tanks are scheduled for inspection and, due to the age of the tanks, they are expected to require maintenance and repair. Instead of repairing the tanks, ConocoPhillips has decided that it is more practical to replace the tanks because of the obsolete technology, i.e., the existing petroleum storage tanks are of riveted construction. The proposed project will replace the existing riveted storage tanks with floating roof tanks of welded construction. The Refinery's proposed project will comply with the South Coast Air Quality Management District's (SCAQMD) best available control technology (BACT), as applicable, for control of volatile organic compounds (VOCs) emissions from refinery storage tanks.

1.2 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code Section 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 project and has prepared this Negative Declaration to address the potential environmental impacts associated with the proposed project at the Carson and Wilmington Plants.

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). Since the SCAQMD has the greatest responsibility for supervising or approving the project as a whole, it was determined that the SCAQMD would be the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)).

To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Negative Declaration to address the potential adverse environmental impacts associated with the proposed project. A Negative Declaration for a project subject to CEQA is prepared when an environmental analysis of the project shows that there is no substantial evidence that the project may have a significant effect on the environment (CEQA Guidelines §15070(a)).

1.3 PROJECT LOCATION

The Refinery operates at two different sites in the South Coast Air Basin (Basin), which is a sub-area of the SCAQMD's area of jurisdiction. One of the sites is located in the City of Carson (Carson Plant) and the other site is in the City of Los Angeles Wilmington district (Wilmington Plant). The proposed project will occur at both the Carson and Wilmington Plants (See Figure 1). This proposed project includes replacement of storage tanks at both the Carson Plant and Wilmington Plant.

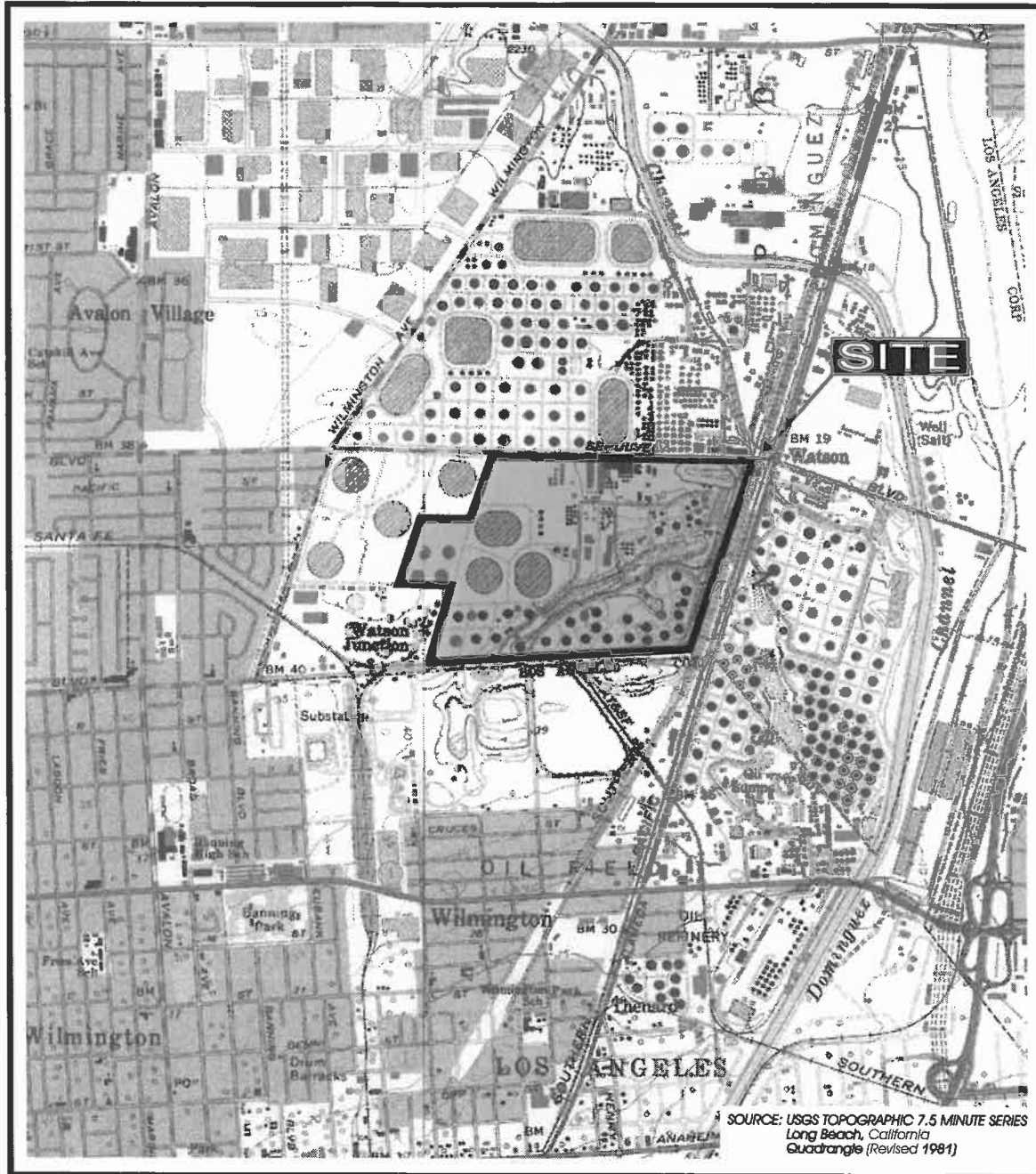
The Carson Plant is located at 1520 East Sepulveda Boulevard, Carson, California (See Figure 2) and consists of 245 acres. Land use on the Carson Plant property is designated as MH, which is heavy industrial zoning. The Carson Plant is bounded on the north by Sepulveda Boulevard, on the west by Wilmington Avenue; on the south by a branch of the Atchison, Topeka and Santa Fe Railroad; and on the east by Alameda Boulevard. Property to the north of the Carson Plant is occupied by the BP Los Angeles Refinery. The western boundary of the plant borders a shipping and container storage facility. Property across Wilmington Avenue includes a residential neighborhood to the northwest and commercial uses to the southwest. Land uses to the south of the Carson Plant are heavy industrial. Land south of Lomita Avenue is dominated by port-related activities. Land east of Alameda Street is occupied by a storage tank farm and the Tesoro (formerly Shell/Equilon/Texaco) Refinery.

The Wilmington Plant is located at 1660 West Anaheim Street, Wilmington, California (See Figure 3), and consists of approximately 400 acres. Land use on the Wilmington Plant property is designated as M3, which is heavy industrial zoning. The eastern part of the Wilmington Plant borders a residential area, a roofing materials plant, and a portion of the Harbor 110 Freeway. The northern portion of the site borders Harbor Lake Park, Harbor College, Harbor Golf Course, and a small residential area. The western part of the site borders Gaffey Street including a firing range, vacant fields, recreational fields, and a U.S. Navy fuel storage facility. Finally, the southern portion of the site shares a border with a warehouse facility. The proposed modifications are entirely within the confines of the existing facilities.

1.4 OVERVIEW OF CURRENT OPERATIONS

Crude oil is a mixture of hydrocarbon compounds and relatively small amounts of other materials, such as oxygen, nitrogen, sulfur, salt, and water. Petroleum refining is a coordinated arrangement of manufacturing processes designed to produce physical and chemical changes in the crude oil to remove most of the non-hydrocarbon substances, break the crude oil into its various components, and blend them into various useful products. The overall refining process uses four kinds of techniques: (1) separation, including distilling hydrocarbon liquids into gases, gasoline, diesel fuel, fuel oil, and heavier residual materials; (2) cracking or breaking large hydrocarbon molecules into smaller ones by thermal or catalytic processes; (3) reforming using heat and catalysts to rearrange the chemical structure of a particular oil stream to improve its quality; and (4) combining by chemically combining two or more hydrocarbons to produce high-grade gasoline.

The Carson and Wilmington Plants operate as one Refinery located at two separate locations. Crude oil and distillates and other raw materials are delivered to the Refinery by pipelines, ships, and trains. Crude oil is processed in the crude unit where it is heated and distilled into various hydrocarbon components (at the Carson Plant), which are further processed in downstream Refinery units (primarily located at the Wilmington Plant). The Refinery produces a variety of products including unleaded gasoline, jet fuel, diesel fuel, petroleum gases, sulfuric acid, and sulfur. Elemental sulfur and petroleum coke are produced as co-products of the refining process. Major processing units at the Refinery include the crude unit, vacuum flasher, coker unit,



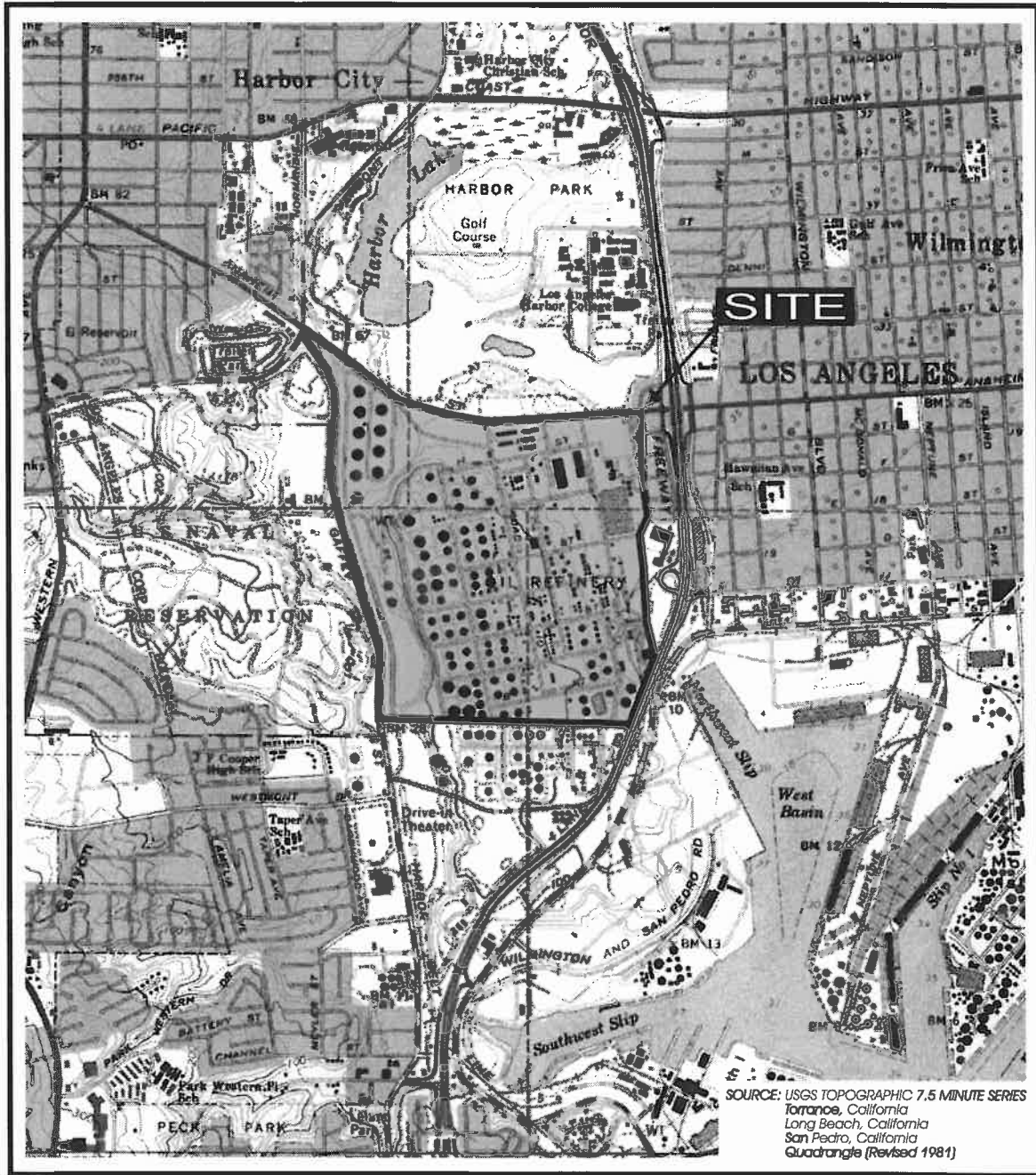
SOURCE: USGS TOPOGRAPHIC 7.5 MINUTE SERIES
Long Beach, California
Quadrangle (Revised 1981)




SITE LOCATION MAP
ConocoPhillips
Carson Plant

0 2,000'





 Environmental Audit, Inc.

SITE LOCATION MAP
ConocoPhillips
Wilmington Plant

Project No. 2583
 N:\2583\SiteLocMap (Wilmington).cdr

Figure 3

hydrotreating units, reforming units, fluid catalytic cracking unit, alkylation unit, sulfur recovery units, hydrogen plant, acid plant and the cogeneration unit.

1.5 PROPOSED PROJECT DESCRIPTION

The ConocoPhillips Refinery is proposing to remove seven existing petroleum storage tanks, and replace them with six new storage tanks, four at the Carson Plant and two new storage tanks at the Wilmington Plant. The existing tanks are scheduled for inspection and, due to the age of the tanks (built in the 1920's), they are expected to require maintenance and repair. Instead of repairing the tanks, ConocoPhillips has decided that it is more practical to replace the tanks because of the obsolete technology, i.e., the existing petroleum storage tanks are of riveted construction. Riveted construction is a technology that no longer exists, so new tanks are welded instead of riveted. Welded tanks are considered to be preferable because, all other things being equal, a riveted tank has higher emissions than a welded tank. The existing storage tanks that are part of the proposed project do not contain vapor pressure or throughput limitations. SCAQMD permits for the new storage tanks will contain vapor pressure and throughput limitations. The replacement projects at each site are independent projects. However, since they will occur within the same timeframe they are being considered in one CEQA document.

1.5.1 CARSON PLANT

ConocoPhillips is proposing to remove five existing petroleum storage tanks of riveted construction and replace them with four new external floating roof storage tanks of welded construction over approximately a four-year period at the Carson Plant. Three of the existing riveted tanks will be replaced with all-new, welded tanks of the same size and capacity in the same locations. The other two existing riveted tanks, used to store hydrotreated gas oil, will be demolished and replaced with a single, larger welded tank. BACT for the control of fugitive VOC emissions from the tanks (i.e., floating roof welded tanks) will be employed as required by SCAQMD Rule 1303. The locations of the storage tanks to be removed and/or replaced at the Carson Plant are shown in Figure 4.

1.5.1.1 Tank 2625

The ConocoPhillips Refinery Carson Plant has historically stored hydrotreated gas oil Tanks 16 and 18 which are fixed roof storage tanks of riveted construction. Hydrotreated gas oil is an intermediate product of the petroleum refining process. Both Tanks 16 and 18 were originally constructed in the early 1920's. Tanks 16 and 18 are due for scheduled inspection and maintenance. ConocoPhillips proposes to replace these two tanks with a single, new tank instead of repairing the old existing ones.

The Carson Plant has 45 liquid petroleum storage tanks with a total permitted capacity of approximately 3.9 million barrels. ConocoPhillips is proposing to permanently demolish Tanks 16 and 18 and replace them with an all-new, external floating roof tank, designated Tank 2625, near the current location of Tank 18, which is in the extreme southeast corner of the Carson site. The new gas oil storage tank will be approximately 165 feet in diameter by 48 feet tall, with an

approximate capacity of 180,000 barrels. The combined capacity of Tanks 16 and 18 is about 158,000 barrels, so the new tank will increase total hydrotreated gas oil storage capacity by about 22,000 barrels or about five percent. The new tank will increase total petroleum storage capacity at the Carson Plant by less than one percent.

1.5.1.2 Tank 2

Tank 2 is an external floating roof tank with a shell of riveted construction. It has a capacity of about 80,000 barrels and currently stores heavy residual materials. ConocoPhillips is proposing to remove and replace Tank 2 with an all-new, external floating roof tank of welded construction with the same capacity and in the same location. Tank 2 will continue to store heavy residual materials following project completion.

1.5.1.3 Tank 21

Tank 21 is an external floating roof tank with a shell of riveted construction. It has a capacity of about 82,700 barrels and currently stores gas oil. ConocoPhillips is proposing to remove and replace Tank 21 with an all-new, external floating roof tank of welded construction with the same capacity and in the same location. Tank 21 will continue to store gas oil following project completion.

1.5.1.4 Tank 280

Tank 280 is an external floating roof tank with a shell of riveted construction. It has a capacity of about 80,000 barrels and currently stores kerosene. ConocoPhillips is proposing to remove and replace Tank 280 with an all-new, external floating roof tank of welded construction with the same capacity and in the same location. Tank 280 will continue to store kerosene following project completion.

1.5.2 WILMINGTON PLANT

The Wilmington Plant has 104 storage tanks with a total permitted capacity of approximately 7.4 million barrels. ConocoPhillips is proposing to remove and replace two existing petroleum storage tanks of riveted construction with two new external floating roof storage tanks of welded construction over approximately a two-year period. The existing riveted tanks will be replaced with all-new, welded tanks of the same size and capacity in the same locations. BACT for the control of VOC emissions from the tanks will be employed as required by SCAQMD Rule 1303. The locations of the storage tanks at the Wilmington Plant are shown in Figure 5.

1.5.2.1 Tank 68

Tank 68 is an external floating roof tank with a shell of riveted construction. It has a capacity of about 84,000 barrels and currently stores gas oil. ConocoPhillips is proposing to remove and replace Tank 68 with an all-new, external floating roof tank of welded construction with the same capacity and in the same location. Tank 68 will continue to store gas oil following project completion.

1.5.2.2 Tank 78

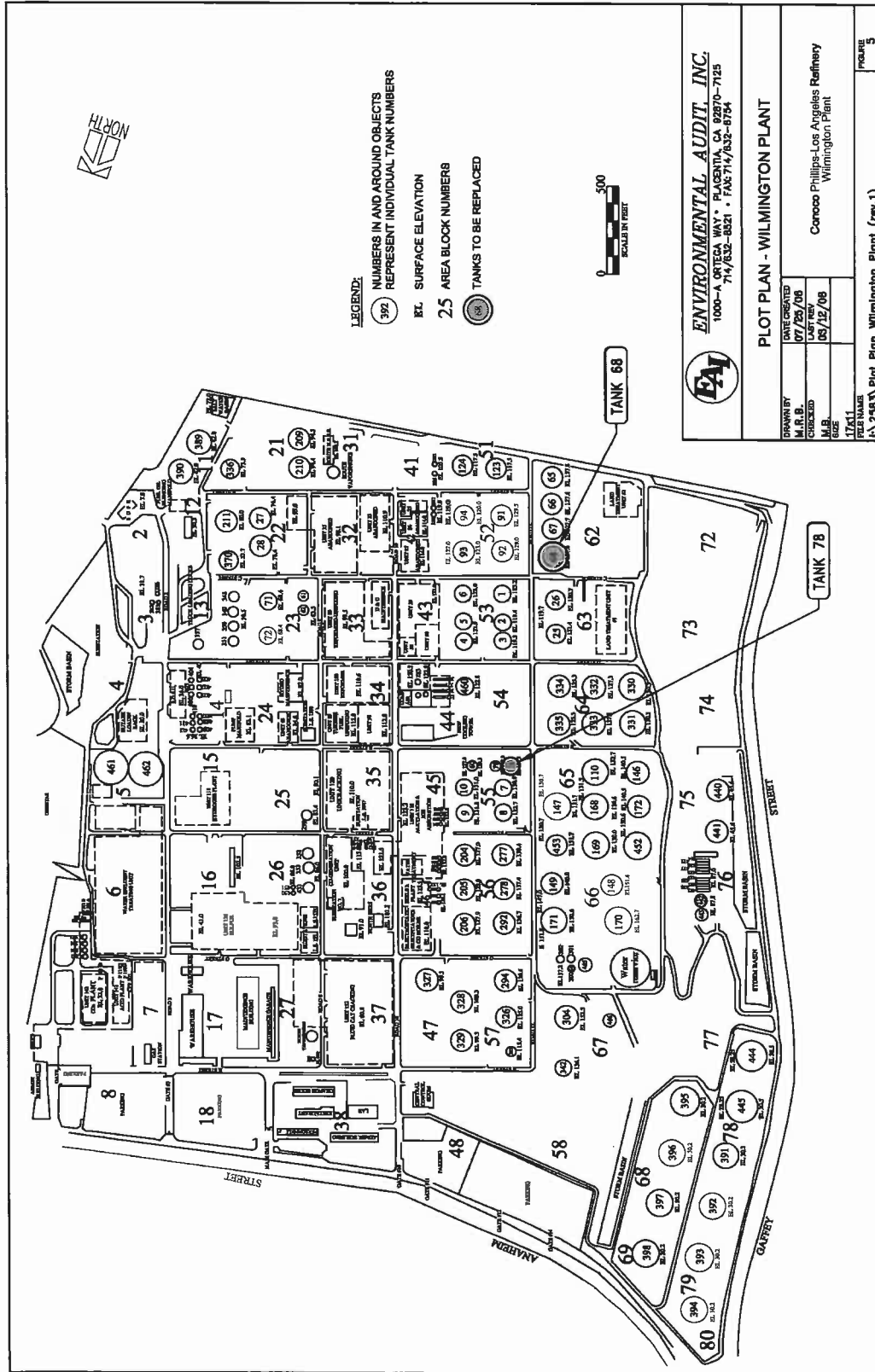
Tank 78 is an external floating roof tank with a shell of riveted construction. It has a capacity of about 18,000 barrels and currently stores jet/diesel blendstock. ConocoPhillips is proposing to remove and replace Tank 78 with an all-new, external floating roof tank of welded construction with the same capacity and in the same location. Tank 78 will continue to store jet/diesel blendstock following project completion.

1.6 REQUIRED PERMITS

The proposed project will require Permits to Construct/Operate from the SCAQMD and will require building permits from the Cities of Carson and Los Angeles. No other permits are expected to be required.

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ConocoPhillips Los Angeles Refinery – Tank Replacement Project



CHAPTER 2

ENVIRONMENTAL CHECKLIST

Introduction
General Information
Environmental Factors Potentially Affected
Determination
Environmental Checklist and Discussion
 Aesthetics
 Agriculture Resources
 Air Quality
 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/Hazardous Waste
 Transportation/Traffic
 Mandatory Findings of Significance
References
Acronyms
Glossary

INTRODUCTION

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

GENERAL INFORMATION

Project Title:	ConocoPhillips Los Angeles Refinery Tank Replacement Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
Contact Person:	Michael Krause
Contact Phone Number:	(909) 396-2706
Project Sponsor's Name:	ConocoPhillips Los Angeles Refinery
Project Sponsor's Address:	1520 East Sepulveda Boulevard, Carson, California, 90745 1660 West Anaheim Street Wilmington, CA 90744
General Plan Designation:	Heavy Industrial (Carson and Wilmington Plants)
Zoning:	M-3 Heavy Industrial
Description of Project:	The ConocoPhillips Los Angeles Refinery (Refinery) is proposing to remove seven existing petroleum storage tanks, and replace them with six new storage tanks, four at the Carson Plant and two at the Wilmington Plant. The existing petroleum storage tanks are of riveted construction. The proposed project will replace the existing riveted storage tanks with floating roof tanks of welded construction. The Refinery's proposed project will comply with the SCAQMD BACT required for control of VOCs emissions from refinery storage tanks.
Surrounding Land Uses and Setting (Carson Plant):	The Carson Plant is bounded on the north by Sepulveda Boulevard, on the west by Wilmington Avenue; on the south by a branch of the Atchison, Topeka and Santa Fe Railroad; and on the east by Alameda Boulevard. Property to the north of the Carson Plant is occupied by the BP Los Angeles Refinery. The western boundary of the plant borders a shipping and container storage facility. Property across Wilmington Avenue includes a residential neighborhood to the northwest and commercial uses to the southwest. Land uses to the south of the Carson Plant are heavy industrial. Land south of Lomita Avenue is dominated by port-related activities. Land east of Alameda Street is occupied by a storage tank farm and the Shell (formerly Equilon/Texaco) Refinery.

Surrounding Land Uses and Setting (Wilmington Plant):	The eastern part of the Wilmington Plant borders a residential area, a roofing materials plant, and a portion of the Harbor 110 Freeway. The northern portion of the site borders Harbor Lake Park, Harbor College, Harbor Golf Course, and a small residential area. The western part of the site borders Gaffey Street including a firing range, vacant fields, recreational fields, and a U.S. Navy fuel storage facility. Finally, the southern portion of the site shares a border with a warehouse facility.
Other Public Agencies Whose Approval is Required:	City of Los Angeles City of Carson

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" 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"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/
Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Solid/Hazardous Waste | <input type="checkbox"/> Transportation/
Traffic | <input type="checkbox"/> Mandatory Findings of Significance |

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 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: May 22, 2008

Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:			
a) Have a substantial adverse effect on a scenic vista?	<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 checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<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"/>

1.1 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.

1.2 Environmental Setting and Impacts

1. a, b, c. The proposed project includes removing seven existing petroleum storage tanks of riveted construction and installing six new external floating roof storage tanks of welded construction. At the Carson Plant, three existing tanks will be replaced with new tanks of the same size at the same locations in the Refinery. The other two existing tanks used for storing hydrotreated gas oil (which are both about 41 feet in height with a capacity of 79,135 bbls) will be demolished and replaced with a single larger welded tank. The proposed new Tank 2625 will

be 165 feet in diameter and 48 feet in height, with a storage capacity of approximately 180,000 barrels (bbl). The proposed project will introduce minor visual changes to the Carson Plant. The Carson Plant is surrounded by other industrial uses. The new Tank 2426 will be located adjacent to the south eastern boundary of the Carson Plant. Land uses adjacent to the Carson Plant are all heavy industrial and include the Alameda Corridor, the Kinder Morgan facility, and the Tesoro Refinery to the east; the BP Refinery to the north; another storage tank facility to the west; and other heavy industrial uses (e.g., container storage yards) to the south. The views of the Carson Plant from adjacent properties are not expected to significantly change because of the proposed project as the new storage tanks will be the same height or close to the same height as the existing tanks. Further, while a new tank will be installed, two much older tanks will be removed. The closest residential areas are located over one mile to the west of the propose new Tank 2625 and would not be visible from the residential areas due to the distance and the presence of other storage tanks, industrial facilities and other structures. No significant change in visual characteristics and no damage to scenic resources at the Carson Plant are expected.

At the Wilmington Plant, two existing tanks will be replaced with two new tanks of the same size and capacity, in the same locations. Therefore, there will be no change in the visual characteristics and no damage to scenic resources at the Wilmington Plant.

No scenic highways, vistas, or corridors are located in the vicinity of either the Carson or Wilmington Plants. No significant adverse aesthetic impacts are expected.

1. d). Construction activities are not anticipated to require additional lighting because they are scheduled to take place during daylight hours. However, if the construction schedule requires nighttime activities, temporary lighting may be required. Since the project location is completely located within the boundaries of the existing Carson and Wilmington Plants, additional temporary lighting is not expected to be discernible from the existing permanent night lighting.

The project components will be located within existing industrial facilities, which are already lighted at night for nighttime operations, so that no increase in lighting associated with the proposed project at the Carson and Wilmington Plants is expected. Therefore, no significant light and glare impacts are anticipated from the proposed project.

1.3 Mitigation Measures

No significant adverse impacts from the proposed project on aesthetics are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. 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 checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2.1 Significance Criteria

Project-related impacts on agricultural 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 would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

2.2 Environmental Setting and Impacts

2. a), b), and c). There are no agricultural resources, i.e., food crops grown for commercial purposes, located in or near the vicinity of the Carson or Wilmington Plants. The proposed project will not involve construction outside of the existing boundaries of the Carson or Wilmington Plants and no agricultural resources are located within the Carson or Wilmington

Plants. The zoning of the Carson and Wilmington Plants will remain heavy industrial and refinery uses are allowed within this zone. No existing agricultural land will be converted to non-agricultural land uses. Further, the project will not conflict with a Williamson Act contract. Therefore, the proposed project will have no significant adverse impacts on agricultural resources.

2.3 Mitigation Measures

No significant adverse impacts from the proposed project on agricultural resources are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<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 checked="" type="checkbox"/>

3.1 Significance Criteria

Impacts will be evaluated and compared to the significance criteria in Table 1. If impacts equal or exceed any of the following criteria, they will be considered significant.

TABLE 1

Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants^(a)		
NO ₂ 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour annual geometric mean annual arithmetic mean	10.4 $\mu\text{g}/\text{m}^3$ (recommended for construction) ^(b) 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 ppm (state) 9.0 ppm (state/federal)	
<p>^(a) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.</p> <p>^(b) Ambient air quality threshold based on SCAQMD Rule 403.</p> <p>ppm = parts per million; $\mu\text{g}/\text{m}^3$ = microgram per cubic meter; mg/m^3 = milligram per cubic meter; lbs/day = pounds per day; \geq greater than or equal to</p>		

3.2 Environmental Setting and Impacts

3. a) & f) The 2007 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 some of the same inputs used to develop the AQMP. As indicated in the Population and Housing and Transportation/Traffic sections of this IS, the proposed project will not require additional Refinery employees or generate additional traffic during operation. Therefore, the proposed project will not cause increases in the growth projections in the Wilmington-Harbor City Community Plan (City of Los Angeles, 1999) or the Carson General Plan. Additionally, this project must comply with applicable SCAQMD requirements and promulgation of future AQMP control measures for new or modified sources. For example, new emission sources associated with the proposed project are required to comply with the SCAQMD's Regulation XIII – New Source Review, and Rule 2005 - New Source Review for RECLAIM, requirements that include the use of BACT, air quality modeling, and emission reduction credit offsets for any emission increases greater than one pound per day. The proposed project must also comply with prohibitory rules, such as SCAQMD Rule 403 – Fugitive Dust.

By meeting these requirements, the proposed project will be consistent with the goals and objectives of the AQMP to improve air quality in the Basin. As a result, the proposed project is consistent with the 2007 AQMP. Further, the proposed project is required to comply with applicable air quality rules and regulations. Thus, the proposed project will not diminish an existing air quality rule or future compliance requirement.

3. b) Emissions Estimates

Construction Emissions: Construction activities associated with the proposed project would result in emissions of volatile organic compounds (VOCs), carbon monoxide (CO), NO_x, SO_x, particulate matter (PM) less than 10 microns in diameter (PM₁₀), and PM less than 2.5 microns in diameter (PM_{2.5}). Construction activities include demolition of existing tanks, construction of new foundations, and installation of the new equipment. The site is already graded, so no major grading activities are expected. The existing storage tanks will need to be demolished in the early construction phase so that the new storage tanks can replace them at their current locations, except for Tank 2625, which will be constructed at a new location (see Figure 4).

Daily construction emissions were calculated for the peak construction day activities. Emission calculations were completed for tank demolition and tank construction, which cannot occur at the same time as the existing tank will be removed before construction on the new tank can begin. It was determined that the peak day construction emissions would occur during tank construction activities (detailed calculations can be found in Appendix A). Peak day emissions are the sum of the highest daily emissions from construction equipment, employee vehicles, fugitive dust sources, and transport activities, at all affected facilities for the construction period. Because of the operating considerations and limited storage tank space, only one storage tank can be removed from operation at a time. Therefore, only one storage tank will be demolished and constructed at one time, so no overlap in construction or demolition activities will occur. The peak day is based on the day in which the highest emissions occur for each pollutant.

Furthermore, the peak emissions are very conservative because they reflect the peak day emissions for Tank 2625. Construction of Tank 2625 will result in the highest peak activity because it's the largest tank and is being built in a new location, so it will require the most equipment to grade and/or excavate and pave an all new concrete foundation. The other tanks are smaller and will be built in the exact same location as the former tanks, so any grading and/or excavation associated with the other storage tanks will be minor. The criteria pollutant emissions for that peak day were then compared to their respective significance thresholds. Construction emissions for the proposed project are provided in detail in Appendix A and the peak construction emissions are summarized in Table 2.

TABLE 2
Peak Construction Emissions

Source/Activity	Construction Emissions (lbs/day) ⁽¹⁾					
	VOC	CO	NOx	SOx	PM10	PM2.5
Construction Equipment	12.88	33.17	66.36	0.07	3.71	3.41
Vehicle Emissions	0.98	8.51	4.76	0.01	0.17	0.15
Fugitive Construction	0.00	0.00	0.00	0.00	33.18	6.90
Fugitive Road Dust	0.00	0.00	0.00	0.00	0.59	0.10
Total Emissions	13.86	41.68	71.12	0.08	37.65	10.56
SCAQMD Regional Threshold	75	550	100	150	150	55
Regionally Significant?	No	No	No	No	No	No

(1) See Appendix A for further details and calculation methodology.

The proposed project emissions during the construction phase are compared to the SCAQMD CEQA significance thresholds for construction in Table 2. The peak construction emissions are expected to be less than the SCAQMD CEQA significance thresholds so that no significant impacts on air quality are expected during the construction phase.

The construction and demolition phases will not overlap for a given tank. Tanks 2, 21, 280, 68 and 78 will be demolished and rebuilt on the same locations as the existing tanks. Therefore, it is impossible to begin construction activities until demolition is completed. The old tank will first need to be removed before construction of a new tank can occur. For Tank 2625, Tank 18 will need to be removed before Tank 2625 can be built as it will be partially built on the same site as Tank 18. Further, because of operational considerations and limited storage space, only one storage tank will be removed from service at any given time. Therefore, construction and demolition phases are not expected to overlap. Nonetheless, should the demolition and construction phases overlap due to unexpected conditions or take place at the same time at both the Carson and Wilmington Plants, the emissions are expected to be less than significant (see Table 3).

TABLE 3

**Air Quality Impacts Associated with the
Overlap of Demolition and Construction Emissions**

Source/Activity	Construction Emissions (lbs/day) ⁽¹⁾					
	VOC	CO	NO _x	SO _x	PM10	PM2.5
Demolition Emissions	3.86	14.04	15.45	0.02	22.72	5.47
Construction Emissions	13.86	41.68	71.12	0.08	37.65	10.56
Total Emissions Assuming Demolition/Construction Overlap	17.72	55.72	86.57	0.10	60.37	16.03
SCAQMD Regional Threshold	75	550	100	150	150	55
Regionally Significant?	No	No	No	No	No	No

(2) See Appendix A for further details and calculation methodology.

The construction emissions were also compared to the SCAQMD’s localized significance thresholds (SCAQMD, 2003) (see Table 4 and Appendix A) for a one-acre project. The localized significance thresholds are used to determine whether or not a project may generate significant adverse air quality impacts to the local sensitive receptors in the vicinity of the proposed project. Both the ConocoPhillips Carson Plant and Wilmington Plant are located in source receptor area 4. The estimated construction emissions associated with construction of the storage tanks were compared to the localized significance thresholds for CO, NO_x, PM10, and PM2.5. In all cases, the construction emissions were below the localized significance thresholds (see Appendix A). Therefore, no significant localized air quality impacts are expected.

The construction emissions from the Carson and Wilmington Plants are not expected to overlap because the construction emission impacts are located within the immediate area of each Plant. For example, the closest receptor for the Carson Plant is about 200 meters away and the localized construction emissions are well below the significance thresholds. The closest receptor to the Wilmington Plant is about 500 meters from the facility and the localized construction emissions are well below the significance thresholds (see Table 4). Therefore, localized construction emissions from the Carson and Wilmington Plant would not overlap as the Plants are located about three miles apart and construction emissions from both facilities would be well below the localized significance thresholds.

TABLE 4

**ConocoPhillips – Los Angeles Refinery
Tank Replacement Project
Localized Emission Impacts Analysis**

Source/Activity	On-site Source Emissions (lbs/day)					
	VOC	CO	NOx	SOx	PM10	PM2.5
Wilmington Plant						
Construction Equipment	12.88	33.17	66.36	0.07	3.71	3.41
Fugitive Construction Emissions	0	0	0	0	32.57	6.77
Total On-site Emissions	12.88	33.17	66.36	0.07	36.28	10.19
Screening Value ⁽¹⁾	NA	6,614	312	NA	158	93
Significant?	-	No	No	-	No	No
Carson Plant						
Construction Equipment	12.88	33.17	66.36	0.07	3.71	3.41
Fugitive Construction Emissions	0	0	0	0	32.57	6.77
Total On-site Emissions	12.88	33.17	66.36	0.07	36.28	10.19
Screening Value ⁽²⁾	NA	1,009	197	NA	45	26
Significant?	-	No	No	-	No	No

(1) Screening values for LST analysis from SCAQMD Final Localized Significance Threshold Methodology, Appendix C, Tables C-1, C-2, and C-4 for SRA No. 4 for one-acre sites at 500 meters (June 2003).

(2) Screening values for LST analysis from SCAQMD Final Localized Significance Threshold Methodology, Appendix C, Tables C-1, C-2, and C-4 for SRA No. 4 for one-acre sites at 200 meters (June 2003).

Operational Emissions

Emission calculations for the new storage tanks were estimated using the U.S. EPA TANKS Model. The new tanks are expected to generate approximately 22.2 pounds per day of VOC emissions (see Table 5), resulting in an increase of about 19.2 pound per day of VOC emissions. Worst-case emission estimates have been provided in Table 5 that assume the maximum potential vapor pressure and throughput in the highest month. The existing storage tanks primarily contain heavy material with a low vapor pressure and no throughput limitation. As part of the SCAQMD air quality permit, both vapor pressure and throughput limitations will be imposed on the new tanks. Therefore, worst-case emission estimates have been calculated for the proposed storage tanks replacement and modifications (see Table 5) that include potential increased throughput from new tanks. Some of the existing equipment has had relatively little volume turnover in the last two years, which constitutes the baseline period for tank emissions. The emissions estimate for the new tanks is conservatively based on peak monthly volume turnover, which is expected to occur very infrequently, as well as the approximately five percent increase in total hydrotreated gas oil storage capacity in Tank 2625. Fugitive components (e.g., pumps and valves) on the new tanks are assumed to be similar to those on the existing tanks. No

increase in VOC emissions from fugitive components (e.g., pumps and valves) is expected due to the proposed project.

TABLE 5
Storage Tank Operational Emissions Increases

Tank	Emissions (lbs/day) ⁽¹⁾		
	Existing VOC Emissions ⁽²⁾	Proposed Project Estimated VOC Emissions	Proposed Project VOC Emission Changes
Tank 16	0	--	--
Tank 18	0	--	--
Storage Tank 2625	n/a	4.0	4.0
Storage Tank 2	0.2	4.8	4.6
Storage Tank 21	0.5	5.4	4.9
Storage Tank 280	1.0	4.6	3.6
Storage Tank 68	0.7	2.6	1.9
Storage Tank 78	0.3	0.8	0.5
Total Emissions	2.7	22.2	19.5
SCAQMD Threshold	n/a	55	55
Significant	n/a	No	No

(1) No emissions of NO_x, SO_x, VOC, PM₁₀, and PM_{2.5} are expected due to operation of the proposed project as the only project-related emissions are VOC emissions associated with storage tanks.

(2) Existing emissions are based on the annual emission fee reports for the last two years.

At the Carson Plant, existing tanks 16 and 18 are used to store hydrotreated gas oil. These tanks will be demolished and replaced with tank 2625 near the current location of tank 18 in the southeast corner of the Carson Plant. Tank 2625 will have a total capacity of 180,000 bbls versus the combined capacity of 158,000 bbls for tanks 16 and 18. Increased emissions from tank 2625 are expected to be 4.0 lbs/day. Tanks 2, 21 and 280 will be replaced at their existing locations and will be of the same size and capacity as the existing tanks. Increased emissions from the new tanks 2, 21, and 280 are estimated to be 4.6, 4.9, and 3.6 lbs/day respectively.

At the Wilmington Plant, tanks 68 and 78 will be replaced at their existing locations, and will be of the same size and capacity as the existing tanks. Increased emissions for tanks 68 and 78 are estimated to be 1.9 and 0.5 lbs/day respectively. All of the new tanks at both plants will replace riveted steel tanks with welded construction tanks having new external floating roofs. BACT for the control of VOC emissions from the storage tanks will be employed on the tanks (i.e., floating roof welded tanks) as required by SCAQMD Rule 1303.

The estimated increase in VOC emissions is compared to the SCAQMD CEQA significance thresholds in Table 5. The emission increases are below SCAQMD thresholds, therefore, no significant impacts on air quality are expected during operation of the proposed project.

3. c) Cumulative Air Quality Impacts

Greenhouse Gas Emissions: Because greenhouse gas emissions are generally considered to affect global climate, applicable impacts are considered to be cumulative impacts. Global climate change refers to changes in average climatic conditions on earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. The six major GHGs identified by the Kyoto Protocol are CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

CO₂ is an odorless, colorless natural greenhouse gas. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO₂ are from burning coal, oil, natural gas, wood, butane, propane, etc. CH₄ is a flammable gas and is the main component of natural gas. N₂O, also known as laughing gas, is a colorless greenhouse gas. Some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of GHGs. HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (whose production was stopped as required by the Montreal Protocol) for automobile air conditioners and refrigerants. The two main sources of PFCs are primary aluminum production and semiconductor manufacture. SF₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHGs emissions (CEC, 2004). The GHG inventory for California is presented in Table 6 (CARB, 2007). Approximately 80 percent of GHGs in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions (see Table 6).

TABLE 6
California GHG Emissions and Sinks Summary
(Million metric tons of CO₂ equivalence)

Categories Included in the Inventory	1990	2004
ENERGY	386.41	420.91
<i>Fuel Combustion Activities</i>	381.16	416.29
Energy Industries	157.33	166.43
Manufacturing Industries & Construction	24.24	19.45
Transport	150.02	181.95
Other Sectors	48.19	46.29
Non-Specified	1.38	2.16
<i>Fugitive Emissions from Fuels</i>	5.25	4.62
Oil and Natural Gas	2.94	2.54
Other Emissions from Energy Production	2.31	2.07
INDUSTRIAL PROCESSES & PRODUCT USE	18.34	30.78
Mineral Industry	4.85	5.90
Chemical Industry	2.34	1.32
Non-Energy Products from Fuels & Solvent Use	2.29	1.37
Electronics Industry	0.59	0.88
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.97
Other Product Manufacture & Use Other	3.18	1.60
Other	5.05	5.74
AGRICULTURE, FORESTRY, & OTHER LAND USE	19.11	23.28
Livestock	11.67	13.92
Land	0.19	0.19
Aggregate Sources & Non-CO ₂ Emissions Sources on Land	7.26	9.17
WASTE	9.42	9.44
Solid Waste Disposal	6.26	5.62
Wastewater Treatment & Discharge	3.17	3.82
EMISSION SUMMARY		
Gross California Emissions	433.29	484.4
Sinks and Sequestrations	-6.69	-4.66
Net California Emissions	426.60	479.74

Source: CARB, 2007.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO₂

is approximately 100 years, for example, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate GHG effects over a longer timeframe than a single day. GHG emissions in the form of CO₂ will be generated by the off-road equipment and on-road vehicles during the construction phase of the project. CO₂ emissions were estimated using emission factors from CARB's EMFAC2007 and OFFROAD2007 models and EPA's AP-42. The CO₂ emission factors and calculations can be found in the emission calculation spreadsheets in Appendix A.

The proposed Tank Replacement Project is not expected to generate significant greenhouse gas (GHG) emissions. The demolition phase of the proposed project is expected to take place over about a one month period (five days per week) and result in about 15 metric tons of CO₂. Construction of the new tanks is expected to take place over about a two month period (five days per week) resulting in about 124 metric tons of CO₂. The total increase in CO₂ emissions for construction associated with each storage tank is expected to be about 139 metric tons. Total project construction emissions of CO₂ are expected to be about 849 metric tons of CO₂ [(7 x 15) + (6 x 124)].

The operational phase of implementing the proposed project would result in no change or increase in CO₂ emissions as the operation of storage tanks does not generate GHG emissions.

An increase in GHG emissions of about 849 metric tons from the demolition and construction phase (all seven storage tanks) of the proposed project would be less than significant for the following reasons. Neither SCAQMD nor any other air regulatory agency in California has established a significance threshold for GHG emissions yet. In the absence of a specific significance threshold, SCAQMD staff has evaluated GHG significance for projects where it is the lead agency on a case-by-case basis. In this analysis, SCAQMD staff used a variety of benchmarks to evaluate GHG impacts. As additional information is compiled with regard to the level of GHG emissions that constitute a significant cumulative climate change impact, SCAQMD will continue to revisit and possibly revise the level of GHG emissions considered to be significant.

In its CEQA & Climate Change document (CAPCOA, 2008), CAPCOA identifies many potential GHG significance threshold options. The CAPCOA document indicates that establishing quantitative thresholds is a balance between setting the level low enough to capture a substantial portion of future residential and non-residential development, while also setting a threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions. For example, CAPCOA identifies one potential significance threshold as 10,000 metric tons per year, which was considered by the Market Advisory Committee for inclusion in a Greenhouse Gas Cap and Trade System in California. Another potential threshold identified by CAPCOA is 25,000 metric tons per year, which is CARB's proposed mandatory reporting threshold under AB 32. GHG emissions increase from the proposed project would be substantially lower than both of these reporting thresholds.

Finally, another approach to determining significance is to estimate what percentage of the total inventory of GHG emissions are represented by emissions from a single project. If emissions are

a relatively small percentage of the total inventory, it is possible that the project will have little or no effect on global climate change. According to available information, the statewide inventory of CO₂eq. emission is as follows: 1990 GHG emissions were estimated to equal 427 million metric tons of CO₂eq. and 2020 GHG emissions are projected to equal 600 million metric tons of CO₂eq. under a business-as-usual scenario. Interpolating an inventory for the year 2008 (time of construction) results in an estimated inventory of approximately 531 million metric tons of CO₂eq. CO₂ emissions in 2008 of 139 metric tons from the proposed project represent 0.000026 percent of the statewide GHG inventory in 2010. This small percentage of GHG emissions compared to the total projected statewide GHG emissions inventory is another basis for the SCAQMD's conclusion that GHG emissions from implementing the proposed project are less than significant.

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 establishes a cap on statewide greenhouse gas emissions and sets the regulatory framework to achieve the corresponding reduction in statewide emission levels. ConocoPhillips will be regulated under requirements established pursuant to AB32. AB32 will require CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions, by January 1, 2008 (an estimated 33 percent reduction);
- Adopt mandatory reporting rules for significant sources of GHG emissions by January 1, 2008;
- Adopt an emissions reduction plan by January 1, 2009, indicating how emissions reductions will be achieved via regulations, market mechanisms, and other actions; and,
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHGs by January 1, 2011.

The rules, requirements, and regulations that will be placed on individual industries and facilities, including refineries, under AB32 are currently unknown because the regulations are currently being developed. It is possible that certain sectors of industry, including refineries, will be required to implement additional GHG emission reductions once the regulations required under AB32 are developed; however, such reduction requirements are currently unknown, but would take into account emissions from the currently proposed project. Therefore, no emission reduction credit for future regulations is being taken at this time.

Since GHG emissions are considered cumulative impacts, and the proposed project GHG emissions are well below the 10,000 metric ton per year Market Advisory Committee threshold, the 25,000 metric ton per year CARB proposed mandatory reporting threshold under AB 32, is a very small percentage of the total statewide GHG inventory in 2010, cumulative adverse GHG impacts from the proposed project are not considered significant.

Because project-specific emissions during construction and operation do not exceed any applicable significance thresholds in Table 1, emissions are not considered to be cumulatively considerable pursuant to CEQA Guidelines §15064(h)(1). As a result, the proposed project is not expected to create significant adverse cumulative air quality impacts during either construction or operation. The project-specific emission increases are less than significant, therefore, the cumulative air quality impacts are not expected to be cumulatively considerable.

Toxic Air Contaminants Operational Impacts

3. d) Health risks from exposures to toxic air contaminants (TAC) were estimated using VOC speciation data for the material stored in each of the storage tanks at the Wilmington and Carson Plants. The health risk assessments for TACs from the Carson and Wilmington Plants are included in Appendix B.

Carson Plant: The emission estimates for Tanks 2, 280, 21 and 2625 were modeled using the ISCST model. The health risks were evaluated using the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 Version 7.0 (July 2005). The California Air Resources Board (CARB) Hotspots Analysis Reporting Program (HARP) model is the most appropriate model for determining the health risk impacts for the proposed project. The HARP model combines the U.S. EPA Industrial Source Complex dispersion model with a risk calculation model based on the Air Toxics Hot Spots Program Risk Assessment Guidelines (OEHHA, 2003). The dispersion portion of the HARP model provides estimates of the source-specific annual and hourly maximum ambient ground level concentrations. Based on the air quality modeling and related assumptions, the maximum cancer risk for a maximum exposed individual resident (MEIR), assuming a 70-year exposure, is 2.14×10^{-8} or about 0.02 per million. The maximum cancer risk for a maximum exposed individual worker (MEIW) is 7.65×10^{-8} or about 0.08 per million. These results do not exceed the cancer risk significance threshold of 10×10^{-6} or ten-in-one million identified in Table 1. See Appendix B for more details on the HRA. Based on the results of air quality modeling, no significant carcinogenic health impacts are expected due to TAC emissions from the proposed tank modifications at the Carson Plant.

The highest chronic hazard index for the proposed project at the Carson Plant is estimated to be 0.0004 for the central nervous system. The chronic health effects are based on maximum annual emissions of toxic air contaminants that have chronic target endpoints. This result does not exceed the chronic hazard index significance threshold of 1.0 identified in Table 1. The highest acute hazard index for the proposed project is estimated to be 0.000004. The acute health effects are based on maximum hourly emissions of TACs that have acute target endpoints (see Appendix B). The acute hazard index for the proposed project at the Carson Plant does not exceed the relevant significance threshold of 1.0 in Table 1. Therefore, based on the results of air quality modeling, no significant carcinogenic or non-carcinogenic (chronic or acute) health impacts are expected due to exposure to TAC emissions from the proposed tank modifications at the Carson Plant.

Wilmington Plant: A screening health risk assessment was prepared to evaluate the potential TAC impacts from the Wilmington Plant. The emission estimates for Tanks 68 and 78 were estimated using VOC speciation data. The health risks associated with the emission increases

were evaluated using the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 Version 7.0 (July 2005) (see Appendix B). The emission estimates for 17 chemicals were compared to the screening levels for each pollutant for carcinogenic and non-carcinogenic health effects. The screening levels for the 17 pollutants were developed by the SCAQMD and contained in the Risk Assessment Procedures for Rules 1401 and 212. Emissions below the screening levels indicate that the carcinogenic health risks and the noncarcinogenic health risks (chronic and acute) are below the significance thresholds. The estimated emissions associated with the proposed tank modifications at the Wilmington Plant resulted in a pollutant screening index for carcinogenic health risks and noncarcinogenic chronic health risk of 0.743 which is below the significance threshold of 1.0; therefore, the carcinogenic health impacts and noncarcinogenic chronic health risks are less than significant. In addition, the estimated emissions associated with the proposed tank modifications at the Wilmington Plant resulted in a pollutant screening index for noncarcinogenic acute health risk of 0.000021 which is below the significance threshold of 1.0; therefore, the noncarcinogenic acute health risks are less than significant. Therefore, no significant adverse carcinogenic or non-carcinogenic (acute or chronic) health impacts are expected due to the proposed tank modifications at the Wilmington Plant.

The TAC emissions from the Carson and Wilmington Plants are not expected to overlap because the TAC emission impacts are located within the immediate area of each Plant. For example, the MEIR for the Carson Plant is 2,000 feet away and the MEIW is about 150 feet east of the facility. The cancer risks to the MEIR and MEIW at the Carson Plant are well below the one per million significance threshold (about 0.02 and 0.08, respectively); therefore, the TAC emissions from the Carson and Wilmington Plant would not overlap and TAC emissions from both facilities would be well below the significance thresholds.

Odors

3. e) Fugitive emissions or leaks from project equipment could result in potential odor impacts. Fugitive emission components are under the purview of formal regulatory inspection and maintenance programs required under federal New Source Performance Standards and SCAQMD Rules 463, 1173, & 1178. These programs ensure correction of conditions that may cause odor events. The Wilmington and Carson Plants maintain a 24-hour environmental surveillance effort. This activity also has the effect of minimizing the frequency and magnitude of odor events, so no odors are expected from the new equipment. The proposed project will result in the storage of the same material in new tanks so no increase in odors are expected. Potential odor impacts from the proposed project are not expected to be significant.

3.3 Mitigation Measures

No significant adverse impacts from the proposed project on air quality are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. 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 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 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 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 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 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 checked="" type="checkbox"/>

4.1 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.

4.2 Environmental Setting and Impacts

4. a), b), c), d), e), and f). The proposed project will be located in a heavy industrial area, entirely within the existing boundaries of the Wilmington and Carson Plants. The Plants have been fully developed and are essentially void of vegetation with the exception of some landscape vegetation near administration buildings. Landscape plants and growth of vegetation onsite at each affected plant are limited for fire prevention purposes.

A review of the California Natural Diversity Data Base did not reveal records of special status species at or within one mile of either the Wilmington or Carson Plants (SCAQMD, 2001). Based on the disturbed nature of the Refinery's sites, the industrial nature of the proposed and existing activities at the sites, and the absence of records of special status species, no specific wildlife surveys were considered necessary and none were performed. 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. The proposed project will 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 and no such habitat exists at either of the affected Refinery Plants. The proposed project will not result in the addition or the elimination of water ponds that could be used by animals or migratory fowl. Further, the proposed projects will not adversely affect federally protected wetlands as defined in §404 of the Clean Water Act. As discussed in Section 9.0 herein, no increase in wastewater or storm water discharge to the Dominguez Channel is expected. The Dominguez Channel is a concrete lined flood control channel near the Carson Plant. 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 projects. There are no rare, endangered, or threatened species in the active portion of the Refinery's sites. The proposed project would not adversely affect any local policies or ordinances that protect biological resources or conflict with the provisions of a Habitat Conservation Plan or other similar plan. Because the area in and near each of the Refinery Plants is devoid of native habitat, impacts to other, non-listed species are not expected.

The proposed project will not include the acquisition of additional land for use by the Refinery or result in expansion outside of the current boundaries at either Refinery Plant, which further eliminates the potential for new adverse biological resource impacts.

4.3 Mitigation Measures

No significant adverse impacts on biological resources are expected from the proposed project, therefore, no mitigation measures are required.

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

5.1 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.

5.2 Environmental Setting and Impacts

5. 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 Places¹ unless they can be shown to be exceptionally important. Although some of the storage tanks are more than 50 years old, none of the storage tanks associated with the proposed project is listed on registers of historic resources and generally do not meet 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 yield historically important information. Therefore, no significant impacts to historic cultural resources are expected as a result of implementing the proposed project.

5. b), c), and d) The entire Carson Plant site has been previously graded and developed. A cultural resources archival search completed for a previous environmental document indicated no archaeological/historical/paleontological sites are located at the Carson Plant and one prehistoric site was identified within a one-mile radius of the Plant (SCAQMD, 1994). The larger Carson Plant structures, storage tanks, and equipment are supported on existing concrete foundations. No significant adverse impacts to cultural resources are expected since new storage tanks will replace existing storage tanks at essentially the same locations.

There are no prehistoric or historic structures or objects within the Wilmington Plant or adjacent areas. A cultural resources archival search completed for a previous environmental document indicated identified 21 prehistoric archaeological sites and one isolated find within a one-mile radius of the Wilmington Plant (SCAQMD, 1994). One of the sites was within the Wilmington Plant near the western boundary. The entire Wilmington Plant site has been previously graded and developed. The proposed project will not result in any construction activities near the western boundary. The larger structures, storage tanks, and equipment are supported on concrete

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

foundations. All of the storage tanks at the Carson Plant are expected to be construction on their existing foundations. No known human remains or burial sites have been identified at the Wilmington Plant during previous construction activities. No significant adverse impacts to cultural resources are expected since new storage tanks will replace existing storage tanks at the same locations.

The proposed project activities will occur in areas of the Refineries where the ground surface has already been disturbed, and this past disturbance reduces the likelihood that previously unknown cultural resources will be encountered. If cultural resources were to be encountered unexpectedly during ground disturbance associated with construction of the proposed project, proper procedures (i.e., contacting professional archaeologist, temporarily halting disturbance work in vicinity, etc.) will be taken. Further, the Refinery’s sites do not contain known paleontological resources and thus the proposed projects also are not expected to impact any sites of paleontological value.

5.3 Mitigation Measures

No significant adverse impacts from the proposed project on cultural resources are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	<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"/>
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"/>
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"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

6.1 Significance Criteria

The impacts to energy and mineral 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.

6.2 Environmental Setting and Impacts

6. 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 this proposed project as it involves the replacement of existing storage tanks with new storage tanks.

6. b), c) and d). It is not expected that natural gas-fired or electrically-powered construction equipment (other than electric welders) or vehicles will be used; thus, there will be no need for new or substantially altered power or natural gas utility systems during construction of the proposed project. Therefore, no significant adverse impacts on energy are expected during the construction period.

The operational of the new storage tanks will not require any additional energy to operate. Therefore, the proposed project is not expected to increase the use of energy (electricity or natural gas) at the either the Carson or Wilmington Plants.

Refinery fuel gas and natural gas required to operate existing equipment will continue to be supplied by the existing Refinery utility system and Southern California Gas Company. Southern California Gas Company currently supplies natural gas to both the Wilmington and Carson Plants. Operation of the proposed project is not expected to increase the amount of natural gas consumption because no new equipment is being installed that requires the use of natural gas at either the Carson or Wilmington Plants.

The Carson Plant is currently served by Southern California Edison (SCE) for electricity. An existing cogeneration unit and the Los Angeles Department of Water and Power (LADWP) provide the electricity supply to the Wilmington Plant. The existing cogeneration unit at the Wilmington Plant generates a portion of the electrical requirements for the facility. SCE provides electricity as required to meet all electricity demand at the Carson Plant, while LADWP supplies electricity as needed to handle routine electricity fluctuations at the Wilmington Plant. The proposed project will replace old storage tanks with new storage tanks. No increase in electricity use is expected from operation of the proposed project because storage tanks require only a minor amount of electricity to operate (e.g., lighting). No increase in lighting is expected due to the proposed project. Therefore, no significant adverse electricity demand impacts are anticipated from the proposed project.

6.3 Mitigation Measures

No significant adverse impacts from the proposed project on energy are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. 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"/>
• 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 checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
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"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

7.1 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.

7.2 Environmental Setting and Impacts

7.a) Seismicity

The ConocoPhillips Carson and Wilmington Plants are 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 7 identifies those faults in the Southern California region considered important to the project sites in terms of potential for future 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 (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 Carson or Wilmington Plants as a result of earthquakes. Table 8 identifies the historic earthquakes over magnitude 4.5 in southern California, between 1915 and the present, along various faults in the region.

TABLE 7

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

FAULT ZONE	FAULT LENGTH (Miles)	MAXIMUM CREDIBLE EARTHQUAKE	MAXIMUM ACCELERATION (G)
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

Notes: G = acceleration of gravity.

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.

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 (Reich, 1992).

TABLE 8

**Significant Historical Earthquakes
in Southern California**

DATE	LOCATION (epicenter)	MAGNITUDE
1915	Imperial Valley	6.3
1925	Santa Barbara	6.3
1920	Inglewood	4.9
1933	Long Beach	6.3
1940	El Centro	6.7
1940	Santa Monica	4.7
1941	Gardena	4.9
1941	Torrance	5.4
1947	Mojave Desert	6.2
1951	Imperial Valley	5.6
1968	Borrego Mountain	6.5
1971	Sylmar	6.4
1975	Mojave Desert	5.2
1979	Imperial Valley	6.6
1987	Whittier	5.9
1992	Joshua Tree	6.3
1992	Landers	7.4
1992	Big Bear	6.5
1994	Northridge	6.7
1999	Hector Mine	7.1

Sources: Bolt (1988), Jennings (1985), Gere and Shah (1984), Source Fault Hazard Zones in California (1988), Yanev (1974), and personnel communication with the California Division of Mines and Geology.

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 (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 (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 (Yerkes, 1985).

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; however, recent studies have found evidence of ground rupture within the last 11,000 years (Triad, 1995).

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 (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 (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.

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 (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 (Dolan, et al., 1995).

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 (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.

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 either the Carson or Wilmington Plants. The sites are not located in any Alquist-Priolo Earthquake fault zone and are not expected to be subject to significant surface fault displacement. Therefore, no significant 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 Wilmington Plant (Palos Verdes Fault) increases the probability that an earthquake may impact the Wilmington Plant. 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 the “8. Hazards and Hazardous Materials” section below.

The new storage tanks at each site must be designed to comply with the Uniform Building Code Zone 4 requirements since the proposed project is located in a seismically active area. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide 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 Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform 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 Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

The new storage tanks at the ConocoPhillips Carson and Wilmington Plants will be required to obtain building permits, as applicable, for all new structures at the site. The Carson and Wilmington Plants shall submit building plans to the City of Carson and the City of Los Angeles for review, respectively. The two facilities must receive approval of all building plans and building permits to assure compliance with the latest Building Code adopted by the Cities prior to commencing construction activities. The issuance of building permits from the local agencies will assure compliance with the Uniform Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since the project will be required to comply with the Uniform Building Codes.

7. b) Topography and Soils

The proposed project is located within the confines of the existing ConocoPhillips Carson and Wilmington Plants. Concrete foundations presently support refinery structures and equipment. Most of the roads in the two facilities, including all high traffic roads, have been paved. Some portions of each site have also been landscaped, mainly near the administration buildings. No unstable earth conditions, changes in topography or changes in geologic substructures are anticipated to occur with the project because of the limited grading and excavation involved. No significant adverse impacts on topography and soils are expected.

During construction of the proposed project, minor grading and trenching activities will be performed. These activities are expected to be minor since the proposed project will occur within already developed facilities where the site has already been graded. The proposed project involves the replacement of existing storage tanks with new storage tanks so major grading/trenching is not expected to be required and is expected to be limited to minor foundation work and minor trenching for piping. Therefore, no significant adverse impacts related to soil erosion are expected. No significant change in topography is expected because little grading/trenching is required that could substantially increase wind erosion or runoff from affected sites.

The proposed project will be required to comply with SCAQMD Rule 403 – Fugitive Dust which imposes requirements to minimize dust emissions associated with wind erosion. Relative to operation, no change in surface runoff is expected because surface conditions will remain relatively unchanged. Further, surface runoff is minimized because surface runoff is typically captured, treated, and released to the public sewerage system or storm drain system.

7. c) and d) Liquefaction

Liquefaction would most likely occur in unconsolidated granular sediments that are water saturated less than 30 feet below ground surface (Tinsley et al., 1985). Based on the latest seismic hazards maps developed under the Seismic Hazards Mapping Act, the Wilmington Plant, is not located in an area of historic liquefaction (California Division of Mines and Geology, Map of Seismic Hazard Zones). Small portions of the Carson Plant 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). A small section of the southwest portion of

the Carson Plant has conditions conducive to liquefaction, however, the storage tanks that are part of the proposed project will not be located in the area identified for potential liquefaction. Liquefaction associated with seismic events has not occurred at the Carson Plant.

There is no evidence of expansive soils at either the Wilmington or Carson Plant sites. The issuance of building permits from the local agency will assure compliance with the Uniform Building code requirements, which include requirements for building within potential liquefaction zones. Expansive soil problems have not been encountered as part of the construction activities of other units at the Refinery. No significant impacts are expected because the projects will be required to comply with the Uniform Building Codes.

7. e) Wastewater Discharge

The proposed project is not expected to generate additional wastewater discharged by the Carson or Wilmington Plants. The Carson and Wilmington Plants discharge wastewater to the local sewer systems under Industrial Wastewater Discharge Permits and the proposed project will not trigger a modification to the permits. The proposed project will not use septic tanks or alternative wastewater disposal systems; therefore, no significant impacts on soils from alternative wastewater disposal systems are expected.

7.3 Mitigation Measures

No significant adverse impacts from the proposed project on geology and soils are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" 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 airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of 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 checked="" type="checkbox"/>
g) 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"/>
h) 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 checked="" type="checkbox"/>
i) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

8.1 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.

Greater exposure to radiant heat exposures in excess of 1,600 British Thermal Units (Btu)/(hr-ft²) (the level that creates second degree burns on unprotected skin).

8. a), b, and i) Potential Hazards

The ConocoPhillips Carson and Wilmington Plants use a number of hazardous materials at the sites 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 Carson and Wilmington Plants include hydrogen sulfide, ammonia, regulated flammables like propane and butane, and petroleum products like gasoline, fuel oils, and diesel.

The primary hazards associated with a storage tank 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.

Carson Plant: The proposed project at the Carson Plant includes replacing Tank 2, Tank 21, and Tank 280 with new storage tanks of equivalent size. Therefore, any hazards associated with the operation of the new tanks would be the same as the hazards associated with the existing tanks. Therefore, no increase in hazards is expected due to the replacement of Tanks 2, 21, and 280.

The proposed project at the Carson Plant also consists of removing Tanks 16 and 18, and replacing them with one larger Tank 2625 (see Figure 4). Since Tank 2625 is larger (about 180,000 bbls) than Tanks 16 and 18 (about 79,000 bbl, each), there is the potential for a larger fire hazard from the new tank. Therefore, the fire hazards associated with Tank 18 will be compared to the fire hazard associated with the proposed new Tank 2625, because tank 2625 is in approximately the same location. A hazard analysis was conducted for existing Tank 18 and compared to the proposed Tank 2625, which is summarized in Table 9.

TABLE 9

Maximum Hazard Distances for Maximum Credible Event ⁽¹⁾

Process Unit/Release	Status of Potential Hazard (E) Existing (N) New	Maximum Distance (ft) from Center of Unit to Pool/Torch Fire Thermal Radiation (1,600 Btu/(hr ft ²))
Storage Tanks 16 and 18	E	190 feet
Storage Tank 2625	N	250 feet

The potential fire hazards associated with existing Storage Tanks 16 and 18 (baseline for the hazard analysis) was compared to the potential fire hazards associated with the proposed new

Storage Tank 2625. The distance to the significance threshold level ((1,600 Btu/(hr ft²), which is the level that would cause second degree burns to unprotected skin in about 30 seconds) was determined for both the existing and new storage tanks. The fire hazard associated with existing Tank 16 and 18 is about 190 feet and the existing hazard zones for both tanks extends off-site about 100 feet onto the adjacent railroad tracks. Both Tanks 16 and 18 will be removed and the fired hazards eliminated. The potential fire radiation associated with Storage Tank 2625 is slightly larger (190 versus 250 feet) because it will be a larger tank but it is not expected to impact any additional areas than existing Storage Tanks 16 and 18. The location of Tank 2625 is being moved slightly north and east so that the offsite impacts will be limited to one tank that extends off-site onto the adjacent railroad tracks (as opposed to the existing hazards associated with two tanks extending off-site 100 feet). Since the proposed project will not result in any greater hazards associated with the storage tanks, no significant adverse hazard impacts are expected. The land immediately adjacent to the storage tanks are railroad tracks and land uses beyond are all heavy industrial uses. No sensitive receptors or residential areas are located within about a mile of the storage tanks. No significant fire hazards are expected due to the proposed project at the Carson Plant.

Wilmington Plant: The proposed project at the Wilmington Plant includes replacing Tank 68 and Tank 78 with new storage tanks of equivalent size. Therefore, any hazards associated with the operation of the new tanks would be the same as the hazards associated with the existing tanks. Therefore, no increase in hazards is expected due to the replacement of Tanks 68 and 78 at the Wilmington Plant.

The proposed project will not result in an increase in transportation hazards. Petroleum products are currently delivered to the storage tanks at both the Wilmington and Carson Plants via pipelines. Following project completion, petroleum products will continue to be delivered to the storage tanks via pipeline. The proposed project will allow for an increase in the amount of petroleum product stored at the Carson Plant, but will not increase the amount of product produced at the Refinery or transported to/from the Refinery. Therefore, no increase in the transportation of petroleum products via trucks is expected and no increase in hazards associated with transportation is expected.

The following information is provided because a number of rules and regulations apply to the Refinery which minimize refinery hazards.

A variety of safety laws and regulations have been in existence for many years to reduce the risk of accidental releases of chemicals at industrial facilities. The Occupational Safety and Health Agency (OSHA) passed the Process Safety Management of Highly Hazardous Chemicals Code of Federal Regulations (CFR) 29 910.119 rule in 1992. This rule was designed to address the prevention of catastrophic accidents at facilities handling hazardous substances in excess of specific threshold amounts through implementation of Process Safety Management (PSM) systems. A major PSM requirement is the performance of process hazard analyses to identify potential process deviations and implement or improve safeguards to prevent accidental releases of chemicals at industrial facilities.

A federal EPA Risk Management Program (RMP) and a more stringent RMP, the California Accidental Release Program (CalARP), were developed for both the Carson and the Wilmington Plants and submitted to appropriate agencies in 1999. The RMPs contain hazard assessments of both worst-case and more credible accidental release scenarios, an accident prevention program, and an emergency response program. The Los Angeles City Fire Department administers the RMP for the Wilmington Plant and the County of Los Angeles administers the RMP for the Carson Plant. In addition, an emergency response manual has been prepared for both Plants, which describes the emergency response procedures that would be followed in the event of any of several release scenarios along with the responsibilities of key personnel.

The Refinery adheres to the following safety design and process standards:

- The California Health and Safety Code Fire Protection specifications.
- The design standards for petroleum refinery equipment established by American Petroleum Institute, American Society of Mechanical Engineers, the American Institute of Chemical Engineers, the American National Standards Institute, and the American Society of Testing and Materials.
- The applicable Cal-OSHA requirements.

The Wilmington Plant maintains its own emergency response capabilities, including onsite equipment and trained emergency response personnel who are available to respond to emergencies anywhere within the Wilmington Plant.

8. c) Neither the Carson nor Wilmington Plants are located within one-quarter mile of an existing school site; however, a proposed school site is located within about one-quarter mile of the Wilmington Plant. The proposed project will not change or increase the hazards associated with the Wilmington Plant operations at the site and no off-site hazard impacts are expected. Therefore, no significant adverse hazard impacts to schools are expected.

8. 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. Neither the ConocoPhillips Wilmington Plant nor the Carson Plant are included on the list prepared by the Department of Toxic Substances Control (DTSC) pursuant to Government Code §65962.5 (DTSC, 2006). Nonetheless, the ConocoPhillips Carson Plant is included on a list of RCRA-permitted sites that require corrective action as identified by DTSC (DTSC, 2006b). Furthermore, both plants are subject to corrective action under the “Spills, Leaks, Investigation & Cleanup (SLIC) Program” administered by the Los Angeles Regional Water Quality Control Board 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: ConocoPhillips Carson Plant
Address: 1520 East Sepulveda Boulevard, Carson, CA 90745
Phone: (310) 522-9300

Address of Site: 1520 East Sepulveda Boulevard, Carson, CA 90745
Local Agency: City of Carson
Assessor's Book: 7315-002-021
List: DTSC and SLIC Corrective Action
SLIC Case No: 0232

Applicant: ConocoPhillips Wilmington Plant
Address: 1660 West Anaheim Street, Wilmington, CA 90748
Phone: (310) 952-6000
Address of Site: 1660 West Anaheim Street, Wilmington, CA 90748
Local Agency: City of Los Angeles
Assessor's Book: 7412-015-003; 7412-022-008, 009 & 010; 7412-024-033 & 006; 7412-025-008
List: SLIC Corrective Action
SLIC Case No: 0231

Currently, there is no evidence that soil contamination exists within the areas of either the Wilmington or Carson plants where construction is being proposed. However, given the heavily industrialized nature of these facilities and the fact that refining activities, petroleum storage, and distribution have been conducted at the sites for over 75 years, construction activities associated with the proposed projects such as grading, excavating, and trenching could potentially uncover contaminated soils.

In the event that any excavated soils contain concentrations of certain substances, including heavy metals and hydrocarbons, 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. If contaminated soils are encountered during the excavation phase of the proposed projects, the soils will be removed for proper decontamination and disposal in accordance with SCAQMD's Rule 1166 – Volatile Organic Compound Emissions From Decontamination of Soil, and ConocoPhillips' contractor's existing Rule 1166 Plan that includes soils excavation procedures. Contaminated soil would be stored at a temporary holding location within whichever location the soil was discovered before transport to an appropriate facility. As previously mentioned in Section 7.b, the area of soil disturbance associated with construction of the proposed projects will be small (a combined total of less than 0.1 acre disturbed for all proposed project locations within either facility). Based on the relatively small quantity of soil expected to be disturbed as part of the proposed projects, and considering that most of contaminated soil found during previous construction activities at either plant was determined not to be hazardous waste, no significant adverse impacts are expected from the potential for encountering contaminated soils during grading, excavation and trenching. Therefore, impacts related to soil contamination are less than significant.

8. e) and f) Neither the Wilmington nor Carson Plants are located within an airport land use plan or within two miles of a public or private use airport. Therefore, no safety hazards impacts on any airport are expected from the proposed projects.

8. g) The proposed project modifications are located within the existing operating portions of both the Wilmington and Carson plants. The proposed projects are not expected to alter the routes employees would take to evacuate the site, as the evacuation routes generally direct employees to locations outside of the main operating portions of the facilities. The existing emergency response plan is not expected to require modifications due to the proposed projects. No significant adverse impacts to emergency response or evacuation plans are expected.

8. h) The proposed projects will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees because the proposed projects are located in urbanized, industrial areas and no wildlands are located in the immediate or surrounding areas. Also, no substantial or native vegetation exists within the operational portions of either the Wilmington or Carson plants. For these reasons, the proposed projects would not expose people or structures to wildland fires. Therefore, no potential significant adverse impacts resulting from wildland fire hazards are expected from the proposed projects.

8.3 Mitigation Measures

The effects of an accidental release of hazardous material being stored, used, or transported from the proposed projects are expected to be less than significant. As a result, potential hazard impacts are not considered to be significant. Therefore, no mitigation is necessary or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY.			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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 flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
l) Require or result in the construction of new water or wastewater treatment 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"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
m) Require or result in the construction of 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"/>
n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o) Require 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"/>

9.1 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 National Pollutant Discharge Elimination System (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 a substantial amount of potable water.

The project increases demand for water by more than five million gallons per day.

9.2 Environmental Setting and Impacts

9. a), f), k), l) and o) Wastewater Generation:

Carson Plant: The Carson Plant currently generates process wastewater, high salts water, treated sour water, and storm water. Wastewater is treated in the wastewater treatment system, which includes American Petroleum Institute (API) separators to remove oil and dissolved air floatation units for additional removal of oil and particulates. The treated process wastewater, high salts water and treated sour water are discharged to the Los Angeles County Sanitation Districts (LACSD) in accordance with the LACSD industrial wastewater permit discharge limits. The storm water is captured, treated as necessary, and discharged to the Dominguez Channel in accordance with a NPDES permit discharge limits. The NPDES permit requires monitoring for various chemicals, pH, and oil and grease prior to discharge.

The operation of storage tanks does not require water for operation. Therefore, the proposed project will not result in an increase in wastewater generated or discharged from the Carson Plant or require a change in any wastewater permits. As a result, no significant adverse impacts associated with wastewater discharges at the Carson Plant are expected.

Wilmington Plant: Wastewater streams from the Wilmington Plant currently include process wastewater, high salts water, and surface runoff. The facility has an integrated drain system in which wastewater from all sources is combined and treated in the Oil Recovery Unit (ORU) before discharge to the sewer under a permit from the Los Angeles City Bureau of Sanitation (LACBS). The ORU uses a series of API separators and dissolved air floatation units to remove oil and sludge from the wastewater. Two 12-million gallon tanks are available to store wastewater during periods when the water flow exceeds 6,000 gallons per minute (gpm) (e.g., during heavy rains). The wastewater treatment units normally treat about 2.6 million gallons per day (1,800 gpm). The LACBS permits require monthly sampling for arsenic, cadmium, chromium, copper, cyanides, lead, mercury, nickel, zinc, silver, total phenol, pH and ignitability. Weekly sampling is required for dissolved sulfide and total organic pollutants, and daily sampling is required for ammonia, oil and grease and thiosulfate.

The operation of storage tanks does not use water for operation. Therefore, the proposed project will not result in an increase in wastewater generated or discharged from the Wilmington Plant or require a change in any wastewater permits. As a result, no significant adverse impacts associated with wastewater discharges at the Wilmington Plant are expected.

9. b) and n) Water Demand

Carson Plant: Water at the ConocoPhillips Carson Plant is primarily provided by an onsite water well. Supplemental water is supplied to the Carson Plant by the Dominguez Water Corporation, which receives water primarily from the Metropolitan Water District and its own wells. Construction activities associated with Tank 2625 may require water for dust suppression during preparation of the tank foundation. Such activities are expected to be limited to a one to two week period resulting in minimal water use. The other storage tanks are expected to be re-built on their existing foundations so no site preparation activities are expected. As already noted, petroleum storage tanks do not require water to operate. Therefore, no increase in water use is associated with the proposed project at the Carson Plant, so no significant adverse impacts on water demand are expected. Consequently, no significant adverse impacts from the proposed project are anticipated for ground water supplies.

Wilmington Plant: The Wilmington Plant uses about 2,000 to 3,500 gpm of fresh water purchased from the LADWP. Additionally about 1,650 gpm of water comes from onsite water wells. No increase in water use during the construction period is expected because the storage tanks are expected to be re-built on their existing foundations so no site preparation activities are expected. The proposed project activities will not increase fresh water usage at the Wilmington Plant, since the operation of storage tanks does not use water to operate. Therefore, no increase in water use is associated with the proposed project at the Wilmington Plant so that no significant adverse impacts on water demand are expected. Consequently, no significant adverse impacts from the proposed project are anticipated for ground water supplies.

9. c), d), e) and m) Surface Water

The Refinery is located near the Dominguez Channel and 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. Sediments and contaminants are transported into the harbor with the flows from the Los Angeles River and, to a lesser degree, the Dominguez Channel.

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.

Carson Plant: Most of the storm water runoff from the Carson Plant is collected in a drainage system, treated, as necessary, and can be discharged to the Dominguez Channel under the conditions of the existing storm water permit. However, treated storm water is currently discharged to the LACSD sewer system in accordance with the requirements of the facility's Industrial Wastewater Discharge Permit. The proposed project is not expected to increase the

stormwater runoff from the Carson Plant. The Carson Plant modifications will occur within the existing storage tank farm and a negligible increase in paved areas is expected. The Stormwater Pollution Prevention Plan will be updated, as necessary, to reflect operational modifications and include additional Best Management Practices, if required. No new storm drainage facilities or expansion of existing storm facilities are expected to be required. Since stormwater discharge or runoff is not expected to change in either volume or water quality, no significant adverse stormwater quality impacts are expected to result from the operation of the proposed project at the Carson Plant.

Wilmington Plant: The ground surface generally slopes from west to east at the Wilmington Plant. Surface water drains to the ORU for eventual discharge to the sanitary sewer. During rainstorms, the water flow can exceed the 6,000 gpm design flow rate of the ORU. Large holding tanks are used to store runoff under these conditions. After the event, the stored runoff is then routed through the treatment system and discharged to the sewer.

The project is not expected to increase the stormwater runoff from the Wilmington Plant. The Wilmington Plant modifications will occur within the existing tank farm and no increase in paved areas is expected. The Stormwater Pollution Prevention Plan will be updated, as necessary, to reflect operational modifications and include additional Best Management Practices, if required. No new storm drainage facilities or expansion of existing storm facilities are expected to be required. Since stormwater discharge or runoff is not expected to change in either volume or water quality, no significant adverse stormwater quality impacts are expected to result from the operation of the proposed project at the Wilmington Plant.

Both the Carson and Wilmington Plants are required to comply with Title 40 of the CFR Part 112 (Oil Pollution Prevention), which sets forth requirements for Spill Prevention, Control and Countermeasure (SPCC) Plans. The goal of this rule is to prevent oil discharges from reaching navigable water of the United States through proactive measures. These regulations require, among other things, that containment facilities capable of holding 110 percent of the largest storage tanks be included for all storage tanks, as applicable. In compliance with these regulations, appropriate containment facilities are included for all storage tanks that are part of the proposed project. Therefore, in the event of a leak, the contents of the tank would be collected in the containment facilities on-site and would not impact water resources.

9. g), h), i) and j) Flood Hazards

The proposed project involves removal of existing storage tanks and replacement with new storage tanks within the boundaries of the existing ConocoPhillips Los Angeles Refinery. The proposed project does not include the construction of any housing, nor would it require placing housing within a 100- or 500-year flood hazard area. The Wilmington and Carson Plants are not located within a 100-year flood hazard area. Since the proposed project is located within the existing Refinery boundaries, it would not impede or redirect flood flows. 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 in relation to the ocean, the proposed project is not expected to result in an increased risk of flood, seiche, tsunami or mud flow hazards. Therefore, no significant adverse

impacts associated with flooding are expected from the ConocoPhillips Tank Replacement Project.

9.3 Mitigation Measures

No significant adverse impacts from the proposed project on hydrology and water quality are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	<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 checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

10.1 Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by the City of Carson or the City of Los Angeles.

10.2 Environmental Setting and Impacts

10. a) and b)

Carson Plant: The proposed modifications to the Carson Plant will be developed entirely within the existing Carson Plant property boundaries. Land use on the Carson Plant property is designated as M3, which is heavy industrial zoning. The proposed project is consistent with the land use designation of heavy industry and manufacturing. No new property will be acquired for the Carson Plant and there will be no impacts to established communities. The proposed project will not trigger changes in the current zoning designations at the project site. Based on these considerations, no significant adverse impacts to established communities or conflicts with any applicable land use plans are expected.

Wilmington Plant: The addition of the proposed project equipment does not impact the land use at the Wilmington Plant in any way. The new petroleum storage tanks will replace existing storage tanks and will be consistent with the zoning of the site (M3 – Heavy Industrial Zoning), and with the City of Los Angeles General Plan. The Refinery equipment is compatible with the land use of the site and the surrounding land uses in accordance with the Wilmington-Harbor City Plan (City of Los Angeles, 1999). The proposed new petroleum storage tanks will be located within the confines of the existing Plant and would not disrupt or divide an established community. Therefore, the proposed project modification will not result in any incremental environmental impacts on land use, and the overall impact to land use will be not significant.

10. c) The proposed project would occur entirely within the boundaries of the existing heavily industrialized Refinery for which no habitat or natural community conservation plans exist, and, therefore, would not conflict with any applicable habitat conservation or natural community conservation plan.

10.3 Mitigation Measures

No significant adverse impacts from the proposed project on land use and planning are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. 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 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 checked="" type="checkbox"/>

11.1 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.

11.2 Environmental Setting and Impacts

11. a) and b): Implementation of the proposed project would occur entirely within the boundaries of the existing heavily industrialized Wilmington and Carson Plants of the ConocoPhillips Los Angeles Refinery. There are no known mineral resources currently on the project sites. Therefore, the proposed project will not be located on a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Furthermore, because there are no known mineral resources at the Refinery sites, the proposed project will not 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.

11.3 Mitigation Measures

No significant adverse impacts from the proposed project on mineral resources are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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 airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a 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 checked="" type="checkbox"/>

12.1 Significance Criteria

Impacts on noise will be considered significant if:

Construction noise levels exceed the City of Los Angeles noise ordinance 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 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.

The proposed project equipment will generate noise greater than 90 decibels (dB) at the property line.

12.2 Environmental Setting and Impacts

12. a), b) c) and d)

Construction activities associated with the proposed projects will generate noise from 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, air compressors, backhoe, cranes, bull dozers, generators, trucks, and welding machines. The estimated noise level during installation of various equipment is expected to average about 80 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 substantially before reaching the boundaries of either project site. The estimated noise sources for typical construction equipment are provided in Table 10.

TABLE 10

Construction Noise Sources

EQUIPMENT	TYPICAL RANGE (decibels) ⁽¹⁾	ANALYSIS VALUE (decibels) ⁽²⁾
Truck	82-95	82
Front Loader	73-86	82
Backhoe	73-95	80
Air Compressor	85-91	85
Jackhammers	81-98	85
Pumps	68-72	70
Generators	71-83	85
Compressors	75-87	85
Concrete Mixers	75-88	75
Concrete Pumps	81-85	85
Tractor	77-98	85
Scrapers, Graders	80-93	80
Pavers	85-88	75
Cranes	75-89	85

1. City of Los Angeles, 1998. Levels are in dBA at 50-foot reference distance. These values are based on a range of equipment and operating conditions.
2. Analysis values are intended to reflect noise levels from equipment in good conditions, with appropriate mufflers, air intake silencers, etc. In addition, these values assume averaging of sound level over all directions from the listed piece of equipment at 50 feet.

Carson Plant: The Carson Plant is surrounded by other industrial land uses. Property across Wilmington Avenue includes a residential neighborhood to the northwest and commercial uses to the southwest. The Alameda Corridor, other refining-related land uses, the Dominguez Channel and the Terminal Island Freeway are located east of the Carson Plant. Other heavy industrial land uses are located to the south of the Carson Plant. The closest residential areas are located about one mile away.

Construction activity for the proposed project will produce noise as a result of operation of construction equipment. The estimated noise level during equipment installation is expected to be an average of about 80 dBA at 50 feet from the center of construction activity. The closest resident is about one mile away (i.e., residents are located west of Wilmington Avenue and east of the Terminal Island Freeway) from the Carson Plant. Using an estimated six dBA reduction for every doubling distance, the noise levels at the residential area are expected to be about 39 dBA, which is below ambient noise levels, and the SCAQMD significance threshold for noise of 90 dBA at the property line. Most of the construction noise sources will be located near ground level, so the noise levels are expected to attenuate further than analyzed herein. Noise attenuation due to existing structures has not been included in the analysis.

Wilmington Plant: The Wilmington Plant is surrounded by commercial and industrial land uses and the 110 Freeway on the eastern and southern boundaries. A residential area borders the eastern portions of the Plant and the northern portion of the site borders Harbor Lake Park, Harbor College and Harbor Golf Course. The western part of the site borders Gaffey Street including a firing range, vacant fields, recreational fields, and a U.S. Navy fuel storage facility. The ambient noise environment in the project vicinity is composed of contributions from equipment and operations within the commercial and industrial areas, and from traffic on roads along or near each of its property boundaries (Harbor 110 Freeway, Anaheim Street, Gaffey Street).

Construction activity for the proposed project will produce noise as a result of operation of construction equipment. The estimated noise level during equipment installation is expected to be an average of about 80 dBA at 50 feet from the center of construction activity. The closest resident is about 300 feet east of the Wilmington Plant (about 2,600 feet from construction activities). Using an estimated six dBA reduction for every doubling distance, the noise levels at the closest resident are estimated to be 47 dBA.

The construction activities at both the Carson and Wilmington sites that generate noise will be carried out during daytime from Monday to Friday or as permitted by the local cities. Because of the nature of the construction activities, the types, number, operation time and loudness of construction equipment will vary throughout the construction period. As a result, the sound level associated with construction will change as construction progresses. Construction noise sources will be temporary and will cease following construction activities. Noise levels at the closest residential areas are not expected to increase during construction activities, i.e., background noise levels in residential areas generally are in the range of 55-65 dBA. The noise levels from the construction equipment are expected to be within the allowable noise levels established by the local noise ordinances for industrial areas, which are about 70 dBA, and less than the SCAQMD significance threshold for noise of 90 dBA at the property line. Noise and groundborne vibration impacts associated with the proposed project construction activities are expected to be less than significant.

Operational Activities

Carson and Wilmington Plants: During operations the new petroleum storage tanks will not generate noise beyond what currently exists at the facility. Petroleum storage tanks do not generate noise as part of their operation, therefore, no change or increase in noise is expected due to the proposed project. Therefore, no significant adverse noise and groundborne vibration impacts from the proposed project are expected.

12. e) and f) Neither the Carson Plant nor Wilmington Plant are located within an airport land use plan or within two miles of a public or private use airport. Therefore, the proposed project would not expose people residing or working in the area to excessive noise related to the proposed projects.

12.3 Mitigation Measures

No significant adverse impacts from the proposed project on noise are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. 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 checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

13.1 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.

13.2 Environmental Setting and Impacts

13. a), b) and c) Construction activities at the ConocoPhillips Los Angeles Refinery will not 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 the boundaries of existing Refinery. The construction work force, which is temporary, is expected to come from the existing labor pool in the southern California area. Additionally, once the proposed project is complete, operational activities are not expected to require new permanent employees at either the Carson or Wilmington Plants. No displacement of existing housing or

people will occur because the proposed project will occur within the confines of the existing Refinery. Therefore, implementation of the proposed project is not expected to have a significant adverse impact on population, population distribution, or housing.

13.3 Mitigation Measures

No significant adverse impacts from the proposed project on population and housing are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. 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 checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

14.1 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 governmental 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.

14.2 Environmental Setting and Impacts

14. a) To respond to emergency situations, the Refinery maintains an on-site fire department, which is supplemented by the resources of public fire departments. The Carson Plant is supported by the Los Angeles County Fire Department (LACFD). There are four LACFD stations that serve the Carson area: 1) Station 127 at 2049 E. 223rd Street; 2) Station 10 at 1860

E. Del Amo Boulevard; 3) Station 36 at 127 W. 223rd Street; and, 4) Station 116 at 755 E. Victoria. The Wilmington Plant is supported by the City of Los Angeles Fire Department, the closest of which are located at: 1) Station 85 at 1331 W. 253rd Street, Harbor City; 2) Station 38 at 1241 E. “I” Street, Wilmington, 3) Station 36 at 1005 N. Gaffey Street, San Pedro and 4) Station #49 at 400 Yacht Street, San Pedro.

ConocoPhillips maintains its own onsite emergency response department at both the Carson and Wilmington Plants. Compliance with state and local fire codes is expected to minimize the need for additional fire protection services. Both the Carson and Wilmington Plants have their own emergency response team to respond to emergencies. Both Plants maintain a fully trained 24-hour emergency response team; fire-fighting equipment including fire engines and foam pumper trucks or trailers; and manual and automatic fire suppression systems for flammable and combustible materials. Carson Plant staff is trained in accordance with industry standards, and on-site fire training exercises with the County Fire Department staff are routinely conducted. Wilmington Plant staff is trained in accordance with industry standards and on-site fire training exercises with the Los Angeles City Fire Department are routinely conducted.

The proposed project will not increase the requirements for additional or altered fire protection. Fire-fighting and emergency response personnel and equipment will continue to be maintained and operated at both the Carson and Wilmington Plants. Close coordination with local fire departments and emergency services also will be maintained.

Construction activities are not expected to result in an increased need for fire response services. Construction activities include 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.

14. b) The Los Angeles County Sheriff’s Department is the responding agency for law enforcement needs in the vicinity of the Carson Plant. The City of Los Angeles Police Department is the responding agency for law enforcement needs in the vicinity of the Wilmington Plant. Because sheriff and police units are in the field, response times vary depending on the location of the nearest unit.

The Refinery has an existing security department that provides 24-hour protective services for people and property within the fenced boundaries of both the Carson and Wilmington facilities. As part of their regular duties, the security department will monitor construction activities associated with the proposed project since they will occur within the confines of the Refinery. Along with the existing work force, entry and exit of the construction work force will be similarly monitored. Once implemented, the proposed project is not expected to change Refinery staffing or substantially expand existing facilities. Thus, no additional or altered police protection will be required for the proposed project.

14. c), d) and e) Since the proposed project is not expected to require additional staffing during operations, an increase in the local population is not expected. Therefore, no impacts are expected to schools, parks, or other public facilities, such as government services, as a result of implementing the proposed project.

14.3 Mitigation Measures

No significant adverse impacts from the proposed project on public services are expected, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
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 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

15.1 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 effects existing recreational opportunities.

15.2 Environmental Setting and Impacts

15. a) and b) As discussed in Population and Housing (Section XIII), the existing labor pool in southern California is sufficient to fulfill the labor requirements for the construction of the proposed project at both affected Plants. The operation of the proposed project will not require additional workers. Therefore, there would be no significant changes in population densities resulting from the proposed project and thus no increase in the use of existing neighborhood and regional parks or other recreational facilities.

The proposed project does not include recreational facilities or require the construction or expansion of existing recreational facilities. No significant adverse impacts to recreational facilities are expected.

15.3 Mitigation Measures

No significant adverse impacts from the proposed project on recreation are expected, therefore, no mitigation measures are required.

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

16.1 Significance Criteria

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

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

16.2 Environmental Setting and Impacts

16. a) Non-Hazardous Waste

The removal of the existing storage tanks will generate demolition waste, primarily steel and concrete. Concrete is typically recycled into aggregate. Steel is typically recycled as scrap steel. Therefore, demolition wastes are not expected to require landfill disposal of any solid wastes.

Construction activities could uncover hydrocarbon-contaminated soils, given the fact that refining, storage and distribution of petroleum products have been conducted at the site over a number of years. Excavated soil which may be contaminated will be characterized, treated, and disposed of offsite in accordance with applicable regulations. Where appropriate, the soil will be recycled if it is considered or classified as a non-hazardous waste. Otherwise, the material will

need to be disposed of at a hazardous waste facility (see subsection 16.b for further discussion). Depending on the waste characterization (i.e., hazardous or non-hazardous waste), this material is expected to be sent to either Clean Harbors (formerly Safety Kleen) in Buttonwillow (non-hazardous), or to ECDC Environmental, L.C. in Murray Utah (hazardous). The disposal of demolition waste and contaminated soils would contribute to the diminishing available landfill capacity. However, sufficient landfill capacity currently exists to handle these materials on a one-time basis (see Table 11). The construction impacts of the project on waste treatment/disposal facilities are expected to be less than significant.

**TABLE 11
Los Angeles County Landfill Status**

LOS ANGELES COUNTY	Total Waste Disposed 2005 (tons)	2005 Average Tons per Day (tpd)	Average Tons per 6 Day Week	Permitted tons/day	Remaining Permitted Capacity (million tons) (as of 1/01/06)	Estimated Life Or Year of Closure ⁽¹⁾
CLASS III LANDFILLS						
Antelope Valley #1	371,000	1,189	7,134	1,400	10.21	26 years
Bradley ⁽²⁾	270,000	864	5,184	10,000	0.09	Closed 4/07
Burbank (Burbank use only)	42,000	133	798	240	3.00	2053
Calabasas (Calabasas Watershed use only)	553,000	1,772	10,632	3,500	8.81	15 years
Chiquita Canyon	1,549,000	4,965	29,790	6,000	13.74	8 years
Lancaster	469,000	1,503	9,018	1,700	17.66	5 years ⁽³⁾
Pebbly Beach (Avalon)	3,000	10	60	49	0.10	2033
Puente Hills #6	3,913,000	12,543	73,518	13,200	32.30	7 years
Scholl Canyon (Scholl Canyon Watershed use only)	453,000	1,452	8,712	3,400	6.80	14 years
Sunshine Canyon (County)	1,411,000	4,521	27,126	6,600	1.95	1 year ⁽⁴⁾
Sunshine Canyon (City) ⁽⁵⁾	571,000	1,831	10,986	5,500	5.33	4 years ⁽⁴⁾
Savage Canyon - Whittier	92,000	294	1,764	350	4.60	2025
TOTALS	9,697,000	31,077	184,722	51,939	104.59	
UNCLASSIFIED LANDFILLS						
Azusa Land Reclamation Co.	164,000	460	2,760	6,500	36.54 ⁽⁶⁾	2025 ⁽⁷⁾
Peck Road Gravel Pit	6,000	18	108	1,210	9.79	Closed 1/08 ⁽⁷⁾
TOTALS	170,000	478	2,868	7,710	46.33	
TRANSFORMATION FACILITIES						
Commerce Refuse to-Energy Facility	101,000	325	1,950	1,000	466.64	15 years ⁽⁸⁾
Southeast Resource Recovery Facility	484,000	1,487	8,922	2,240	1,602.45	15 years ⁽⁸⁾
TOTALS	585,000	1,812	10,872	3,240	2069.09	

Sources: CIWMB web site: www.ciwmb.cs.gov/SWIS; 2005 Annual Report, LAC Countywide Integrated Waste Management Plan, LACPDW, June 2007 (LACDPW, 2007).

Notes: (1) As January 1, 2007 as cited in LACPDW, 2007; (2) The Bradley landfill closed in April 2007; (3) Current CUP expires in August 2012; (4) On 2/6/07, the Board of Supervisors approved a new CUP establishing a 30-year life. Provided certain conditions are met, the total available capacity of the combined landfills is 74.3 million tons; (5) City of LA portion opened July 2005, currently operating at 4,400 tpd; (6) By Court order, on 10/2/96, the RWQCB ordered the Azusa Land Reclamation Landfill to stop accepting MSW. Permitted daily capacity of 6,500 tpd consists of 6,000 tpd of refuse and 500 tpd of inert waste. Facility currently accepts inert waste only; (7) per CIWMB web site: www.ciwmb.cs.gov/SWIS; (8) Assumed to remain operational during the 15-year planning period, LACPDW, 2007, Appendix E-2.1.

During operation, the proposed project is not expected to generate significant quantities of solid waste, which are primarily generated from administrative or office activities. The proposed project would not result in an increase in permanent employees at the ConocoPhillips Refinery, so no significant increase in solid waste is expected.

16. b) Hazardous Waste

There are no hazardous waste disposal sites within Los Angeles County. Hazardous waste, including any contaminated soil discovered during construction, generated at area facilities, which is not reused on-site, or recycled off-site, must be disposed of at a licensed hazardous waste disposal facility. Two such facilities in California are the CWMI's Kettleman Hills facility in King's County, and the Clean Harbors (formerly Safety-Kleen) facility in Buttonwillow (Kern County). Kettleman Hills receives an average of 2,700 tpd of hazardous waste and has an estimated two million cubic yard capacity. The facility is expected to continue receiving wastes for approximately three years without an expansion or 25 years with an expansion. The facility is undergoing the permit application process for a landfill expansion, which would increase the landfill's life by another five years. The facility would then seek a permit for development of a new landfill that would create another 15 years of life (Email Communication, Fred Paap, Chemical Waste Management Inc., September 2007). Buttonwillow receives approximately 960 tons of hazardous waste per day and has an approximate remaining capacity of approximately 8.8 million cubic yards. The expectant life of the Buttonwillow Landfill is approximately 40 years (Personal Communication, Marianna Buoni, Clean Harbors Buttonwillow, Inc., September 2007).

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; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah; Aptus, located in Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

The replacement of existing storage tanks with new storage tanks will not result in an increase in the generation of hazardous waste. The operation of storage tanks does not routinely generate hazardous wastes. Periodically, storage tanks are emptied and cleaned out, resulting in a sludge that generally requires treatment to recover useful product (oil), etc., and disposal (e.g., disposal at a hazardous waste or non-hazardous waste landfill, depending on the concentration of various constituents). Prior to construction activities, accumulated sludge in the storage tanks will need to be removed, treated and disposed. However, the storage tanks are scheduled for normal maintenance activities (which would include sludge removal) so the construction activities are not expected to generate any additional sludge. The proposed project will not result in an increase in the number of storage tanks at the Refinery and will not increase overall product throughput, therefore, no increase in sludge is expected and no increase in hazardous waste is expected. The facility is expected to continue to comply with federal, state, and local statutes and regulations related to solid and hazardous wastes

16.3 Mitigation Measures

No significant impacts to waste disposal generated or disposed of are expected and thus no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" 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 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 checked="" type="checkbox"/>
e) Result in inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

17.1 Significance Criteria

The impacts on transportation/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.

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.

Water borne, rail car or air traffic is substantially altered.

Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

17.2 Environmental Setting and Impacts

Construction Impacts

Carson Plant: The Carson Plant is located approximately one mile west of the Long Beach Interstate 710 Freeway and approximately two and one half miles east of the Harbor Interstate 110 Freeway. The Carson Plant is bounded on the north by Sepulveda Boulevard, on the west by Wilmington Avenue; on the south by a branch of the Atchison, Topeka and Santa Fe Railroad; and on the east by Alameda Boulevard. Wilmington Avenue and Alameda Street are north/south four-lane divided roadways and both are considered to be major highways by the City of Carson Transportation and Infrastructure Element of the General Plan (City of Carson, 2004). Sepulveda Boulevard and 223rd Street are east/west four-lane divided roadways in the project vicinity and both are considered to be major highways by the City of Carson (City of Carson, 2004).

A maximum of 15 construction workers is expected to be required during peak construction activities. Construction activities are anticipated to occur five days a week (Monday through Friday). The ten-hour work shift is scheduled to begin at 7:00 am and end at 5:30 pm. Traffic attributable to the project construction will arrive at the site before the morning peak traffic period (7:00 to 8:00 a.m.) would begin and will not affect the morning peak hour. Construction traffic is expected to leave at about 5:30 p.m. and is not expected to affect the evening peak hour (4:30 to 5:30 p.m.). Further, peak hour traffic at local intersections on Sepulveda Boulevard generate about 1,640 vehicles per hour (SCAQMD, 2007). The proposed project is only expected to generate a a maximum of 15 peak hour trips per day, which is a small fraction of the

peak hour traffic. Trucks delivering or removing materials are expected to occur primarily off-peak hour. Therefore, traffic impacts during the construction phase at the Carson Plant are less than significant.

Material stored within the storage tank is transferred via pipeline. Therefore, once construction activities are complete, no traffic impacts are expected from operation of the proposed project.

Wilmington Plant: The Wilmington Plant is located just off the Harbor Interstate 110 Freeway on Anaheim Street. The Harbor Interstate 110 Freeway is a major north-south freeway and provides the ConocoPhillips Wilmington Plant access to the southern California region and beyond. Major streets in the Wilmington area include Anaheim Street, Pacific Coast Highway, Sepulveda Boulevard and Alameda Street. Alameda Street has been upgraded, expanded and modified to provide a dedicated roadway system for trucks and railcars leaving the Ports of Los Angeles/Long Beach to provide more efficient movements of goods and materials into/out of the port areas.

A maximum of 15 construction workers is expected to be required during peak construction activities. Construction activities are anticipated to occur five days a week (Monday through Friday). The ten-hour work shift is scheduled to begin at 7:00 am and end at 5:30 pm. Traffic attributable to the project construction will arrive at the site before the morning peak traffic period (7:00 to 8:00 a.m.) would begin and will not affect the morning peak hour. Construction traffic is expected to leave at about 5:30 p.m. and is not expected to affect the evening peak hour (4:30 to 5:30 p.m.). Further, peak hour traffic at local intersections on Anaheim Street generate about 2,600 vehicles per hour (SCAQMD, 2007). The proposed project is only expected to generate a maximum of 15 peak hour trips per day, which is a small fraction of the peak hour traffic. Trucks delivering or removing materials are expected to occur primarily off-peak hour. Therefore, traffic impacts during the construction phase at the Wilmington Plant are less than significant.

Material stored within the storage tank is transferred via pipeline. Therefore, once construction activities are complete, no traffic impacts are expected from the proposed project.

17. c) The proposed project includes modifications to existing equipment and installation of new equipment within the existing Refinery. The proposed storage tanks will be similar in height and appearance to the existing storage tanks. 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 Carson Plant is located about four miles west of the nearest airport, Long Beach Airport (LGB), (the Wilmington Plant is located about six miles away), the Refinery is located outside of the normal flight pattern of LGB. In addition, the proposed project will not involve the delivery of materials via air cargo so no increase in air traffic is expected.

17. d) and e) The proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the Refinery. The proposed project does not include construction of roadways that could include design hazards. Emergency access at the Refinery

will not be impacted by the proposed project and ConocoPhillips will continue to maintain the existing emergency access gates to the Refinery.

17. f) Parking for the construction workers will be provided within the confines of the existing Refinery site and sufficient parking exists to handle the estimated increase of workers (15) commuting to and from the each affected Plant. Once construction is complete, no increase in permanent workers is expected. Therefore, the proposed project will not result in significant parking impacts.

17. g) The proposed project will be constructed within the confines of an existing Refinery and is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

17.3 Mitigation Measures

No significant impacts to transportation/traffic are expected and thus no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
a) MANDATORY FINDINGS OF SIGNIFICANCE.			
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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

18. a) The proposed project does not have the potential to adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The proposed project is located at a site that is part of an existing industrial facility, which has been previously disturbed, graded and developed, and this project will not extend into environmentally sensitive areas but will remain within the confines of an existing, operating refinery. For additional information, see Section 4.0 – Biological Resources (page 2-20) and Section 5.0 – Cultural Resources (page 2-22).

18. b) The proposed project is are not expected to result in significant adverse cumulative environmental impacts. The construction activities associated with the Tank Replacement Project will not overlap and only one tank will be demolished or constructed at a time. As discussed in Section 3. c), cumulative construction emissions are expected to be less than significant.

The proposed project will replace existing storage tanks with new storage tanks and will comply with the current BACT requirements. The proposed project will result in an increase of approximately 20 pounds per day of VOC emissions from operations which is below the SCAQMD’s operational VOC significance threshold of fifty-five pounds per day. Therefore, no significant adverse air quality impacts are expected, either individually or cumulatively. Therefore, the proposed project is not expected to result in significant adverse cumulative impacts.

With respect to aesthetics, no cumulative impacts are expected because seven existing storage tanks will be replaced with six new storage tanks. The storage tanks will be located at the same or similar location as the previous tanks and all will be located within the confines of the existing Refinery, within heavily industrial areas. Therefore, no significant change in visual characteristics are expected at either the Carson or Wilmington Plants and no cumulative aesthetic impacts are expected.

With respect to hazards, no cumulative hazard impacts are expected because seven existing storage tanks will be replaced with six new storage tanks. The storage tanks will be located at the same or similar location as the previous tanks and all will be located within the confines of the existing Refinery, within heavily industrial areas. In addition, the contents of the storage tanks and, thus, existing hazards from the contents will be the same. Therefore, no significant change in hazards are expected at either the Carson or Wilmington Plants and no cumulative hazard or hazardous materials impacts are expected.

The construction activities associated with the proposed project modifications that generate noise will be carried out during daytime hours. Only one storage tank will be constructed or demolished at any time. Therefore, noise impacts will be limited to the noise impact analysis in Section XII herein. Because of the nature of the construction activities, the types, number, operation time and loudness of construction equipment will vary throughout the construction period. As a result, the sound level associated with construction will change as construction progresses. Construction noise sources will be temporary and will cease following construction activities. Noise levels at the closest residential areas are not expected to increase during construction activities, i.e., background noise levels in residential areas generally are in the range of 55-65 dBA. The noise levels from the construction equipment are expected to be within the allowable noise levels established by the local noise ordinances for industrial areas, which are about 70 dBA, and less than the SCAQMD significance threshold for noise of 90 dBA at the property line.

Noise and groundborne vibration impacts associated with the proposed project construction activities are expected to be less than significant. Cumulative noise impacts associated with the proposed project construction activities are expected to be less than the noise ordinance and less than significant.

A maximum of 15 construction workers are expected to be required during peak construction activities. Construction activities are anticipated to occur five days a week (Monday through Friday). The ten-hour work shift is scheduled to begin at 7:00 am and end at 5:30 pm. Traffic attributable to the project construction will arrive at the site before the morning peak traffic period (7:00 to 8:00 a.m.) would begin and will not affect the morning peak hour. Construction traffic is expected to leave at about 5:30 p.m. and is not expected to affect the evening peak hour (4:30 to 5:30 p.m.). The proposed project is only expected to generate a maximum of 15 peak hour trips per day, which is a small fraction of the peak hour traffic. Therefore, cumulative traffic impacts during the construction phase are less than significant. No increase in traffic is expected due to the operation of the proposed project as no additional workers or delivery of materials would be required. Therefore, cumulative traffic impacts during operation of the proposed project are less than significant.

Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Therefore the project's contribution to air quality, aesthetics, hazards, noise and traffic are not cumulatively considerable and thus not significant. This conclusion is consistent with CEQA Guidelines §15064 (h)(4), which states, "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable". Therefore, the proposed project is not expected to result in significant adverse cumulative impacts.

18. c) The proposed project will replace existing storage tanks with new storage tanks and will comply with the current BACT requirements. The proposed project will result in an increase of approximately 20 pounds per day of VOC emissions from operations which is below the SCAQMD's operational VOC significance threshold of fifty-five pounds per day. The potential

health impacts of the emission increases were evaluated in a health risk assessment (see Appendix B). The results of the health risk assessment indicated that the TAC emissions in the vicinity of the Carson and Wilmington Plants would be less than significant. The cancer risks to the MEIR and MEIW are well below the one per million significance threshold and below the noncarcinogenic thresholds. Further, the TAC emissions from the two Plants are not expected to overlap. The proposed project is not expected to increase the potential hazard impacts associated with the operation of the Refinery and the hazard impacts were determined to be less than significant. Therefore, no significant health impacts or other adverse impacts to humans are expected due to operation of the proposed project.

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ACRONYMS

ABBREVIATION	DESCRIPTION
API	American Petroleum Institute
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
Basin	South Coast Air Basin
bbbl	barrels
Btu	British Thermal Units
BTU/hr	British Thermal Units per hour
CalARP	California Accidental Release Prevention Program
CEQA	California Environmental Quality Act
CO	Carbon monoxide
CWMI	Chemical Waste Management Inc.
dBA	A-weighted noise level measurement in decibels
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
ERPG	Emergency Response Planning Guideline
G	acceleration of gravity
gpm	gallons per minute
LACBS	Los Angeles City Bureau of Sanitation
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation Districts
LADPW	Los Angeles Department of Public Works
LGB	Long Beach Airport
LOS	Level of Service
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
ORU	Oil Recovery Unit
OSHA	Occupational Safety and Health Administration
PM ₁₀	particulate matter less than 10 microns in diameter
ppbv	parts per billion by volume
PRC	Public Resources Code
PSM	Process Safety Management Program
RCRA	Resource Conservation and Recovery Act
Refinery	ConocoPhillips Los Angeles Refinery
RMP	Risk Management Program
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SLIC	Spills, Leaks, Investigation & Cleanup Program
SO _x	sulfur oxide
SPCC	Spill Prevention, Control and Countermeasure
TACs	toxic air contaminants
VOC	volatile organic compounds

GLOSSARY

TERM	DEFINITION
Alkylation	The reaction of low-molecular-weight olefins with an isoparaffin to produce a saturated compound of high octane number.
Alkylate	The product of an alkylation process.
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard
Anhydrous	Free from water.
Aqueous	Formed from water, having a water base.
Aromatics	Hydrocarbons which contain one or more benzene rings.
Barrel	42 gallons.
Blending	One of the final operations in refining, in which two or more different components are mixed together to obtain the desired range of properties in the finished product.
Catalyst	A substance that promotes a chemical reaction to take place but which is not itself chemically changed.
Caustic Scrubber	Equipment used for the removal of potentially harmful gas emissions from various industrial processes through the application of a caustic scrubbing chemical which dissolves or destroys the harmful gases.
Cooling Tower	A cooling tower is a heat rejection device, which extracts waste heat to the atmosphere through the cooling of a water stream to a lower temperature. Common applications for cooling towers are providing cooled water for manufacturing and electric power generation.
Condensate	Steam that has been condensed back into water by either raising its pressure or lowering its temperature
Cogeneration	A cogeneration unit is a unit that produces electricity.

Cracking	The process of breaking down higher molecular weight hydrocarbons to components with smaller molecular weights by the application of heat; cracking in the presence of a suitable catalyst produces an improvement in product yield and quality over simple thermal cracking.
Crude Oil	Crude oil is "unprocessed" oil, which has been extracted from the subsurface. It is also known as petroleum and varies in color, from clear to tar-black, and in viscosity, from water to almost solid.
dBA	The decibel (dDB) is one tenth of a bel where one bel represents a difference in noise level between two intensities I_1 , I_0 where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear.
Distillation	The process of heating a liquid to its boiling point and condensing and collecting the vapor.
Feedstock	Material used as a stream in the refining process.
Flares	Emergency equipment used to incinerate refinery gases during upset, startup, or shutdown conditions.
Flue Gas	Gases produced by burning fuels in a furnace, heater or boiler.
Heat exchanger	Process equipment used to transfer heat from one medium to another.
Heater	Process equipment used to raise the temperature of refinery streams processing.
Hydrocarbon	Organic compound containing hydrogen and carbon, commonly occurring in petroleum, natural gas, and coal.
Hydrotreater	A machine that treats hydrocarbons.
Hydrotreating	A process to catalytically stabilize petroleum products of feedstocks by reacting them with hydrogen.
Isomerization	The rearrangement of straight-chain hydrocarbon molecules to form branch chain products; normal butane may be isomerized to provide a portion of the isobutane feed needed for the alkylation process.

L ₅₀	Sound level exceeded 50 percent of the time (average or mean level)												
Liquefied Petroleum Gas (LPG)	Liquefied light end gases often used for home heating and cooking; this gas is usually 95 percent propane, the remainder being split between ethane and butane.												
Naphtha	<p>A crude distillation unit cut in the range of C₇-420°; naphthas are subdivided – according to the actual crude distillation cuts - into light, intermediate, heavy, and very heavy virgin naphthas; a typical crude distillation operation would be:</p> <table border="0" style="margin-left: 40px;"> <tr> <td>C₇-160°</td> <td>-</td> <td>light naphtha</td> </tr> <tr> <td>160-280°</td> <td>-</td> <td>intermediate naphtha</td> </tr> <tr> <td>280-330°</td> <td>-</td> <td>heavy naphtha</td> </tr> <tr> <td>330-420°</td> <td>-</td> <td>very heavy naphtha</td> </tr> </table>	C ₇ -160°	-	light naphtha	160-280°	-	intermediate naphtha	280-330°	-	heavy naphtha	330-420°	-	very heavy naphtha
C ₇ -160°	-	light naphtha											
160-280°	-	intermediate naphtha											
280-330°	-	heavy naphtha											
330-420°	-	very heavy naphtha											
Natural Gas	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.												
Octane	Measurement of the burning quality of the gasoline; reflects the suitability of gasoline to perform in internal combustion engines smoothly without letting the engine knock or ping.												
Olefins	Hydrocarbons that contain at least two carbons joined by double bonds; olefins do not naturally occur in crude oils but are formed during the processing.												
Paleontological	Prehistoric life.												
Peak Hour	This typically refers to the hour during the morning (typically 7 AM to 9 AM) or the evening (typically 4 PM to 6 PM) in which the greatest number of vehicles trips are generated by a given land use or are traveling on a given roadway.												
Pentane	Colorless, flammable isomeric hydrocarbon, derived from petroleum and used as a solvent.												
Reactor	Vessels in which desired reactions take place.												
Refinery gas	Gas produced from refinery operations used primarily for fuel gas combustion in refinery heaters and boilers.												

CHAPTER 2 – ENVIRONMENTAL CHECKLIST

Reformate	One of the products from a reformer; a reformed naphtha; the naphtha is then upgraded in octane by means of catalytic or thermal reforming process.
Reformulated Gasoline	New gasoline required under the federal Clean Air Act and California Air Resources Board to reduce emissions.
Reid Vapor Pressure	The vapor pressure of a product determined in a volume of air four times greater than the liquid volume at 100°F; Reid vapor pressure (RVP) is an indication of the vapor-lock tendency of a motor gasoline, as well as explosion and evaporation hazards.
Seiches	A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which many change in intensity.
Selective Catalyst Reduction	An air pollution control technology that uses a catalyst to remove nitrogen oxides from flue gas.
Stripper or Splitter	Refinery equipment used to separate two components in a feed stream; examples include sour water strippers and naphtha splitters.

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APPENDIX A

EMISSION CALCULATIONS

**ConocoPhillips Los Angeles Refinery
Tank Replacement Project
CONSTRUCTION SUMMARY**

Construction Period	Demolition Emissions						
	VOC	CO	NOx	SOx	PM10	PM2.5*	CO ₂
Demolition Equipment	3.26	9.17	11.75	0.01	0.93	0.86	1075.57
Vehicle Emissions	0.60	4.87	3.69	0.01	0.13	0.12	588.79
Fugitive Construction	0.00	0.00	0.00	0.00	21.27	4.42	0.00
Fugitive Road Dust	0.00	0.00	0.00	0.00	0.38	0.06	0.00
Architectural Coatings	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EMISSIONS	3.86	14.04	15.45	0.02	22.72	5.47	1664.36
SCAQMD Thresholds	75	550	100	150	150	55	--
Significant	No	No	No	No	No	No	--

Construction Period	Construction Emissions						
	VOC	CO	NOx	SOx	PM10	PM2.5*	CO ₂
Construction Equipment	12.88	33.17	66.36	0.07	3.71	3.41	5786.58
Vehicle Emissions	0.98	8.51	4.76	0.01	0.17	0.15	1053.25
Fugitive Construction	0.00	0.00	0.00	0.00	33.18	6.90	0.00
Fugitive Road Dust	0.00	0.00	0.00	0.00	0.59	0.10	0.00
Architectural Coatings	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EMISSIONS	13.86	41.68	71.12	0.08	37.65	10.57	6839.83
SCAQMD Thresholds	75	550	100	150	150	55	--
Significant	No	No	No	No	No	No	--

* Based on SCAQMD October 2006 Final Methodology to Calculate PM2.5 and PM2.5 Significance Thresholds.
PM2.5 is assumed to be a fraction of the PM10 emissions based on CEIDARS Table

Peak Value

**ConocoPhillips Los Angeles Refinery
Tank Replacement Project
Demolition Equipment**

Equipment Type	Total Hours Per Day ⁽¹⁾	2008 Emission Factors lb/hr ⁽¹⁾						Daily Emissions (lbs/day)					
		VOC	CO	NOx	SOx	PM10	CO ₂	VOC	CO	NOx	SOx	PM10	CO ₂
Backhoe ⁽²⁾	6	0.1405	0.5903	1.1212	0.0011	0.0634	101.3869	0.84	3.54	6.73	0.01	0.38	608.32
Welder	18	0.134	0.313	0.279	0.000	0.031	25.958	2.42	5.63	5.03	0.01	0.55	467.25
Emission Totals								3.26	9.17	11.75	0.01	0.93	1075.57

(1) SCAQMD, 2006. http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF-07_25.xls

(2) One backhoe and 3 welders operating for 6 hours/day.

**ConocoPhillips Los Angeles Refinery
Tank Replacement Project
Construction Equipment**

Equipment Type	Total Hours Per Day ⁽²⁾	2008 Emission Factors lb/hr ⁽¹⁾						Daily Emissions (lbs/day)					
		VOC	CO	NOx	SOx	PM10	CO ₂	VOC	CO	NOx	SOx	PM10	CO ₂
Air Compressor 130 CFM (2)	16	0.1265	0.2903	0.2442	0.0003	0.0283	22.2713	2.02	4.64	3.91	0.00	0.45	356.34
Backhoe (1)	6	0.1598	0.4453	1.7937	0.0019	0.0598	171.7370	0.96	2.67	10.76	0.01	0.36	1030.42
Cranes (1)	5	0.1345	0.4936	1.0417	0.0009	0.0589	80.3446	0.67	2.47	5.21	0.00	0.29	401.72
Dozer (1)	5	0.3011	0.8463	2.6790	0.0021	0.1179	183.4870	1.51	4.23	13.40	0.01	0.59	917.44
Generators (Diesel) (1)	9	0.1859	0.5644	2.2800	0.0024	0.0697	212.5050	1.67	5.08	20.52	0.02	0.63	1912.55
Welders (6)	45	0.134	0.313	0.279	0.000	0.031	25.958	6.05	14.08	12.56	0.02	1.39	1168.11
Emission Totals								12.88	33.17	66.36	0.07	3.71	5786.58

(1) SCAQMD, 2006. http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF-07_25.xls

(2) Total hours of multiple pieces of equipment operating concurrently.

**ConocoPhillips Los Angeles Refinery
Tank Replacement Project
Vehicle Emissions for Demolition and Construction**

Vehicle	Miles per Day	Demo	Const
Commuters	32.4	5	15
Pickup Trucks	10	0	0
Van	10	0	0
Total Light Vehicle Miles		162	486
Flatbed Truck	10	2	1
Boom Truck	10	1	1
Concrete Truck	50	0	1
Delivery Truck	50	0	2
Dump Truck	50	2	0
Fuel Truck	10	1	1
Water Truck	10	1	1
Total Medium/Heavy Duty Truck Miles		150	190
Semi Tractor	50	0	0
Total Heavy-Heavy Duty Truck Miles		0	0

	Emission Rate (lb/mi) ⁽¹⁾		Demo	Const
	2008	2009		
CO				
Light Duty	0.0105342	0.0097518	1.71	4.74
Medium Duty	0.0210772	0.0198265	3.16	3.77
Heavy Duty	0.0127847	0.0123793	0.00	0.00
Total			4.87	8.51

	Emission Rate (lb/mi) ⁽¹⁾		Demo	Const
	2008	2009		
NOx				
Light Duty	0.0010088	0.0009276	0.16	0.45
Medium Duty	0.0235365	0.0226942	3.53	4.31
Heavy Duty	0.0418542	0.0403943	0.00	0.00
Total			3.69	4.76

	Emission Rate (lb/mi) ⁽¹⁾		Demo	Const
	2008	2009		
CO₂				
Light Duty	1.0368352	1.0432521	167.97	507.02
Medium Duty	2.8055029	2.8748941	420.83	546.23
Heavy Duty	4.1869739	4.3066017	0.00	0.00
Total			588.79	1053.25

	Emission Rate (lb/mi) ⁽¹⁾		Demo	Const
	2008	2009		
VOC				
Light Duty	0.0010051	0.0009314	0.16	0.45
Medium Duty	0.0029281	0.0027894	0.44	0.53
Heavy Duty	0.0034094	0.0032809	0.00	0.00
Total			0.60	0.98

	Emission Rate (lb/mi) ⁽¹⁾		Demo	Const
	2008	2009		
SOx				
Light Duty	0.0000102	0.0000102	0.00	0.00
Medium Duty	0.0000274	0.0000282	0.00	0.01
Heavy Duty	0.0000399	0.0000421	0.00	0.00
Total			0.01	0.01

	Emission Rate (lb/mi) ⁽¹⁾		Demo	Const
	2008	2009		
PM10				
Light Duty Exhaust	0.0000397	0.0000410	0.01	0.02
Medium Duty Exhaust	0.0008391	0.0007996	0.13	0.15
Heavy Duty Exhaust	0.0019783	0.0018742	0.00	0.00
Total Exhaust PM			0.13	0.17
Light Duty Fugitive ⁽²⁾	0.00038589		0.06	0.19
Medium Duty Fugitive ⁽²⁾	0.00210368		0.32	0.40
Heavy Duty Fugitive ⁽²⁾	0.02011945		0.00	0.00
Total Fugitive PM			0.38	0.59
Total			0.51	0.76

(1) Based on 2007 SCAQMD on-road emission rates. (<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>)

(2) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m²) from CARB Methodology 7.9 for paved roads

(0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks,

and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

**ConocoPhillips Los Angeles Refinery
Tank Replacement Project
Fugitive PM Construction Emissions for Demolition**

Activity	Controlled Emissions			Uncontrolled Emissions			SCAQMD Emission Factor Source
	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Water Control Factor	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	SCAQMD Emission Factor Source	
Grading Operations Construction Activities ⁽¹⁾	17.51	17.51	0.5	35.0237315	35.0237315	Table A9-9-F	

Activity	Controlled Emissions			Uncontrolled Emissions			SCAQMD Emission Factor Source
	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Water Control Factor	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	SCAQMD Emission Factor Source	
TRENCHING OPERATIONS (Backhoe)	1.75	1.75	0.5	3.5	3.5	Table A9-9-G	

TEMPORARY STOCKPILES
Construction Activities⁽²⁾
Assumptions: 1cubic yard trench spoils = 1 ton

Activity	Controlled Emissions			Uncontrolled Emissions			SCAQMD Emission Factor Source
	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Water Control Factor	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	SCAQMD Emission Factor Source	
WIND EROSION Disturbed Area and Temporary Stockpiles Construction Activities ⁽³⁾	1.995	1.995	0.5	0.022	0.022	Table A9-9-E	

Activity	Controlled Emissions			Uncontrolled Emissions			SCAQMD Emission Factor Source
	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Water Control Factor	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	SCAQMD Emission Factor Source	
TRUCK FILLING/DUMPING	11.025	11.025	0.5	22.05	22.05	Table A9-9	

TOTAL PM10 Pounds/day	Average	Peak
(Controlled Emissions)	32,2823	32,28226
(Uncontrolled Emissions)	62,569	62,569
Mitigated Emissions ⁽⁵⁾	21,274	21,274

(1) Emissions (lbs/hr) = $(0.75 \times (G^{1.5}) / (H^{1.4})) \times J$
 where G = silt content (7.5%), H = moisture content (2.0%) and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden).
 Emissions (lbs/ton) = $0.00112 \times ((G/5)^{-0.4} / (H/2)^{1.4}) \times I/J$
 where G=mean wind speed (12 mph), H=moisture content of surface material (2%); I=lbs of dirt handled per day; and J=2,000 lbs/ton
 (3) Emissions (lbs/day/acre) = $1.7 \times ((G/1.5)^{365-H} / 235) \times I/15 \times J$
 where G = silt content (7.5%); H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (5%) and J= fraction of TSP (0.5)
 (4) Used SCAQMD Table 9-9 Default emission factors.
 (5) Mitigated Emissions assume that watering 3 times per day controls emissions by 66 percent (Uncontrolled Emissions x 0.34)

**ConocoPhillips Los Angeles Refinery
Tank Replacement Project
Fugitive PM Construction Emissions for Construction**

Grading Operations Construction Activities ⁽¹⁾	Average Pieces of Equipment Operating	2	Peak Pieces of Equipment Operating	2	Hours of Operation	6	PM10 Emission Factor (lb/hour)	0.5	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9-F
									Average PM10 Emissions (lbs/day)	35.02	Peak PM10 Emissions (lbs/day)	35.02	
							5.837	0.5	35.02	35.02	70.047463	70.047463	

TRENCHING OPERATIONS (Backhoe)												
TEMPORARY STOCKPILES Construction Activities ⁽²⁾	Average Tons of Materials Handled Per Day	1000	Peak Tons of Materials Handled Per Day	1000	PM10 Emission Factor (lb/ton)	0.0035	0.5	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9-G
								Average PM10 Emissions Pounds/day	1.75	Peak PM10 Emissions Pounds/day	1.75	
							0.5	1.75	1.75	3.5	3.5	

Assumptions: 1cubic yard trench spoils = 1 ton

WIND EROSION Disturbed Area and Temporary Stockpiles Construction Activities ⁽³⁾													
WIND EROSION Disturbed Area and Temporary Stockpiles Construction Activities ⁽³⁾	Days of Construction	22	Average Disturbed Per Day	1	Peak Acreage Disturbed Per Day	1	PM10 Emission Factor (lb/day/acre)	1.995	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9-E
									Average PM10 Emissions Pounds/day	1.995	Peak PM10 Emissions Pounds/day	1.995	
								1.995	1.995	0.022	0.022		

TRUCK FILLING/DUMPING													
Truck Filling ⁽⁴⁾ Truck Dumping	Estimated Materials Handled Per Day (tons)	1000	0	0	Peak Tons of Materials Handled Per Day	1000	PM10 Emission Factor (lb/ton)	0.5	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9
									Average PM10 Emissions Pounds/day	11.025	Peak PM10 Emissions Pounds/day	11.025	
								11.025	11.025	22.05	22.05		

TOTAL PM10 Pounds/day	Average	Peak
(Controlled Emissions)	49,7941	49,79412
(Uncontrolled Emissions)	97,593	97,593
Mitigated Emissions ⁽⁵⁾	33,182	33,182

(1) Emissions (lbs/hr) = (0.75 x (G^{1.5})/(H^{1.4})) x J
 where G = silt content (7.5%), H = moisture content (2.0%) and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden);
 Emissions (lbs/ton) = 0.00112 x [(G/5)⁻²/(H/2)^{1.4}] x I/J
 where G=mean wind speed (12 mph), H=moisture content of surface material (2%); I=lbs of dirt handled per day; and J=2,000 lbs/ton
 (3) Emissions (lbs/day/acre) = 1.7 x [(G/1.5)³(365-H)/235] x I/15 x J
 where G = silt content (7.5%); H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (5%) and J= fraction of TSP (0.5)
 (4) Used SCAQMD Table 9-9 Default emission factors.
 (5) Mitigated Emissions assume that watering 3 times per day controls emissions by 66 percent (Uncontrolled Emissions x 0.34)

**ConocoPhillips - Los Angeles Refinery
Tank Replacement Project
Localized Significance Threshold Evaluation**

On-site Source Emissions (lbs/day)

	CO	VOC	NOx	SOx	PM10	PM2.5
	Wilmington Plant					
Construction Equipment	33.17	12.88	66.36	0.07	3.71	3.41
Fugitive Construction Emissions	0	0	0	0	33.18	6.90
Total On-site Emissions	33.17	12.88	66.36	0.07	36.89	10.31
Screening Value ⁽¹⁾	6,614	NA	312	NA	158	93
Above Value?	NO	-	NO	-	NO	NO
	Carson Plant					
Construction Equipment	33.17	12.88	66.36	0.07	3.71	3.41
Fugitive Construction Emissions	0	0	0	0	33.18	6.90
Total On-site Emissions	33.17	12.88	66.36	0.07	36.89	10.31
Screening Value ⁽²⁾	1009	NA	197	NA	45	26
Above Value?	NO	-	NO	-	NO	NO

(1) Screening values for LST analysis from SCAQMD Final Localized Significance Threshold Methodology, Appendix C, Tables C-1, C-2, and C-4 for SRA No. 4 for 1-acre sites at 500 meters (June 2003).

(2) Screening values for LST analysis from SCAQMD Final Localized Significance Threshold Methodology, Appendix C, Tables C-1, C-2, and C-4 for SRA No. 4 for 1-acre sites at 200 meters (June 2003).

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Tank 2
 City: Carson
 State: California
 Company: CONOCOPHILLIPS
 Type of Tank: Domed External Floating Roof Tank
 Description:

Tank Dimensions
 Diameter (ft): 117.00
 Volume (gallons): 3,360,000.00
 Turnovers: 223.20

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Double Deck
 Fitting Category: Detail

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Long Beach, California (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)			Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
LAR Gas Oils	All	66.43	60.99	71.87	64.33	0.1000	N/A	N/A	190.0000		387.00	Option 1: VP60 = .1 VP70 = .1	

TANKS 4.0 Emissions Report - Detail Format Detail Calculations (AP-42)

Annual Emission Calculations	
Rim Seal Losses (lb):	22.7566
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ⁿ):	0.4000
Average Wind Speed (mph):	0.0000
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.0017
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1000
Tank Diameter (ft):	117.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,705.4082
Annual Net Throughput (gal/yr):	749,952,000.0
Shell Clrriage Factor (bb/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.9000
Tank Diameter (ft):	117.0000
Roof Fitting Losses (lb):	17.5893
Value of Vapor Pressure Function:	0.0017
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	54.2600
Average Wind Speed (mph):	0.0000

A-10

		Roof Fitting Loss Factors		Losses (lb.)	
		Quantity	KFa (lb-mole/yr)	m	
					KFb (lb-mole/yr mph ⁿ)
Roof Fitting/Status					
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed		2	1.60	0.00	1.0373
Gauge-Hatch/Sample Well (6-in. Diam.)/Weighted Mech. Actuation, Gask.		1	0.47	0.97	0.1524
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.		1	0.71	1.00	0.2302
Roof Drain (3-in. Diameter)/90% Closed		1	1.80	1.10	0.5635
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs		34	0.82	0.14	9.0378
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper		1	14.00	0.78	4.5383
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.		1	6.20	0.94	2.0098
Total Losses (lb):					1,745.7540

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Annual Emissions Report

Components	Losses (lbs)			Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	
LAR Gas Oils	22.76	1,705.41	17.59	1,745.75
			Deck Seam Loss	0.00

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Tank 21
 City: Carson
 State: California
 Company: CONOCOPHILLIPS
 Type of Tank: Domed External Floating Roof Tank
 Description:

Tank Dimensions
 Diameter (ft): 117.00
 Volume (gallons): 3,473,400.00
 Turnovers: 242.90

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Double Deck
 Fitting Category: Detail

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Long Beach, California (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)		Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.		Max.	Avg.					
LAR Gas Oils	All	66.43	60.99	71.87	64.33	0.1000	N/A	N/A	190.0000	387.00	Option 1: VP60 = .1 VP70 = .1

TANKS 4.0 Emissions Report - Detail Format Detail Calculations (AP-42)

Annual Emission Calculations	
Rim Seal Losses (lb):	22,7565
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{1/2}):	0.4000
Average Wind Speed (mph):	0.0000
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.0017
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1000
Tank Diameter (ft):	117.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,918.5843
Annual Net Throughput (gal/yr.):	843,696,000.0
Shell Clingage Factor (lb/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.9000
Tank Diameter (ft):	117.0000
Roof Fitting Losses (lb):	17.5893
Value of Vapor Pressure Function:	0.0017
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	54.2600
Average Wind Speed (mph):	0.0000

Total Losses (lb): 1,958.9301

	Quantity	KFa (lb-mole/yr)	Roof Fitting Loss Factors KFB (lb-mole/yr mph ^{1/2})	m	Losses (lb.)
Roof Fitting/Status					
Access Hatch (24-in. Diam./Bolted Cover, Gasketed	2	1.60	0.00	0.00	1,0373
Gauge-Hatch/Sample Well (8-in. Diam./Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	0.1524
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	0.2302
Roof Drain (3-in. Diameter)/90% Closed	1	1.80	0.14	1.10	0.5635
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34	0.82	0.53	0.14	9.0378
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1	14.00	3.70	0.78	4.5383
Vacuum Breaker (10-in. Diam./Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	2,0098

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Annual Emissions Report

Components	Losses (lbs)			Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	
LAR Gas Oils	22.76	1,918.58	17.59	1,958.93
			Deck Seam Loss	0.00

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Tank 280
 City: Carson
 State: California
 Company: CONOCOPHILLIPS
 Type of Tank: Domed External Floating Roof Tank
 Description:

Tank Dimensions
 Diameter (ft): 117.50
 Volume (gallons): 3,360,000.00
 Turnovers: 186.00

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Double Deck
 Fitting Category: Detail

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Long Beach, California (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)		Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.		Avg.	Min.					
Jet Kerosene (TVP 1.5)	All	66.43	60.99	64.33	1.5000	N/A	130.0000			162.00	Option 1: VP60 = 1.5 VP70 = 1.5

TANKS 4.0 Emissions Report - Detail Format Detail Calculations (AP-42)

Annual Emission Calculations	
Rim Seal Losses (lb):	246.4962
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ⁿ):	0.4000
Average Wind Speed (mph):	0.0000
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.0269
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.5000
Tank Diameter (ft):	117.5000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,253.9091
Annual Net Throughput (gal/yr.):	624,960,000.0
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.0000
Tank Diameter (ft):	117.5000
Roof Fitting Losses (lb):	189.7146
Value of Vapor Pressure Function:	0.0269
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	54.2600
Average Wind Speed (mph):	0.0000

	Quantity	KFa (lb-mole/yr)	Roof Fitting Loss Factors KFB (lb-mole/yr mph ⁿ)	m	Losses (lb.)
Roof Fitting/Sluiss	2	1.50	0.00	0.00	11.1885
Access Hatch (24-in. Diam.)/Boiled Cover, Gasketed	1	0.47	0.02	0.97	1.6433
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	2.4624
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	1.80	0.14	1.10	6.2935
Roof Drain (3-in. Diameter)/90% Closed	34	0.82	0.53	0.14	97.4796
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	1	14.00	3.70	0.78	48.9496
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1	6.20	1.20	0.94	21.6777
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1				

Total Losses (lb): 1,690.1199

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Annual Emissions Report

Components	Losses (lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Jet Kerosene (TVP 1.5)	246.50	1,253.91	189.71	0.00	1,690.12

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Tank 68
 City: Wilmington
 State: California
 Company: CONOCOPHILLIPS
 Type of Tank: Domed External Floating Roof Tank
 Description:

Tank Dimensions
 Diameter (ft): 117.00
 Volume (gallons): 3,528,000.00
 Turnovers: 130.00

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Double Deck
 Fitting Category: Detail

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Boiled Cover, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34

Meteorological Data used in Emissions Calculations: Long Beach, California (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)		Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.		Max.	Avg.					
Distillate Fuel Oil No. 2 (TVP 0.1)	All	66.43	60.99	64.33	0.1000	N/A	130.0000			188.00	Option 1: VP60 = .1 VP70 = .1

TANKS 4.0 Emissions Report - Detail Format Detail Calculations (AP-42)

Annual Emission Calculations	15,5702
Rim Seal Losses (lb):	0.6000
Seal Factor A (lb-mole/ft-yr):	0.4000
Seal Factor B (lb-mole/ft-yr (mph) ⁿ):	0.0000
Average Wind Speed (mph):	1.0000
Seal-Related Wind Speed Exponent:	0.0017
Value of Vapor Pressure Function:	0.1000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	117.0000
Tank Diameter (ft):	130.0000
Vapor Molecular Weight (lb/lb-mole):	1.0000
Product Factor:	937.3420
Withdrawal Losses (lb):	458,640,000.0
Annual Net Throughput (gal/yr.):	0.0015
Shell Clingage Factor (bb/1000 sqft):	7.1000
Average Organic Liquid Density (lb/gal):	117.0000
Tank Diameter (ft):	12.0348
Roof Fitting Losses (lb):	0.0017
Value of Vapor Pressure Function:	130.0000
Vapor Molecular Weight (lb/lb-mole):	1.0000
Product Factor:	54.2600
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	0.0000
Average Wind Speed (mph):	

	Quantity	KFa (lb-mole/yr)	KFb (lb-mole/yr mph ⁿ)	m	Losses (lb.)
Roof Fitting/Sluiss					
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2	1.60	0.00	0.00	0.7098
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	0.1042
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	0.1575
Roof Drain (3-in. Diameter)/90% Closed	1	1.80	0.14	1.10	0.3992
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1	14.00	3.70	0.78	3.1052
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	1.3751
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34	0.82	0.53	0.14	6.1837

Total Losses (lb): 964,9470

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Annual Emissions Report

Components	Losses(lbs)			Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	
Distillate Fuel Oil No. 2 (TVP 0.1)	15.57	937.34	12.03	964.95
			Deck Seam Loss	0.00

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Tank 78
 City: Wilmington
 State: California
 Company: CONOCOPHILLIPS
 Type of Tank: Domed External Floating Roof Tank
 Description:

Tank Dimensions
 Diameter (ft): 60.00
 Volume (gallons): 756,000.00
 Turnovers: 104.53

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Double Deck
 Fitting Category: Detail

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	10
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Long Beach, California (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)		Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.		Max.	Avg.					
Unit 120 HUKMUK	All	66.43	60.99	71.87	64.33	0.1000	N/A	N/A	130.0000	162.00	Option 1: VP60 = .1 VP70 = .1

TANKS 4.0 Emissions Report - Detail Format Detail Calculations (AP-42)

Annual Emission Calculations	
Rim Seal Losses (lb):	7,9847
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{1/2}):	0.4000
Average Wind Speed (mph):	0.0000
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.0017
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1000
Tank Diameter (ft):	60.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	270.5882
Annual Net Throughput (gallyr.):	79,027,200.00
Shell Clingage Factor (bb/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.1000
Tank Diameter (ft):	60.0000
Roof Fitting Losses (lb):	7.6698
Value of Vapor Pressure Function:	0.0017
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	34.5800
Average Wind Speed (mph):	0.0000

Roof Fitting/Status	Quantity	KFa (lb-mole/yr)	KFb (lb-mole/(yr mph ^{1/2} m))	m	Losses (lb.)
Access Hatch (24-in. Diam.)/Boiled Cover, Gasketed	2	1.60	0.00	0.00	0.7098
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	0.1042
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	0.1575
Roof Drain (3-in. Diameter)/90° Closed	1	1.80	0.14	1.10	0.3992
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	10	0.82	0.53	0.14	1.8187
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	1	14.00	3.70	0.78	3.1052
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	1.3751

Total Losses (lb): 286.2427

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Annual Emissions Report

Components	Losses (lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Unit 120 HUK/MUK	7.98	270.59	7.67	0.00	286.24

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Tank 2625
 City: Carson
 State: California
 Company: ConocoPhillips Company
 Type of Tank: Domed External Floating Roof Tank
 Description:

Tank Dimensions
 Diameter (ft): 165.00
 Volume (gallons): 7,560,000.00
 Turnovers: 113.67

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Double Deck
 Fitting Category: Detail

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam./Bolted Cover, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam./Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Sock	57
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Sock	53
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	1
Vacuum Breaker (10-in. Diam./Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Long Beach, California (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0 Emissions Report - Detail Format Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)			Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
LAR Gas Oils	All	66.43	60.99	71.87	64.33	0.1000	N/A	N/A	190.0000			387.00	Option 1 : VP60 = .1 VP70 = .1

TANKS 4.0

Emissions Report - Detail Format

Detail Calculations (AP-42)

Annual Emission Calculations	
Rim Seal Losses (lb):	32.0925
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{0.75}):	0.4000
Average Wind Speed (mph):	0.0000
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.0017
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1000
Tank Diameter (ft):	165.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,385.6442
Annual Net Throughput (gal/yr.):	859,320,000.0
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.9000
Tank Diameter (ft):	165.0000
Roof Fitting Losses (lb):	41.1821
Value of Vapor Pressure Function:	0.0017
Vapor Molecular Weight (lb/lb-mole):	190.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact (lb-mole/yr):	127.0400
Average Wind Speed (mph):	0.0000

Roof Fitting/Status	Quantity	KFa (lb-mole/yr)	KFb (lb-mole/(yr mph ^{0.75}))	m	Losses (lb.)
Access Hatch (24-in. Diam./Bolted Cover, Gasketed	2	1.60	0.00	0.00	1.0373
Gauge-Hatch/Sample Well (8-in. Diam./Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	0.1524
Roof Drain (3-in. Diameter)/90% Closed	1	1.80	0.14	1.10	0.5835
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Sock	57	1.20	0.14	0.65	22.1730
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Sock	53	0.49	0.16	0.14	8.4186
Slotted Guide-Pole/Sample Well/Cask, Sliding Cover, w. Floal, Wiper	1	21.00	7.90	1.80	6.8075
Vacuum Breaker (10-in. Diam./Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	2.0098

Total Losses (lb) 1,458.9188

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Annual Emissions Report

Components	Rim Seal Loss	Withdrawal Loss	Losses(lbs)		Deck Seam Loss	Total Emissions
			Deck Fitting Loss			
LAR Gas Oils	32.09	1,385.64	41.18		0.00	1,458.92

APPENDIX B

HEALTH RISK ASSESSMENT

**ConocoPhillips Los Angeles Refinery
Wilmington Plant
Health Risk Analysis
Tank Replacement Project**

March 25, 2008

Prepared for: ConocoPhillips Los Angeles Refinery
Prepared by: Environmental Audit, Inc.
1000-A Ortega Way
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**ConocoPhillips Los Angeles Refinery – Wilmington Plant
Health Risk Analysis
Tank Replacement Project**

INTRODUCTION

As requested by the ConocoPhillips Los Angeles Refinery (Refinery), Environmental Audit, Inc. (EAI) has calculated emissions to evaluate the maximum potential impacts of fugitive toxic air contaminants (TACs) associated with the Tank Replacement Project. The Tank Replacement Project will retrofit Tanks 68 and 78 into floating roofs tanks at the Wilmington Plant. The tank replacement activities at the Carson Plant are evaluated separately.

FACILITY INFORMATION

The Refinery is located at 1660 W. Anaheim Street, Wilmington, California. The Refinery processes crude oil into marketable products including gasoline, diesel fuel, jet fuel, and other products. The Refinery is bordered by a residential area, a roofing materials plant, and a portion of the Harbor 110 Freeway to the east; the Ken Malloy Harbor Regional Park, Harbor College, Harbor Park Municipal Golf Course, and a small residential area to the north; Gaffey Street including a firing range, vacant fields, recreational fields, and a U.S. Navy fuel storage facility to the west; and, a warehouse facility to the south. The closest resident is adjacent to the east Refinery property boundary.

As part of the permitting process, EAI has calculated emissions to evaluate the maximum potential impacts of TACs associated with the Tank Replacement Project. The results of this evaluation are provided below.

Based on information provided by ConocoPhillips, the Tank Replacement Project has been evaluated as a combined source within the Refinery boundary to facilitate use of the screening method outlined in the SCAQMD *Risk Assessment Procedures for Rules 1401 and 212 Version 7.0* (July 2005). TACs in the emissions from the Tank Replacement Project are included in the South Coast Air Quality Management District (SCAQMD) Rule 1401 – New Source Review for Toxic Air Contaminants. The analysis for cancer and non-cancer risks is presented below. The area is expected to emit 13 chemicals listed in Appendix I of the SCAQMD Rule 1401 Guidelines – four are considered carcinogens, 12 are considered to have adverse chronic health effects, and six are considered to have adverse acute health effects (See Table 1).

TABLE 1
Potentially Emitted Chemical and Associated Health Effects

CHEMICAL	Carcinogen	Noncarcinogen	
		Chronic	Acute
1,2,4-Trimethylbenzene			
1,3-Butadiene		X	
Benzene	X	X	X
Cresol (mixed isomers)		X	
Cumene			
Cyclohexane			
Ethylbenzene		X	
Ethylene			
Indeno(1,2,3-cd)pyrene	X		
Naphthalene	X	X	
n-Hexane		X	
Nickel Compounds	X	X	X
Phenol		X	X
Propylene		X	
Styrene		X	X
Toluene		X	X
Xylene (mixed isomers)		X	X

EMISSION ESTIMATES

The Refinery provided speciations of the fugitive TACs emissions. The calculated emissions for the Tank Replacement Project are presented in Table 2.

RISK ANALYSIS

The estimated TAC emissions are below the annual screening levels (see Table 2). The cancer/chronic pollutant screening hazard index for the proposed project is expected to be 0.743, which is less than the index significance threshold of 1.0. Therefore, no significant adverse cancer or chronic health impacts are expected due to exposure to the Tank Replacement Project.

ConocoPhillips Los Angeles Refinery – Wilmington Plant
 Health Risk Analysis
 Tank Replacement Project

TABLE 2
Speciated Calculated TAC Emissions and Screening Analysis

Chemical	Total Emissions		Pollutant Screening Level		Pollutant Screening Index ⁽¹⁾		Exceeds Threshold? ⁽²⁾	
	(lb/yr)	(lb/hr)	Chronic/Cancer (lb/yr)	Acute (lb/hr)	Chronic/Cancer (lb/yr)	Acute (lb/hr)	Chronic/Cancer	Acute
1,2,4-Trimethylbenzene	4.26E-01	4.86E-05			NA	NA	NA	NA
1,3-Butadiene	1.06E-01	1.21E-05	1.49E+00		7.10E-02	NA	No	NA
Benzene	1.16E-01	1.33E-05	8.92E+00	3.96E+00	1.30E-02	3.35E-06	No	No
Cresol (mixed isomers)	2.90E-02	3.32E-06	1.55E+05		1.87E-07	NA	No	NA
Cumene	9.68E-03	1.11E-06			NA	NA	NA	NA
Cyclohexane	1.06E-01	1.21E-05			NA	NA	NA	NA
Ethylbenzene	1.61E+00	1.84E-04	5.17E+05		3.12E-06	NA	No	NA
Ethylene	1.06E-01	1.21E-05			NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	4.84E-02	5.53E-06	7.69E-02		6.29E-01	NA	No	NA
Naphthalene	2.22E-01	2.53E-05	7.44E+00		2.98E-02	NA	No	NA
n-Hexane	1.06E-01	1.21E-05	1.81E+06		5.85E-08	NA	No	NA
Nickel Compounds	1.33E-05	1.52E-09	9.81E-01	1.61E-02	1.36E-05	9.45E-08	No	No
Phenol	9.68E-03	1.11E-06	5.17E+04	1.55E+01	1.87E-07	7.13E-08	No	No
Propylene	1.06E-01	1.21E-05	7.75E+05		1.37E-07	NA	No	NA
Styrene	9.68E-03	1.11E-06	2.33E+05	5.62E+01	4.15E-08	1.97E-08	No	No
Toluene	7.72E-01	8.82E-05	7.75E+04	9.91E+01	9.96E-06	8.90E-07	No	No
Xylene (mixed isomers)	8.35E+00	9.53E-04	1.81E+05	5.89E+01	4.61E-05	1.62E-05	No	No
Totals					7.43E-01	2.06E-05	No	No

(1) Pollution Screening Index = Emission Rate / Pollution Screening Level.

(2) Threshold for significance for the Pollution Screening Index is 1.

**ConocoPhillips Los Angeles Refinery – Wilmington Plant
Health Risk Analysis
Tank Replacement Project**

A screening health risk assessment was also prepared to evaluate the potential for acute health impacts. The estimated hourly TAC emissions from the Tank Replacement Project were used to evaluate acute health impacts (see Table 2). The estimated hourly TAC emission rates are below the hourly screening levels; therefore, the acute hazard index for the proposed project is expected to be 0.000021, which is less than the acute pollutant screening index significance threshold of 1.0. No significant adverse acute health impacts are expected due to exposure to the modifications to the Unit.

CONCLUSIONS

The screening indices from the Tank Replacement Project are below the significance threshold of one established under SCAQMD Rule 1401. No further health risk analyses are required.

REFERENCES

SCAQMD, 2005. *Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory*, June 2005.

SCAQMD, 2005. *Supplemental Guidelines for Preparing Risk Assessment for the Air Toxic “Hot Spot” Information and Assessment Act*, 2005.

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**ConocoPhillips Los Angeles Refinery
Carson Plant
Health Risk Analysis
Tank Replacement Project**

March 25, 2008

Prepared for: ConocoPhillips Los Angeles Refinery
Prepared by: Environmental Audit, Inc.
1000-A Ortega Way
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**ConocoPhillips Los Angeles Refinery – Carson Plant
Health Risk Analysis
Tank Replacement Project**

INTRODUCTION

As requested by the ConocoPhillips Los Angeles Refinery (Refinery), Environmental Audit, Inc. (EAI) has calculated emissions to evaluate the maximum potential impacts of fugitive toxic air contaminants (TACs) associated with the Tank Replacement Project. The Tank Replacement Project will retrofit Tanks 2, 280, and 21 into floating roofs tanks at the Carson Plant. Additionally, Tanks 16 and 18 will be demolished and replaced by floating roof Tank 2625 at the Carson Plant. The tank replacement activities at the Wilmington Plant are evaluated separately.

FACILITY INFORMATION

The Refinery is located at 1520 East Sepulveda Boulevard Carson, California. The Refinery processes crude oil into marketable products including gas oil, naphtha, asphalt, diesel fuel, jet fuel, and other products. The Refinery is bounded by East Sepulveda Boulevard and South Alameda Street to the north and east, respectively. A tank farm and a cargo terminal border the western property line, and a railroad runs along the southern property line. The Refinery and all adjacent areas are zoned for heavy industrial use. The closest resident is about 2,000 feet from the Refinery.

As part of the permitting process, EAI has calculated emissions to evaluate the maximum potential impacts of TACs associated with the Tank Replacement Project. The results of this evaluation are provided below.

Based on information provided by ConocoPhillips, the Tank Replacement Project has been modeled as three area sources at the locations shown on the Refinery plot plan. TACs in the emissions from the Tanks Project are included in the South Coast Air Quality Management District (SCAQMD) Rule 1401 – New Source Review for Toxic Air Contaminants. The health risks were evaluated using the SCAQMD *Risk Assessment Procedures for Rules 1401 and 212 Version 7.0* (July 2005). The analysis for cancer and non-cancer risks is presented below. The area is expected to emit 17 chemicals listed in Appendix I of the SCAQMD Rule 1401 Guidelines – five are considered carcinogens, 14 are considered to have adverse chronic health effects, and eight are considered to have adverse acute health effects (See Table 1).

TABLE 1
Potentially Emitted Chemical and Associated Health Effects

CHEMICAL	Carcinogen	Noncarcinogen	
		Chronic	Acute
1,2,4-Trimethylbenzene			
1,3-Butadiene		X	
Anthracene			
Benzene	X	X	X
Copper Compounds			X
Cresol (mixed isomers)		X	
Cumene			
Cyclohexane			
Ethylbenzene		X	
Ethylene			
Indeno(1,2,3-cd)pyrene	X		
Lead Compounds	X		
Manganese Compounds		X	
Mercury Compounds		X	X
Naphthalene	X	X	
n-Hexane		X	
Nickel Compounds	X	X	X
Phenol		X	X
Propylene		X	
Styrene		X	X
Toluene		X	X
Xylene (mixed isomers)		X	X
Zinc Compounds			

EMISSION ESTIMATES

The Refinery provided speciations of the fugitive TACs emissions. There are four tanks associated with the Tank Replacement Project, however, Tank 2 has no detectable TAC emissions, and consequently, was not included in the model. The calculated emissions for the remaining tanks are presented in Table 2.

TABLE 2
Speciated Emission Calculations

Chemical	Annual Tank Emissions (lb/yr)			Hourly Tank Emissions (lb/hr)		
	2625	21	280	2625	21	280
1,2,4-Trimethylbenzene	6.42E-01	0.00E+00	4.06E+00	7.33E-05	0.00E+00	4.63E-04
1,3-Butadiene	1.59E-01	0.00E+00	2.01E-01	1.82E-05	0.00E+00	2.29E-05
Anthracene	0.00E+00	2.15E-02	0.00E+00	0.00E+00	2.46E-06	0.00E+00
Benzene	1.75E-01	0.00E+00	3.38E-01	2.00E-05	0.00E+00	3.86E-05
Copper Compounds	0.00E+00	5.88E-05	0.00E+00	0.00E+00	6.71E-09	0.00E+00
Cresol (mixed isomers)	4.38E-02	0.00E+00	5.07E-01	5.00E-06	0.00E+00	5.79E-05
Cumene	1.46E-02	0.00E+00	3.38E-01	1.67E-06	0.00E+00	3.86E-05
Cyclohexane	1.59E-01	3.13E-01	1.24E+00	1.82E-05	3.58E-05	1.42E-04
Ethylbenzene	2.92E-01	0.00E+00	1.18E+00	3.33E-05	0.00E+00	1.35E-04
Ethylene	1.59E-01	0.00E+00	2.01E-01	1.82E-05	0.00E+00	2.29E-05
Indeno(1,2,3-cd)pyrene	7.30E-02	0.00E+00	8.45E-02	8.33E-06	0.00E+00	9.65E-06
Lead Compounds	0.00E+00	4.90E-05	0.00E+00	0.00E+00	5.59E-09	0.00E+00
Manganese Compounds	0.00E+00	7.64E-05	0.00E+00	0.00E+00	8.72E-09	0.00E+00
Mercury Compounds	0.00E+00	7.84E-04	0.00E+00	0.00E+00	8.95E-08	0.00E+00
Naphthalene	2.33E-01	0.00E+00	6.08E+00	2.66E-05	0.00E+00	6.95E-04
n-Hexane	1.59E-01	1.96E-01	4.03E+00	1.82E-05	2.24E-05	4.60E-04
Nickel Compounds	0.00E+00	1.77E-03	0.00E+00	0.00E+00	2.02E-07	0.00E+00
Phenol	1.46E-02	0.00E+00	1.69E-01	1.67E-06	0.00E+00	1.93E-05
Propylene	1.59E-01	0.00E+00	2.01E-01	1.82E-05	0.00E+00	2.29E-05
Styrene	1.46E-02	0.00E+00	1.69E-01	1.67E-06	0.00E+00	1.93E-05
Toluene	9.48E-01	0.00E+00	1.69E+00	1.08E-04	0.00E+00	1.93E-04
Xylene (mixed isomers)	1.60E+00	0.00E+00	4.90E+00	1.83E-04	0.00E+00	5.59E-04
Zinc Compounds	0.00E+00	1.04E-03	0.00E+00	0.00E+00	1.19E-07	0.00E+00

HEALTH RISK ASSESSMENT

The California Air Resources Board (CARB) Hotspots Analysis Reporting Program (HARP) model is the most appropriate model for determining the air quality impact from proposed project. The HARP model (CARB, 2005) combines the US EPA Industrial Source Complex dispersion model with a risk calculation model based on the Air Toxics Hot Spots Program Risk Assessment Guidelines (OEHHA, 2003). The dispersion portion of the HARP model provides estimates of source-specific annual and hourly maximum ambient ground level concentrations. The risk calculator in the HARP model estimates the cancer risk, chronic index, and acute index values. The model default values were modified to conform to the SCAQMD Supplemental Guidelines for Preparing Risk Assessment for the Air Toxics “Hot Spots” Information and Assessment Act (AB2588) (SCAQMD, 2005).

**ConocoPhillips Los Angeles Refinery – Carson Plant
Health Risk Analysis
Tank Replacement Project**

The project is modeled as three area sources. The source parameters are listed in Table 3. The locations of the sources were identified based on data provided by ConocoPhillips and the Long Beach and Torrance USGS Quadrangles.

**TABLE 3
Source Parameters**

Name	UTME	UTMN	Release Height (ft)	Length (ft)	Width (ft)
Tank 21	385472	3740861	48	104	104
Tank 208	385356	3740585	48	104	104
Tank 2625	385456	3740613	48	147	147

The receptors used in the model include fence-line receptors and a fine receptor grid. The terrain surrounding the Refinery is relatively constant; however, terrain variations were included for the receptor networks. The fence-line receptors (maximal spacing every 100 meters(m)) were used to determine the maximum concentrations at the property line of the Refinery. A fine receptor grid (100 m x 100 m spacing) was used to identify the maximum impact locations. All the maximum impact locations are verified as credible locations for receptors (i.e., streets, railroad tracks, and waterways are not considered valid receptor locations). The locations of the maximum impacts are then verified for the type of receptor and are reported below. Complete modeling files are on file with the SCAQMD.

DETAILED CANCER RISK ANALYSIS

The maximum cancer risk for an exposed individual resident (MEIR) is located approximately 2,000 feet south of the Refinery (Receptor No. 1045, UTM Coordinates 385025, 3739790, See Figure A). The incremental cancer risk is 2.14×10^{-8} or 0.02 in a million at the MEIR. Indeno(1,2,3-cd)pyrene contributes 63.1 percent of the calculated cancer risk at the MEIR. The inhalation pathway accounts for 38.5 percent of the cancer risk.

The maximum exposed incremental cancer risk at an occupational exposure (MEIW) is 7.65×10^{-8} or 0.08 in a million located approximately 150 feet east of the Refinery (Receptor No. 747, UTM Coordinates 385625, 3740590, See Figure A). Indeno(1,2,3-cd)pyrene contributes 60.8 percent of the calculated cancer risk at the MEIW. The dermal pathway accounts for 51.8 percent of the cancer risk.

DETAILED NON-CANCER RISK ANALYSIS

Naphthalene is the major contributor to the chronic hazard index, approximately 96.8 percent, for the target endpoint of the respiratory system. The maximum chronic hazard index (MCHI) total for the central nervous system is 0.0004 and is located at the same location as the MEIW (Receptor No. 747, UTM Coordinates 385625, 3740590, See Figure A).

**ConocoPhillips Los Angeles Refinery – Carson Plant
Health Risk Analysis
Tank Replacement Project**

The maximum acute hazard index total for the reproductive system is 0.000004. Mercury contributes approximately 64 percent to the maximum acute hazard index. The maximum acute hazard index occurs 150 feet east of the Refinery (Receptor No. 709, UTM 385625, 3740690, See Figure A).

CONCLUSIONS

The cancer risk for the TACs emitted from the Tank Replacement Project is below the significance threshold of one-in-one per million and chronic and acute hazard indices are below the 1.0 significance threshold established under SCAQMD Rule 1401. No further health risk analyses are required.

**ConocoPhillips Los Angeles Refinery – Carson Plant
Health Risk Analysis
Tank Replacement Project**

REFERENCES

CARB/OEHHA, 2003. *Air Resources Board Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk*, October 2003.

CARB, 2005. *Hotspots Analysis and Reporting Program (HARP Version 1.28 Build 23.03.27) and resources*, <http://www.arb.ca.gov/toxics/harp/downloads.htm>.

OEHHA, 2003. *Air Toxics Hot Spots Program Risk Assessment` Guidelines: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessment*, August 2003.

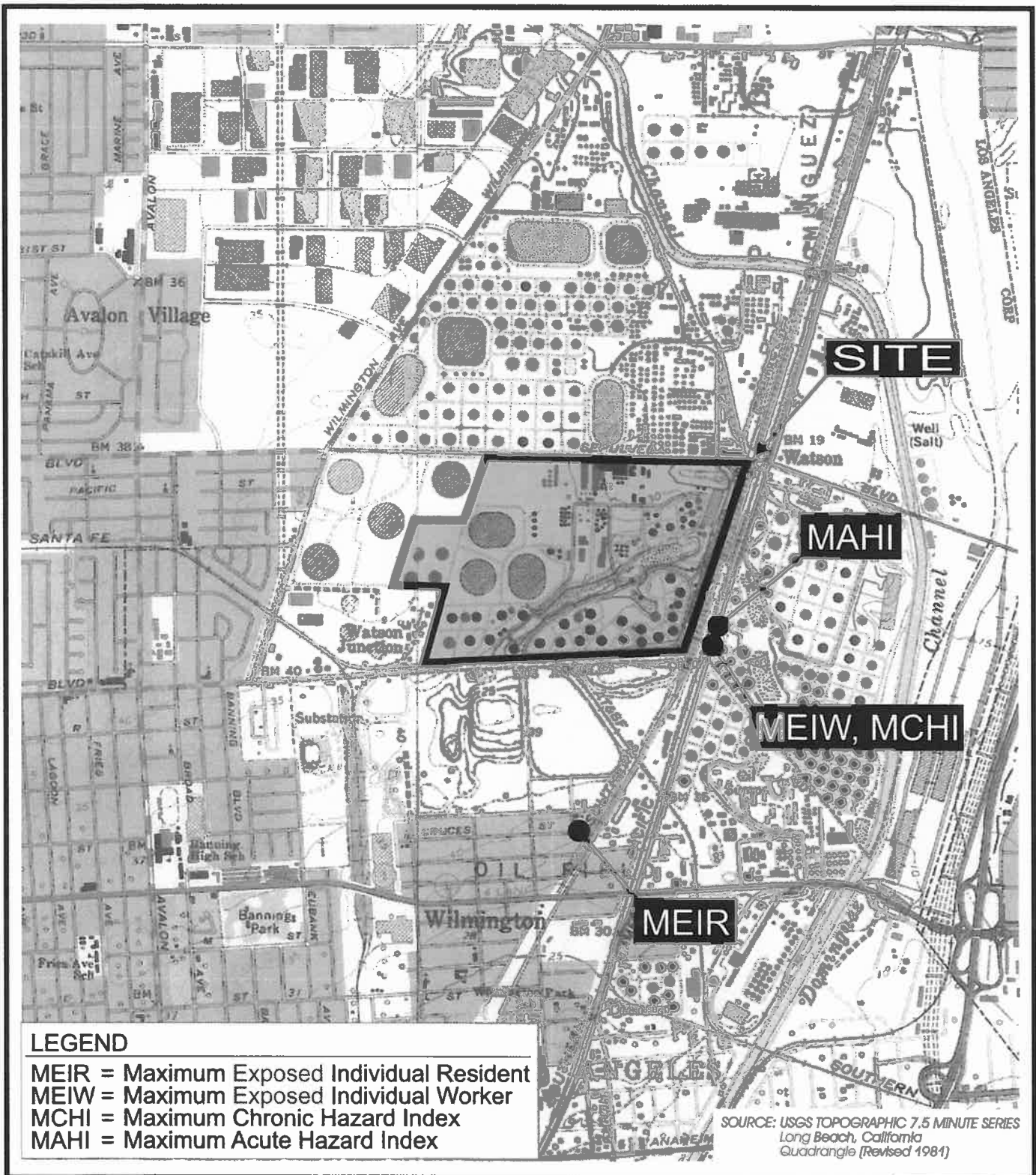
SCAQMD, 2005. *Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory*, June 2005.

SCAQMD, 2005. *Supplemental Guidelines for Preparing Risk Assessment for the Air Toxic “Hot Spot” Information and Assessment Act*, 2005.

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FIGURES



**MAXIMUM IMPACT LOCATIONS
CONOCOPHILLIPS
CARSON PLANT**



APPENDIX C

**COMMENTS AND RESPONSE TO COMMENTS RECEIVED ON DRAFT
NEGATIVE DECLARATION**

APPENDIX C

FINAL NEGATIVE DECLARATION

CONOCOPHILLIPS LOS ANGELES REFINERY TANK REPLACEMENT PROJECT

RESPONSE TO COMMENTS

INTRODUCTION

This Appendix, together with the Draft Negative Declaration, constitutes the Final Negative Declaration for the ConocoPhillips Los Angeles Refinery Tank Replacement Project. The Draft Negative Declaration was circulated for a 30-day public review and comment period, which started on May 22, 2008 and ended June 20, 2008. The Draft Negative Declaration is available at the SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, California 91765 or by phone at (909) 396-2039.

The Draft Negative Declaration included a detailed project description, the environmental setting for each environmental resource, and an analysis of the each environmental resource on the California Environmental Quality Act (CEQA) checklist, including all potentially significant environmental impacts. Based on the Draft Negative Declaration, no significant adverse environmental impacts were identified associated with the proposed project.

The SCAQMD received one comment letter on the Draft Negative Declaration during the public comment period. Responses to the comment letter are presented in this Appendix. The comments are bracketed and numbered. The related responses are identified with the corresponding number and are included in the following pages. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation is not necessary since the information provided in response to written comments on the project's effects does not identify any new, avoidable significant effects.

CONOCOPHILLIPS LOS ANGELES REFINERY TANK REPLACEMENT PROJECT

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

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June 6, 2008

Mr. Michael Krause, Air Quality Specialist
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21865 Copley Drive
Diamond Bar, CA 91765

Re: SCH#2008051097: CEQA Notice of Completion; proposed Negative Declaration for the ConocoPhillips Los Angeles Refinery Tank Replacement Project; Wilmington-Carson Area; Los Angeles County, California

Dear Mr. Krause:

The Native American Heritage Commission is the state agency designated to protect California's Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse effect change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c) (CEQA guidelines). Section 15382 of the 2007 CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

✓ Contact the appropriate California Historic Resources Information Center (CHRIS) for possible 'recorded sites' in locations where the development will or might occur. Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/853-7278)/ <http://www.ohp.parks.ca.gov>. The record search will determine:

- If a part or the entire APE has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded in or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
- The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

✓ Contact the Native American Heritage Commission (NAHC) for:

- A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section.

▪ The NAHC advises the use of Native American Monitors, when professional archaeologists or the equivalent are employed by project proponents, in order to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE). In some cases, the existence of a Native American cultural resources may be known only to a local tribe(s).

- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - A culturally-affiliated Native American tribe may be the only source of information about a Sacred Site/Native American cultural resource.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

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APPENDIX C – RESPONSE TO COMMENTS

√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

* CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

1-6

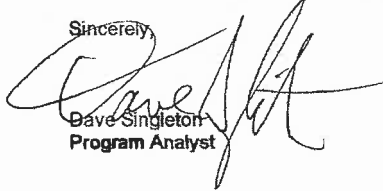
√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

1-7

√ Lead agencies should consider avoidance, as defined in §15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,



Dave Singleton
Program Analyst

Attachment: List of Native American Contacts

Cc: State Clearinghouse

CONOCOPHILLIPS LOS ANGELES REFINERY TANK REPLACEMENT PROJECT

Native American Contacts
Los Angeles County
June 6, 2008

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th Street, Rm. 403
Los Angeles , CA 90020
(213) 351-5324
(213) 386-3995 FAX

Owi Clan
Qun-tan Shup
48825 Sapaque Road Chumash
Bradley , CA 93426
(805) 472-9536
(805) 835-2382 - CELL

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Gabrielino Tongva
tattnlaw@gmail.com
310-570-6567

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
ChiefRBwife@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

Gabrielino/Tongva Council / Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva
Los Angeles , CA 90021
office @tongvatribes.net
(213) 489-5001 - Office
(909) 262-9351 - cell
(213) 489-5002 Fax

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Tribal Chair/Cultural Resources
5450 Slauson, Ave, Suite 151 PMB Gabrielino Tongva
Culver City , CA 90230
gtongva@verizon.net
562-761-6417 - voice
562-925-7989 - fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2008051097; CEQA Notice of Completion; proposed Negative Declaration for the ConocoPhillips Los Angeles Refinery Tank Replacement Project; Wilmington-Carson Area of Los Angeles County, California.

COMMENT LETTER NO. 1
NATIVE AMERICAN HERITAGE COMMISSION
JUNE 6, 2008

Response 1-1

The SCAQMD is aware of the requirements of CEQA Guidelines §15064.5 and has complied with this section as well as all other relevant CEQA requirements. As stated on pages 2-23 and 2-24 of the Negative Declaration for the ConocoPhillips Los Angeles Refinery Tank Replacement Project, potential significant adverse impacts on cultural resources are not anticipated. Both the entire Carson and Wilmington sites have been previously graded and developed.

There are no prehistoric or historic structures or objects within the Refinery's Carson Plant, or adjacent areas. A cultural resource search completed for a previous environmental document indicated no archaeological/historical/paleontological sites are located at the Carson Plant and one prehistoric site was identified within a one-mile radius of the Plant. No significant adverse impacts to cultural resources are expected since the new storage tanks will replaced existing storage tanks at essentially the same locations.

There are no prehistoric or historic structures or objects within the Wilmington Plant or adjacent areas. A cultural resources archival search completed for a previous environmental document identified 21 prehistoric archaeological sites and one isolated find within a one-mile radius of the Wilmington Plant. One of the sites was within the Wilmington Plant near the western boundary. The proposed project will not result in any construction activities near the western boundary. The two new storage tanks at the Wilmington Plant are expected to be construction on their existing foundations. No significant adverse impacts to cultural resources are expected since new storage tanks will replace existing storage tanks at the same locations.

If cultural resources were to be encountered unexpectedly during ground disturbance associated with construction of the proposed projects, proper procedures (i.e., contacting professional archaeologist, temporarily halting disturbance work in vicinity, etc.) will be taken. As a result, no impacts to historical, archaeological or paleontological resources (as defined in §15064.5 of the CEQA Guidelines) will occur as a result of the implementation of the proposed project.

Response 1-2

The ConocoPhillips Los Angeles Refinery Tank Replacement Project is proposed to occur within the boundaries of existing petroleum refineries. The primary objective of

the proposed project is to replace existing storage tanks with new storage tanks. The sites adjacent to the existing equipment have been previously disturbed to accommodate refinery projects associated with the placement and relocation of infrastructure (i.e., underground utilities and piping) and no cultural resources or native American remains were found during these subsurface activities in or surrounding the property (i.e., area of potential effect).

As a result, based on historical activities at the sites, the proposed projects were determined to not cause a potential “substantial adverse change in the significance of any historical resource” which would require a further evaluation of cultural resources. See also Response 1-1.

Response 1-3

An archaeological inventory survey was not required to be performed for the proposed project, because the sites had previously undergone archaeological surveys for other projects. See Responses 1-1 and 1-2 for information regarding why another survey was not required.

Response 1-4

As noted in Responses 1-1 and 1-2, additional archaeological investigations are not required, so it is not necessary to contact the Native American Heritage Commission.

Response 1-5

As noted in response 1-1, no previous excavation activities at either facility have discovered any cultural or archaeological resources. Further, as concluded on pages 2-23 and 2-24 of the Negative Declaration for the ConocoPhillips Los Angeles Refinery Tank Replacement Project, no impacts to cultural resources were determined to result from the proposed project. As a result, no further analysis of cultural resources was required.

Based on the historical use of the site and the numerous construction activities, which included subsurface activities, the likelihood of encountering cultural resources is low. It should be noted, however, that construction activities for the proposed projects at the ConocoPhillips Los Angeles Refinery Carson and Wilmington Plants include standard procedures for accidentally encountering any archaeological, Native American or cultural resources on-site. Compliance with all local, state and federal regulations (and notifications) will occur in the event of an accidental discovery of any cultural or historic resources.

Response 1-6

With regard to the potential for discovery of Native American remains, refer to responses 1-1, 1-2 and 1-5.

As stated on pages 2-23 and 2-24, the Negative Declaration did not identify the presence or likely presence of Native American human remains. Therefore, agreements with Native Americans to assure appropriate treatment of Native American human remains are not required unless Native American human remains are discovered during site excavation. See also Responses 1-1, 1-2 and 1-5.

Response 1-7

As noted in Responses 1-1 and 1-2, discovery of human remains relative to the proposed project is not anticipated as existing storage tanks will be replaced with new storage tanks in the same location and, in some cases, are expected to use the existing foundations so no further ground disturbance would be expected. However, the ConocoPhillips Los Angeles Refinery Tank Replacement Project's construction activities will cease to prevent further disturbance if human remains are unearthed, until the County Coroner has made the necessary findings with respect to origin and disposition, as required by Public Resources Code §5097.98-99, Health and Safety Code §7050.5, and California Code of Regulations (CEQA Guidelines) §15064.5(d).

CEQA Guidelines §15370(a) defines avoidance as: "Avoiding the impact altogether by not taking a certain action or parts of an action." As stated on pages 2-23 and 2-24 of the Negative Declaration, the presence or likely presence of Native American human remains was not identified. However, in the event significant cultural resources in the form of Native American human remains are discovered, construction activities will cease and ConocoPhillips will comply with proper federal, state and local regulations as described in Response 1-5.